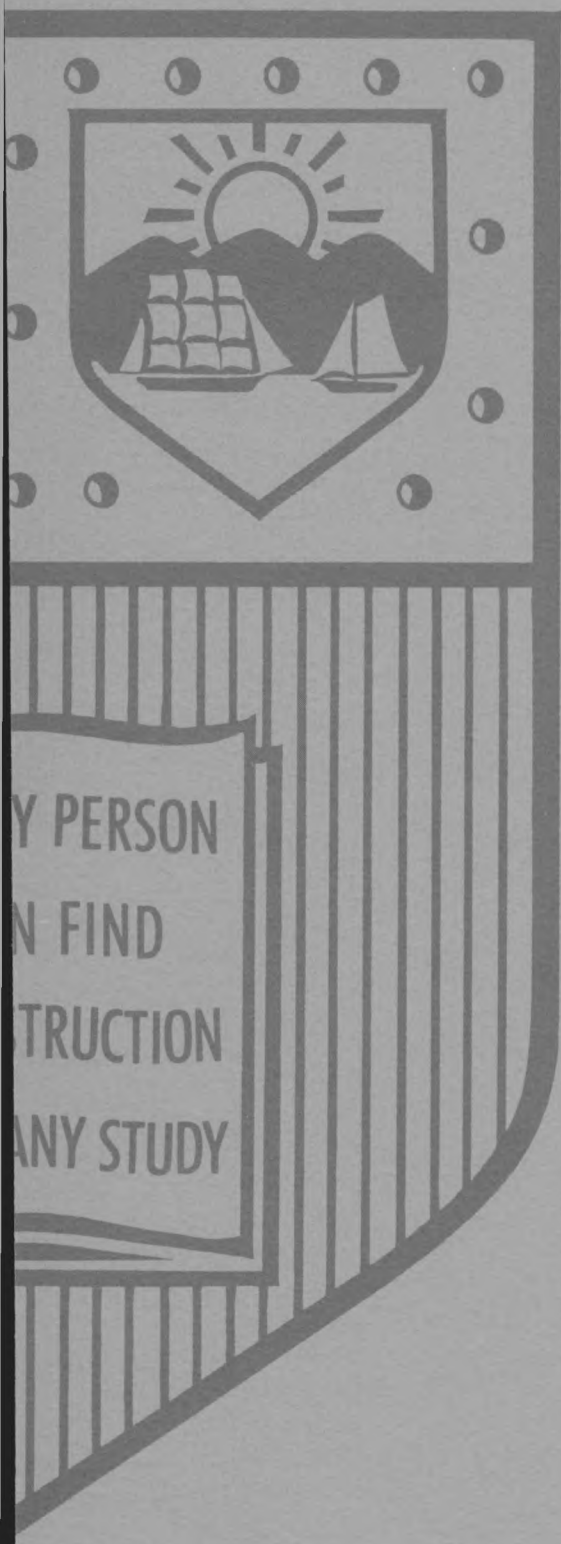


# Yonkers University Announcements



**College of  
Architecture,  
Art, and  
Planning**



# **Cornell University**

## **College of Architecture, Art, and Planning**

**1976-77**

### **Cornell University Announcements**

Volume 68 of the Cornell University Announcements consists of fourteen catalogs, of which this is number 7 dated August 11, 1976. Publication dates: fourteen times a year (four times in August; twice in March, April, and September; once in May, July, October, and November). Publisher: Cornell University, Sheldon Court, 420 College Avenue, Ithaca, New York 14853. Second-class postage paid at Ithaca, New York.

## Cornell Academic Calendar

### 1976-77

Registration, new students  
Registration, continuing and rejoining students  
Fall term instruction begins  
Thanksgiving recess:  
    Instruction suspended, 1:10 p.m.  
    Instruction resumed  
Fall term instruction ends, 1:10 p.m.  
Final examinations begin  
Final examinations end  
Registration, new and rejoining students  
Registration, continuing students  
Spring term instruction begins  
Spring recess:  
    Instruction suspended, 1:10 p.m.  
    Instruction resumed  
Spring term instruction ends, 1:10 p.m.  
Final examinations begin  
Final examinations end  
Commencement Day

Thursday, September 2  
Friday, September 3  
Monday, September 6  
  
Wednesday, November 24  
Monday, November 29  
Saturday, December 11  
Wednesday, December 15  
Thursday, December 23  
Thursday, January 20  
Friday, January 21  
Monday, January 24  
  
Saturday, April 2  
Monday, April 11  
Saturday, May 7  
Monday, May 16  
Tuesday, May 24  
Monday, May 30

### Summer Sessions 1977

	<i>Three-Week</i>	<i>Eight-Week</i>	<i>Six-Week</i>
Registration	June 6	June 20	June 29
Classes begin	June 6	June 20	June 30
Classes end	June 27	August 10	August 10
Final examinations	June 28	August 11-12	August 11-12
Session ends	June 28	August 12	August 12

The dates shown in the Academic Calendar are subject to change at any time by official action of Cornell University.

In enacting this calendar, the University Senate has scheduled classes on religious holidays. It is the intent of Senate legislation that students missing classes due to the observance of religious holidays be given ample opportunity to make up work.

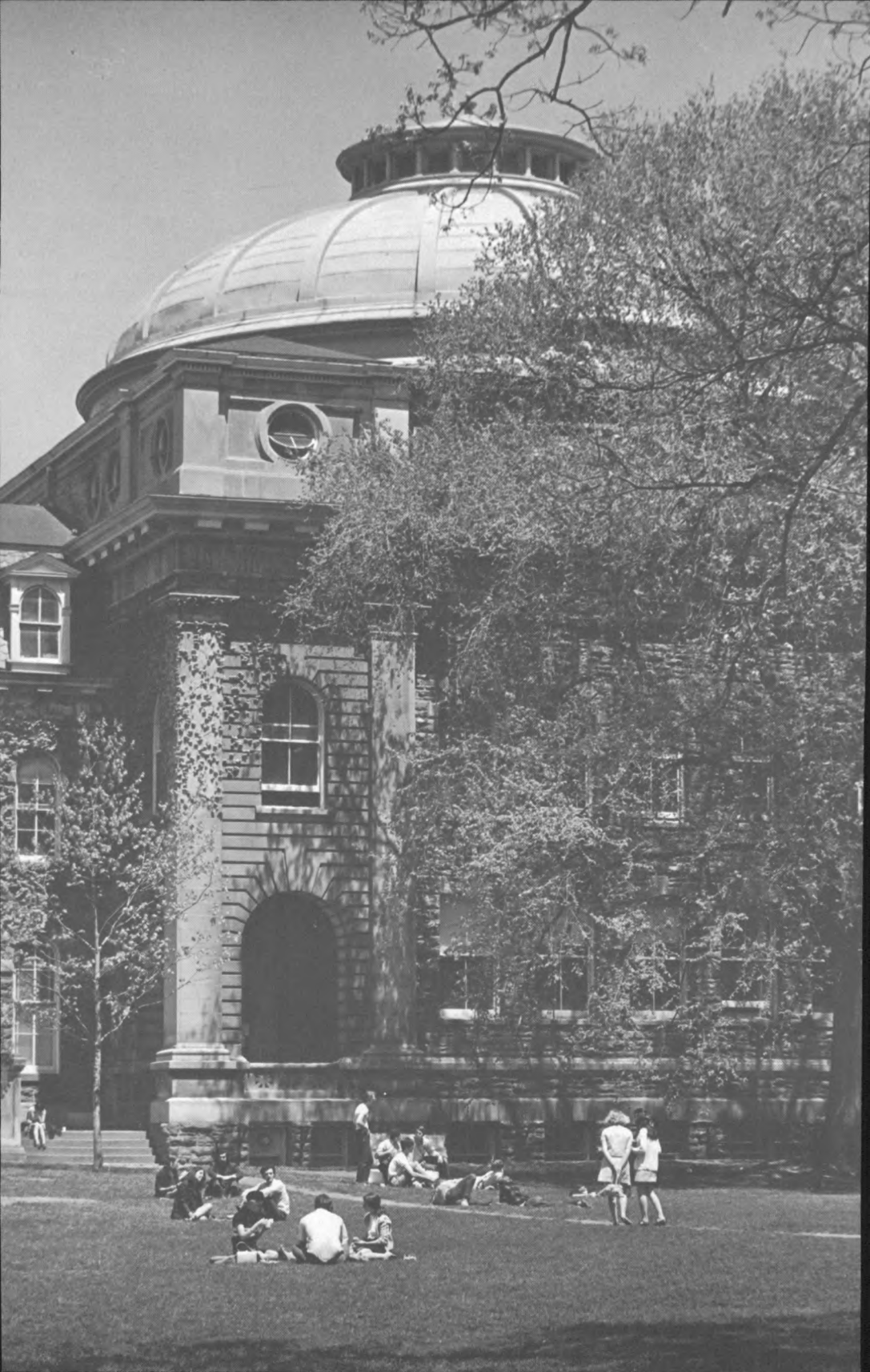


## Announcements

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The courses and curricula described in this *Announcement*, and the teaching personnel listed herein, are subject to change at any time by official action of Cornell University.



## College of Architecture, Art, and Planning

At Cornell, from the first, there was a place in the University for the teaching of architecture. In October 1871, three years after the University opened, a School of Architecture was established and Charles Babcock, an associate of Richard Upjohn, was appointed professor of architecture. The School was fortunate to have the first president of the University, Andrew Dickson White, for a patron. He had cultivated an intelligent interest in architecture from boyhood, as he records in his autobiography, and during journeys abroad his "pet extravagance" had been the collection of books and other material relating to this interest. He gave the new school all that he had accumulated—a large architectural library and several thousand architectural photographs, drawings, casts, models, and other items from all parts of Europe—a collection then almost unique. His gift formed the nucleus of a continually expanding library and store of illustrative materials.

In the course of time, as the University perfected its organization, the school became the College of Architecture. A Department of Art, organized in 1921, has played an increasingly important part in the College and in the life of the University. In recognition of the growing importance of urban planning, a Department of City and Regional Planning was established in 1935.

In 1967, to reflect the independent strength of its three programs, the name of the College was changed to the College of Architecture, Art, and Planning.

In 1971, the College celebrated the centennial of professional instruction in architecture and a bronze portrait head of Professor Babcock was placed in the south porch of Sage Chapel as a part of the celebration.

The College offers three programs leading to the bachelor's degree—the five-year program in architecture leads to the Bachelor of Architecture, and four-year programs in art and architecture lead to the Bachelor of Fine Arts. These three programs have entirely

different objectives that are described in detail in the following sections.

The College offers graduate-level programs in: art, architectural design and urban and regional design, architectural sciences, history of architecture and urban development, preservation planning, city and regional planning and related programs, and landscape architecture.

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

Early in its development, the College set a limit to the number of its students and devised a selective method of admission. It now enrolls over 650 students and has full-time teaching staff of over sixty, supplemented by visiting teachers, part-time lecturers, and assistants. Teachers and students mix together freely and much instruction and criticism is on an individual basis.

The College's courses are parts of professional curricula with fundamental subjects given within the College by a faculty reflecting professional points of view. This professional concentration of 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 is convinced 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.

### Architecture

The field of architecture is becoming increasingly complex as architects assume a wider range of responsibility toward problems of the built environment. In this profession, the architect has the opportunity to make contributions to the major human efforts of our



time towards improving the habitat of people. These efforts will benefit from the particular vision and innovative ability of the architect, who will, however, not be the exclusive designer of the environment, but will perform the task within a total framework and in close relationship with other professionals. With the changes taking place in world society, the architectural profession in the future will be very different from today. This is not to say that architecture will abandon its traditional functions, but that new factors will affect the profession—the emergence of regional ecology, the application of the social sciences, the shift of focus from the construction of individual buildings to inclusion of the whole building process, the evolution of design methodology, the revival of large-scale design, and the emergence of new roles for the design profession. In general, architects are less and less called upon to design for individuals and must now see the client as society at large. Thus, architectural education must assess what the total environment asks of the architect.

While the larger environmental problems are the concern of a number of disciplines, architecture as a profession may be more narrowly defined in terms of those services it performs that characterize its distinct role in giving concrete three-dimensional form to the physical environment. The nature of the field calls for an undergraduate education that establishes a broad understanding of human values and social problems, as well as the theoretical and technical base of professional competence. In meeting these objectives, the undergraduate professional program structures the exploration of a wide range of architectural issues and scales of involvement, and provides the opportunity to develop particular emphasis that may become a basis for specialized studies at the graduate level.

### Faculty Interests

Stanley Bowman: visual communication systems  
 Thomas Canfield: architectural design, architectural technology  
 Peter Cohen: architectural design, housing in developing countries, design aspects of transportation  
 Ralph Crump: environmental controls  
 W. Wilson Cummer: architectural history (Classic and pre-Classic), archaeology  
 Michael Dennis: architectural design, urban design  
 Werner Goehner: architectural design, urban design  
 Donald Greenberg: architectural technology, structural analysis and design, suspension structures, computer graphics, model analysis  
 Keith Grey: architectural design, planning design, community service design

Martin Harms: architectural design, urban design, theory, design methods  
 George Hascup: architectural design, visual communications systems, simulation  
 Lee Hodgden: architectural design, theory and criticism  
 Stephen Jacobs: architectural history, American architecture, architectural preservation  
 Burnham Kelly: legal aspects of architecture, industrialization of building  
 Alexander Kira: human engineering and psychological aspects of architecture  
 Urszula Lesnikowski: architectural design  
 Wojciech Lesnikowski: architectural design, housing, building systems  
 Jacqueline Livingston: photography  
 Robert MacDougall: anthropological methods applied to architecture  
 Archie Mackenzie: architectural design methods, urban design  
 Leonard Mirin: landscape architectural history, urban landscape design  
 Christian Otto: architectural history (baroque, renaissance, modern)  
 Charles Pearman: architectural design, urban design, American housing, building systems  
 Henry Richardson: architectural design, urban design, housing in developing countries  
 Colin Rowe: architectural history, renaissance and modern architecture, urban design, architectural criticism, contemporary European and American architecture  
 Francis Saul: structural steel and reinforced concrete building design, timber, foundation, structural plastics and blast-resistant design  
 Mario Schack: architectural design, urban design, professional practice  
 John Shaw: architectural design, urban design, regional design  
 David Simons: computer applications, architectural design  
 Stuart Stein: urban design, site planning, urban renewal, housing  
 O. M. Ungers: architectural design, urban design, regional design, housing  
 J. Alan Wells: architectural design, urban design, housing, building systems

### Professional Degree Program

The first professional degree in architecture is the Bachelor of Architecture. This degree counts towards 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 those who have identified before matriculation their interest and motivation to enter the field. It therefore incorporates both a general and professional educational base.

## 8 Professional Degree Program

The program is strongly 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 two 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 be extended and applied by further studies in these areas. Within the professional program, the basis is established for understanding architecture in its contemporary and historical cultural context.

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 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 to one of the graduate programs offered in the department, with the possibility of completing the requirements for the master's degree in a minimum of one additional year.

### Curriculum

#### First Year

<i>Fall Term</i>	<i>Credits</i>
101 Design I	3
131 Introduction to Architecture	2
141 History of Architecture	3
151 Design Fundamentals I	2
191 Analytical Drawing I	2
Elective (out of College)	3
	<hr/>
	15

#### Spring Term

102 Design II	3
142 History of Architecture	3
152 Design Fundamentals II	2
162 Introduction to Social Science in Design	2
192 Analytical Drawing II	2
Elective (out of College)	3
	<hr/>
	15

#### Second Year

<i>Fall Term</i>	
201 Design III	4
221 Mathematical Techniques	3
231 Architectural Elements and Principles	3
261 Introduction to Environmental Science	2
Elective (in College)	3
Elective (out of College)	3
	<hr/>
	18

<i>Spring Term</i>	<i>Credits</i>
202 Design IV	4
222 Structural Concepts	4
232 Design Methods and Programming	3
262 Building Technology, Materials, and Methods	3
Elective (out of College)	3
	<hr/>
	17

#### Third Year

<i>Fall Term</i>	
301 Design V	6
321 Structural Systems I	3
361 Environmental Controls I	3
Elective (in department)	3
Elective (out of College)	3
	<hr/>
	18

<i>Spring Term</i>	
302 Design VI	6
322 Structural Systems II	3
362 Environmental Controls II	2
Elective (in department)	3
Elective (out of College)	3
	<hr/>
	17

#### Fourth Year

<i>Fall Term</i>	
401 Design VII	6
480 Professional Practice	2
Elective (in department)	3
Elective (in College)	3
Elective (out of College)	3
	<hr/>
	17

<i>Spring Term</i>	
402 Design VIII	6
481 Professional Practice	2
Elective (in department)	3
Elective (in or out of College)	3
Elective (out of College)	3
	<hr/>
	17

#### Fifth Year

<i>Fall Term</i>	
501 Design IX, 503 Design IX—Thesis I, or 601 Special Program	8
510 Thesis Introduction	2
630 Advanced Seminar in Architecture	1
Elective (in department)	3
Elective (out of College)	3
	<hr/>
	17

502 Design X—Thesis, 504 Design X—Thesis II, or 602 Special Program	8
631 Advanced Seminar in Architecture	1
Elective (in department)	3
Elective (in or out of College)	3
Elective (in or out of College)	3
	<hr/>
	18
Total credits	169



**Elective Distribution Requirements**

	<i>Credits</i>
In-department electives	18
In-College electives	6
In- or out-of-College electives	9
Out-of-College electives	27
	—
Total electives	60

***In-Department Elective Distribution Requirements***

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

***In-College Elective Distribution Requirements***

	<i>Credits</i>
Art course	3
Planning course	3
	—
<b><i>Out-of-College Elective Distribution Requirements</i></b>	<b><i>Credits</i></b>
Mathematics, physics, or biological science course	3
Humanities courses	6
Social science courses	6

**Degree Option**

After the completion of the four years credit requirements, the student can opt to receive the nonprofessional degree, Bachelor of Fine Arts (B.F.A.) in architecture. The B.F.A. degree allows the student to enter a graduate program in architecture or related fields in other schools. The Master of Architecture Program at Cornell requires a Bachelor of Architecture degree.

**Transfer Students**

While the professional degree program is specifically directed to those who are strongly motivated to begin a professional program when entering college, it is sufficiently flexible to allow admission of students who do not make this determination until after one or two years of college work. Each transfer case is considered individually. Transfer students are usually able to complete requirements for the B. Arch. degree in less than five years by attending summer sessions.

**Nonprofessional Alternative Programs**

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 major should apply in writing by February 1 in the second year to the department chairman. The student will be interviewed and informed about acceptance by March 1.

Programs developing major concentrations in the third and fourth years leading to the non-professional Bachelor of Fine Arts degree after the fourth year include history of architecture and urban development, design communications, urban planning and development, and policy planning and regional analysis. A student attaining the B.F.A. degree can either terminate studies or apply to a graduate program in the 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 over the last thirty years. Special features of the new major are the availability of work in preservation planning and the architectural aspects of archaeology. Nine 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 subject if a student has completed Architecture 141 and 142 with a grade of B or better. Others may petition for admission to the major.

**Requirements**

To satisfy the major subject requirement, a minimum of forty credits of history course work must be completed with a grade of C or better. Of these forty credits, twenty-six must be in architectural history and urban development with eight of these twenty-six credits obtained in courses above the intermediate level. In addition, eight credits must be obtained 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 the College of Arts and Sciences.

**Honors Program**

Students wishing to enroll in the honors program must indicate this intention in writing before the end of their junior year and be

## 10 Nonprofessional Degree Programs

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

### Curriculum

<i>Prerequisite:</i> first two years of Bachelor of Architecture curriculum	<i>Credits</i> 70
<i>Third Year</i>	
<i>Fall</i>	
Fine art elective	3
Related field courses	4
History of architecture (intermediate level) or history of urban development	4
Electives	4
	15
<i>Third Year</i>	
<i>Spring</i>	
Related field courses	4
History of architecture (intermediate level) or history of urban development	4
Electives	7
	15
<i>Fourth Year</i>	
<i>Fall</i>	
History of architecture (advanced level) or history of urban development	4
Honors or history related subject	4
Electives	8
	16
<i>Fourth Year</i>	
<i>Spring</i>	
History of architecture (advanced level) or history of urban development	4
Honors or history related subject	4
Electives	8
	16
Total	132

### Design Communication

The Design Communication Program has been formulated to prepare students with the skills and abilities to deal effectively with the complex possibilities presented by the new technologies in media communication forms. The program is directed toward an applied problem-solving approach to the design process in general and to architecture in particular.

### Admission to the Major

Entrance to the Design Communication B.F.A. Degree Program is open to students who have successfully completed the first two years of the architecture program, and who have a grade of B or better in Architecture 151 and 152. Others may petition for admission to the major.

### Requirements

A minimum of forty-two credits of course work must be completed in the major field beyond the basic sequence courses with a grade of C or better. Twenty-four of the forty-two credits must be in design communication. The remaining eighteen credits must be obtained in related fields, such as fine arts, mass communication, perceptual psychology, lighting and acoustics, or the performing arts.

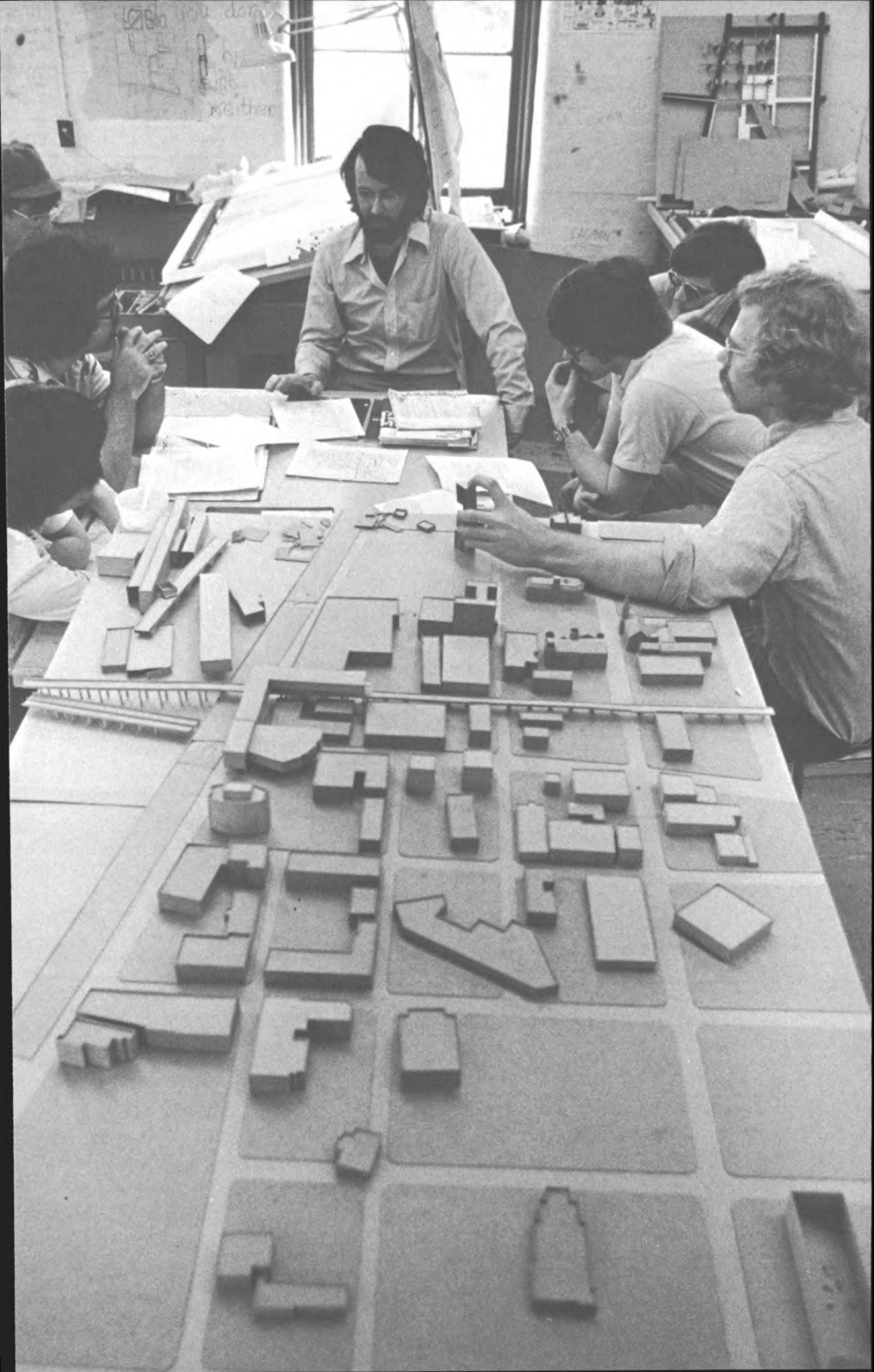
### Curriculum

<i>Prerequisite:</i> first two years of Bachelor of Architecture curriculum	<i>Credits</i> 70
<i>Third Year</i>	
<i>Fall</i>	
Design communication courses, 300 level	6
Related field courses	6
Electives	3
	15
<i>Third Year</i>	
<i>Spring</i>	
Design communication courses, 300 level	6
Related field courses	6
Electives	3
	15
<i>Fourth Year</i>	
<i>Fall</i>	
Design communication courses, 400 level	6
Related field courses	3
Electives	7
	16
<i>Fourth Year</i>	
<i>Spring</i>	
Design communication courses, 400 level	3
Thesis project in design communication	6
Electives	7
	16
Total	132

### City and Regional Planning

The intention of this program is to offer students completing their first two years in the undergraduate architecture program the opportunity to major in planning during their third and fourth undergraduate years. It is not the goal of this undergraduate major program to train students to be professional urban





## 12 Nonprofessional Degree Programs

planners; the master's program in planning is organized for that purpose. The major is organized primarily to offer students coming from an architectural program an opportunity to redirect their academic training toward the understanding of urban and regional problems and their potential solutions.

In general, this major will open up new directions for students for academic or professional activity that can be pursued in greater depth in a variety of graduate programs either at Cornell or elsewhere. It is anticipated that qualified students will be able to move more rapidly through the professional master's program, requiring less than the normal two years because of the concentrated course work taken in the undergraduate program.

Students in the undergraduate planning program may study in any one of several formal options or may work out a special program with a faculty adviser. Examples of special programs are exhibited below. Descriptions of other options and further elaboration follow later in the catalog, in the discussion of the graduate program in city and regional planning. Students completing the program should be well prepared to undertake graduate work in a variety of fields, such as urban design, landscape architecture, city and regional planning, public policy, or depending on the concentrations they choose, a number of the social sciences. They should also be well prepared to enter the field of planning at various levels of government as policy planning becomes more and more an integral part of a wide range of public organizations whose programs attempt to address the critical social problems of our time.

### Admissions to Major

Students intending to take the undergraduate major in city and regional planning must indicate their election to do so by the end of the spring term of their second year. They must be in good standing and approved by the CRP Committee on Undergraduate Majors.

### Requirements and Programs of Study

The major requires a minimum of thirty credits of course work in the Department of City and Regional Planning out of a total of 132 credits required for the degree. Depending upon the option chosen, the core is comprised of from 18 to 24 credits. Examples of possible programs follow.

#### *Undergraduate Student with Planning Major Interested in Social Planning:*

Introduction to Urban and Regional Theory  
Introduction to Social Policy Planning  
Theories and Strategies of Social Change

Introduction to Planning Theory  
Social Science electives

#### *Undergraduate Student with Planning Major Interested in Urban Environmental Policy Planning:*

Introduction to Urban and Regional Theory  
The Public Economy of Urban Areas  
Regional Economic Development  
Introduction to Urban Planning Theory and Practice  
Engineering electives

#### *Undergraduate Student with Planning Major Interested in Community Development Planning:*

Introduction to Urban and Regional Theory  
Planning Analysis  
Regional Economic Development  
Theories and Strategies of Social Change  
Field Studies in Planning  
Social Science electives

#### *Undergraduate Student with Planning Major Interested in Urban Planning History:*

Introduction to Concepts and Principles of Urban Planning and Development  
Introduction to Human Ecology  
Design and Conservation  
Seminar in American Urban History  
Electives

#### *Undergraduate Student with Planning Major Interested in the Urban Development Process:*

Introduction to Concepts and Principles of Urban Planning and Development  
Introduction to Human Ecology  
Urban Land-Use Planning  
Controls and the Designer  
Suburbanization and New Communities  
Electives

A number of other independent programs can be developed.

### Departmental Electives and Independent Study

A number of courses are specifically designated for undergraduates. Undergraduate students having the necessary prerequisites may be admitted, with the consent of the instructor, to the more advanced courses. In addition, a number of independent work courses are available for students interested in pursuing subjects of special interest to them.

### Fieldwork

Students are encouraged to take fieldwork problems providing them with experience in dealing with the problems of Upstate communities. Credit can be awarded.

During the three month summer period between the third and fourth year, the student is

encouraged to gain the experience of an internship in city and regional planning. The field placement is generally in a planning agency or group and may be supervised by a faculty member. Credit may be awarded, if circumstances warrant.

### Curriculum

The department releases each year a schedule of courses, comprised of offerings from the list in the back of this catalog. Suggested undergraduate curricula vary from year to year, and consultation with the most recent departmental listing is necessary.

## Graduate Programs

The programs in which graduate study may be pursued in the Department of Architecture are architectural design, urban design, and regional design, all leading to the Master of Architecture (M.Arch.) degree; architectural science leading to the Master of Science degree; preservation planning leading to the Master of Arts degree; architectural history and history of urban development leading to the Master of Arts and Ph.D. degrees. There is also a joint program, conducted by the Departments of Architecture and City and Regional Planning which leads to both the Master of Architecture and the Master of Regional Planning degrees. A joint program sponsored by the Colleges of Architecture, Art, and Planning and Agriculture and Life Sciences leads to the Master of Landscape Architecture (M.L.A.) degree.

### Graduate Program in Design

Students who have satisfactorily completed all requirements for an undergraduate professional qualifying degree in architecture (B.Arch.) or its equivalent at an approved institution may be admitted as candidates for the degree of Master of Architecture. Holders of non-professional degrees in architectural or environmental studies should apply as transfers into the undergraduate program leading to the first professional degree (B.Arch.).

Three areas of major concentration are offered: architectural design, urban design, and regional design. These areas are each sufficiently broad to verge on one another while focusing in general on the scale of problems suggested by the designation. It is assumed that each student will develop an elective program to reinforce and supplement the studio work. A minimum of sixty credit hours is required. Of these, thirty-six are in design studio work, between nine and twelve in a minor concentration within or outside the Department of Architecture, and the remainder in general course work of which at least six credit hours must be

taken outside the Department of Architecture and, preferably, outside the College. Students majoring in urban design or regional design are required to take a minimum of nine credit hours in planning course work. Candidates for admission should indicate their preferred area of major concentration on the application.

The normal length of time required to complete the program is four terms. The minimum number of residence terms is two, regardless of previous graduate work. Students acquiring the B. Arch. at Cornell are also required to be registered in the Graduate School for at least two terms. For those pursuing the joint degree program in architecture and planning a minimum of two terms of residence is required in the graduate program in architecture.

The programs leading to the Master of Architecture degrees are administered by Program Concentration Committees consisting of the graduate faculty representative and those faculty offering work in the area of concentration. Each graduate student selects a Special Committee of advisers. The Special Committee includes two advisers in the area of major concentration and one adviser in the area of minor concentration. The thesis is directed by the Special Committee with an additional faculty member at the student's option.

First-year graduate students normally elect the studio in their area of major concentration. Special projects organized by the faculty may be offered and elected as an alternative to participation in one of the studios with the permission of the instructor and the Program Concentration Committee. Second-year studio work is normally devoted to the thesis. However, the student may elect, with permission of the Program Committee, to devote only the fourth term to the thesis.

### Graduate Program in Architectural Science

Qualified students enrolled in the Graduate School in programs leading to the degree of Master of Science may elect architectural science as either a major or a minor subject; those enrolled in programs leading to the degree of Doctor of Philosophy may elect it as a minor subject.

Students with undergraduate degrees in architecture, architectural engineering or the various branches of engineering, or social science, are likely candidates for this program. The program is extremely flexible and can be arranged to meet the specific needs and objectives of the individual students and to build on their prior technical preparation and competence.

The objectives of the graduate program in architectural science are the following:

## 14 Summer Term in Architecture

1. To afford an opportunity for students of architecture to expand their creative design potential by increasing their knowledge and understanding of environmental science, computer science, or building technologies.
2. To provide a framework within which students who have graduated in related technical disciplines can explore building science and technology related specifically to architecture. This training prepares students with such backgrounds to join the ranks of consultants well versed in the architectural implications of contemporary science.
3. To provide a framework within which the student can explore the application of these disciplines in an architectural context.

A candidate for the Master of Science degree with a major in architectural science must satisfy the following requirements: (a) completion of the program of study prescribed by the student's Special Committee; (b) a minimum of two terms of residence; (c) presentation of a satisfactory thesis; and (d) passing of a final comprehensive examination.

Ordinarily more than two terms of residence will be required to complete the program of study, depending on the student's background and experience as they relate to his or her needs and interests. A portion of the student's program will consist of formal course work. In addition to the courses offered by the College of Architecture, Art, and Planning, a student may select courses offered elsewhere in the University, such as courses in civil engineering, engineering mechanics, mechanical engineering, electrical engineering, physics, computer science, mathematics, housing and environmental analysis, anthropology, and sociology.

Cornell facilities include a well-equipped state-of-the-art computer graphics laboratory and immediate access to the Cornell Computing Center, IBM 370/168.

### **Graduate Programs in Architectural History, History of Urban Development and Preservation Planning**

Students interested in programs leading to the degree of Master of Arts or Doctor of Philosophy offered by the Field of History of Architecture and Urban Development enroll in the Graduate School of the University. They may elect history of architecture or history of urban development as major or minor subjects. Preservation planning is offered as a minor subject for the Ph.D. degree and as a major subject for the M.A. degree. Normally, applicants have undertaken undergraduate work emphasizing architecture, history of art, or related studies.

The graduate program in architectural history and history of urban development is concerned with methods of scholarship and research, as well as the record of development of architecture from the earliest times to the present day. Though a specialized focus of study will be necessary, all students are required to become acquainted with the history and scholarship associated with the architectural traditions of the West. A special feature of the program is the opportunity for the student to prepare for the teaching of the history of architecture in the context of the professional school of architecture.

Graduate work consists of seminars and courses in this and other departments in combination with independent study under faculty direction. For the degree of Master of Arts in architectural history or history of urban development candidates must demonstrate a reading knowledge of one approved foreign language, pass examinations in their major and minor subjects, and submit a satisfactory thesis. Candidates for the doctoral degree must demonstrate a reading knowledge of two approved foreign languages, pass an Admission to Candidacy examination, and complete a satisfactory dissertation. For the degree of Master of Arts in Historic Preservation Planning a minimum of forty-five credits are required. Approximately fourteen credits must be completed in required courses and fourteen in courses chosen from a list of recommended courses. A thesis is required.

The Fine Arts Library provides a focus and resources for graduate study and preparation of the thesis.

### **Graduate Program in Landscape Architecture**

The graduate program in landscape architecture leading to the Master of Landscape Architecture (M.L.A.) degree is administered jointly by the College of Architecture, Art, and Planning and by the College of Agriculture and Life Sciences. A full description of the program may be found on page 23.

## 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 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 invited to apply to the College for admission to all 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.

## Art

### 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 year, all students follow a common course of study designed to provide a broad introduction to the arts and to provide a basis for the intensive studio experience in painting, sculpture, photography, and the graphic arts afforded in the last three years. In the third semester, students take either painting, sculpture, or photography and a required course in printmaking. 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 studies within the College of Architecture, Art, and Planning. The intimate relationship is a source of special strength in 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 preregistration 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 wishes also to earn an A.B. 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, and an adviser in the College of Arts and Sciences can supply 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 doing major work in the Department of the History of Art in that college. They may take studio courses as electives in the Department of Art in the College of Architecture, Art, and Planning.

### Curriculum

#### First Year

<i>Fall Term</i>	<i>Credits</i>
151 Introductory Drawing	3
110 Color, Form, and Space	3
B.F.A. students must take at least two of the following three courses:	
121 Introductory Painting	3
141 Introductory Sculpture	3
161 Beginning Photography	3
Out-of-college electives	0 or 3
	<hr/> 15

#### Spring Term

152 Introductory Drawing	3
B.F.A. students must take two of the following three courses:	
122 Introductory Painting	3
142 Introductory Sculpture	3
162 Intermediate Photography	3
Out-of-college electives	4 or 7
	<hr/> 16

#### Second Year

<i>Fall Term</i>	
251 Second-Year Drawing	3
131 or 132 Introductory Graphics (one term, fall or spring)	3
B.F.A. students must take two of the following three courses:	
221 Second-Year Painting	3
241 Second-Year Sculpture	3





261 Advanced Photography	Credits
Electives	3
	4 or 7
	<hr/>
	16
<i>Spring Term</i>	
252 Second-Year Drawing	3
131 or 132 Introductory Graphics (one term, fall or spring)	3
B.F.A. students must take two of the following three courses:	
222 Second-Year Painting	3
242 Second-Year Sculpture	3
262 Color Photography	3
Electives	4 or 7
	<hr/>
	16

### *Third and Fourth Years*

Students in the third and fourth years should plan their programs to complete twenty-eight credits in courses in one of the following studio areas: painting, sculpture, graphics, or photography. Or, they should plan to complete twenty credits in each of two of the above areas. Twelve additional credits in art history at the 200 level or higher or in architectural history must also be completed. Students are expected to take thirty-two credit hours in their third and fourth years respectively.

The B.F.A. program is designed so that students may fulfill the degree requirement of 128 credit hours with a minimum of 52 credits to be taken in the Department of Art and a minimum of 52 credits to be taken outside of the department. Within these ranges, students may design their own programs subject to the following limitations:

1. Of the minimum of 52 elective credit hours 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. Six credits in art history at the 200 level or higher or in architectural history must be completed in the first two years. Twelve additional 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 52 credit hours to be taken within the Department of Art, the following courses must be completed in the first two years: 110 Color, Form, and Space; 151-152 Introductory Drawing; 251-252 Second-Year Drawing; at least two of the following sequences: 121-122 Introductory Painting, 141-142 Introductory Sculpture, 161 Beginning Photography and 162 Intermediate Photography; and either 131 or 132 Introductory Graphics.

The University requirement of four 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.

### **Graduate Study**

A student who holds a bachelor's degree or its equivalent and has clearly demonstrated professional promise in the field of art may be admitted as a candidate for the degree of Master of Fine Arts, majoring in painting, sculpture, or graphic arts.

The course of study leading to this degree requires four terms of residence and is intended for those who wish to complete their education as artists. A high proportion of those who receive the degree enter the field of teaching at the college level.

The curriculum leading to the master's degree is flexible to accommodate the needs of the individual student. The normal requirement of each of the first three terms is fifteen credits; of this, from seven to ten credit hours will be assigned to studio work, two credit hours to Art 610 (Seminar in Art Criticism), and the remainder to courses outside the Department of Art. Students are required to take at least twelve credits of academic work outside the Department of Art during their four terms in residence.

Graduate students in art may enroll in introductory or advanced courses in any field of study offered at the University; courses in writing, stagecraft, cinema, and music are available, as well as those in the usual academic subjects of the history of art, philosophy, anthropology, etc. Candidates for the master's degree must complete fifteen credits of courses in the history of art taken either as graduate or undergraduate students.

At the end of the third term of residence, the candidate is required to present a one-person exhibition of work done while in residence. The principal effort of the fourth term is a thesis consisting of creative work and, in addition, an essay dealing with a subject in the theory or history of the visual arts. An oral examination on these subjects normally occurs on presentation of the thesis.

Since the course of study is intended for those who, in the opinion of the faculty, are competent to do independent work in the field of their choice, all applicants must submit photographs of their work. Color slides are preferable for paintings. Original works should not be sent.

It is not practical to admit candidates to the program at the beginning of the spring term as all available studio facilities, scholarships, and assistantships are allocated at the beginning of the school year. Assistantships are

generally awarded to second-year students only. Transfer credit for work done elsewhere, or during the summer, is not acceptable.

# City and Regional Planning

## Objectives and Facilities

Planning seeks to guide the development of the environment in order that people's needs and aspirations may be better satisfied. Urban planning is concerned primarily with the urban environment, the social and economic forces that affect this environment, and the processes of plan making and administration. Regional analysis is concerned primarily with economic and resource regions, the forces that generate economic growth, and the ways in which resources can best be used in area development. Policy planning is concerned with the social decision processes involved in both city and regional planning. The programs of study in this field, primarily at the graduate level, have two major objectives: (1) professional education for participation in planning the physical, economic, and social development of urban areas and regions; and (2) more advanced specialized education for those who seek careers in teaching and research, as well as policymaking positions.

Study for the degree of Master of Regional Planning prepares candidates for professional service in city, county, and metropolitan area planning agencies; in state, interstate, and federal planning agencies; in private businesses and other organizations dealing with urban problems; and in private consulting practice. Study for the degree of Doctor of Philosophy offers advanced work for those interested in research and teaching positions in the growing number of graduate and undergraduate planning education programs, or in research positions in governmental agencies, private organizations, or professional practice.

Students in planning are encouraged to take advantage of the resources in related programs at Cornell. The expanding program of urban research at the University is focused in the Center for Urban Development Research as well as in the College of Architecture, Art, and Planning. The Center for Aerial Photographic Studies, the Water Resources and Marine Sciences Center, and the Center for Environmental Quality Management also provide research programs and assistance that enable the departments and individuals to focus their interests in these areas. Graduate programs in the Graduate School of Business and Public Administration, the School of Civil Engineering and the School of Industrial Engineering and Operations Research in the College of Engineering, the Law School, and

the Department of Architecture offer opportunities for related or combined programs of study.

In addition to the specialized urban and regional planning collection of the Fine Arts Library, the research facilities of the John M. Olin Library, as well as branch libraries such as Albert R. Mann, Business and Public Administration, Engineering, Industrial and Labor Relations, and Law are available for graduate-student use. The City Planning Archives in the Department of Regional History and University Archives in Olin Library, which contain the papers and records of many pioneering individuals and organizations in the profession, provide unique research resources.

## Master of Regional Planning

Graduate study for the Master of Regional Planning degree is administered by the College under the jurisdiction of the Graduate School operating through the department. The standard requirements of the Graduate School for the selection of major and minor subjects do not apply to planning students at the master's level. Instead, prospective students are subject to the specific requirements of the department. These requirements are listed below.

## Doctor of Philosophy

Graduate study leading to the degree of Doctor of Philosophy is offered through the Field of City and Regional Planning under the jurisdiction of the faculty of the Graduate School. A master's degree with course work equivalent to that required in the first year of the graduate programs in planning at Cornell is ordinarily required for admission to candidacy for the Ph.D. degree. Applicants who hold the master's degree in a related field and have had acceptable experience in planning practice, or have completed substantial graduate-level course work in planning may be considered for admission. Such candidates may be required to take additional work at the master's level.

Candidates for the Ph.D. degree must complete a program of studies approved by their Special Committees, composed of a chairperson representing the major subject and other members of the graduate faculty representing minor subjects. Those interested in obtaining the Ph.D. degree should consult the *Announcement of the Graduate School* for additional information on the requirements for the degree.

The course of study requires work in two minor subjects in addition to a major subject in the Field of City and Regional Planning and the preparation of a satisfactory thesis. Minor work is possible in such subjects as aerial photographic studies, agricultural economics,





anthropology, architectural history, comparative government, econometrics and economic statistics, economic development, economic theory, consumer economics and public policy, environmental analysis and design, law, natural resources, conservation, operations research, the political process, political theory, psychology, public administration, research methodology, sociology, statistics, environmental and civil engineering, sanitary engineering, and transportation engineering. In consultation with the chairperson of his or her Special Committee, the Ph.D. candidate will normally select two minor subjects that best complement the research interests in city and regional planning.

Work for the Ph.D. is considered preparatory to making creative contributions to the field. For that reason, substantial competence and knowledge of basic analytical and research methods will be required. Candidates may fulfill this requirement by preparation previous to entrance or by course work at Cornell that may be in a minor subject.

Information not found in this *Announcement* may be obtained by writing the Graduate Faculty Representative, City and Regional Planning, 202 West Sibley Hall.

### **Master of Professional Studies in International Development (Regional Planning)**

In conjunction with the graduate Field of International Studies the Department of City and Regional Planning also offers the M.P.S.(I.D.), a one-year program either for experienced professional planners with specific training needs, or for other midlevel professionals with needs for short-term planning training. The program is described in the department's brochure on International Studies in Regional Planning.

### **The Professional Program**

The Department of City and Regional Planning is broadly concerned with social decision-making processes: the formation of public policies, the design and evaluation of programs, the development of institutions, and the creation of legislative and administrative implementation devices. These concerns reflect a general view of planning that can be applied to a number of areas: urban physical development; health, welfare, education, manpower, housing, and recreation systems; and the development of lagging regions and of regions in Third World nations. This view of planning entails the use of theoretical and analytical tools developed for the study of social and economic systems and the relationships between them.

Within this broad framework, students have considerable flexibility in pursuing their own

areas of interest. It is possible to develop programs of study that may vary across a wide spectrum, from those that have a very general approach to planning to those with a more specialized focus. Some current areas of specialization of interest to the faculty are: urban planning history; historic area preservation; urban development policies and programs; legal aspects of planning; land-use planning; planning design; science, technology, and urban development; ecological planning; sociology of urban communities; planning politics and administration; institutional and campus planning; social policy planning; regional analysis and development planning; urban and environmental systems planning; housing; health planning, and nonmetropolitan planning.

The basic goal of the department is to provide graduate-level professional training essential for persons seeking careers with the broad range of public agencies involved in planning.

For academic year 1976-77 the department has concentrated its efforts in three main programs: Urban Planning and Development, Regional Development Planning, and Social Policy Planning. There is a variety of other programs subsumed within these, and programs of special studies are available for graduate students upon petition to the department.

### **Urban Planning and Development**

The program in UPD is concerned with urban planning, development, housing, renewal, the history of urban development, and many other related activities. Employment in these fields is primarily at the municipal, metropolitan, county, regional, and state levels, with citizens' and neighborhood groups that require technical planning services, private consultants serving public agencies or private clients, and private organizations directly engaged in development work.

The major focus of the teaching, research, and community service programs is on the applied aspects of urban planning and development activities. The program is concerned to a great extent with the determinants of land use and arrangement of space within cities and regions—their planning, development, control, and management. Considerable attention also is given to economic, social, and political matters as they affect development and change of the urban environment.

Methodological skills appropriate to finding solutions for urban problems of this kind are an integral part of the program. Applied social services programs, as they relate to broader planning and development programs, are considered an important component, as are matters of improving the quality of the physical environment. Emphasis is on the urban aspects

of these programs, generally at the scale of neighborhood, city, or metropolitan region.

The educational approach of the program is primarily prescriptive, emphasizing case studies and fieldwork courses that are integrated with a broad range of academic courses, built upon a base of urban and planning theory. The student is offered a number of opportunities to work directly with real clients and real problems typical of those that face the practicing urban planner. Working together with faculty and fellow students, a student can learn his or her own strengths and weaknesses and also can develop an individual style of operation. Much of the work produced in fieldwork courses provides the basis for student term papers, reports, and thesis projects.

The special areas of strength within the urban planning and development program depend, to a great extent, upon the resident faculty. Across the breadth of the University, there are many course offerings, research projects, and community service activities that are available to students to supplement the offerings of the department. However, to guide prospective students, the department considers that its greatest strengths within this program are in the following specific areas: urban planning history; historic area preservation; housing; urban development policies and programs; legal aspects of planning and urban development; land-use planning; planning design; transportation planning; science, technology, and urban development; ecological planning; sociology of urban communities; economic planning and development; planning politics and administration; institutional and campus planning.

It should be emphasized that this program of studies concentrates primarily on those aspects of planning dealing in a comprehensive way with improving the urban physical environment and with the action programs necessary to achieve that goal.

### **Social Policy Planning**

Policy planning is the attempt to analyze choices and values that underlie public policy and, given sparse resources, to help policy makers choose among policy alternatives to reach the community's goals and objectives. The structure and content of the program reflect the expanding scope and changing functions of the planning profession. The specialization offers quantitative and nonquantitative training for students at the professional and advanced graduate levels who are interested in urban planning and social policy careers at the national and subnational levels of public and private activity. The educational goal of social policy planning is to integrate and sharpen the perspective of the policy-related aspects of

physical and social planning through the application of social theory, policy research methods, and social change strategies. The objective is to train planners and policy specialists whose work will create linkages between social scientists, government policy makers, and indigenous groups interested in effective public services. The program offers instruction and research in the socioeconomic, spatial, and political aspects of social systems and the policymaking process. Regional analysis is the study of subnational social systems at the regional, community, and group levels and the ways in which they relate to the larger systems of which they are part.

### **Regional Development Planning**

Regional Development Planning is the study of subnational social systems at the regional, community, and group levels and the ways in which they relate to the larger systems of which they are part. The program studies the growth and development of cities and regions, mainly through the use of economic analysis and the tools of political economy. There are three special components of the program now in the department: (1) To meet the need for research and training for professionals working on planning problems in developing countries, a specialization in international aspects of urban and regional planning has been established in the department. The objectives of this specialization are to offer training for students and planners from low-income countries to enable them to begin or continue work in research, planning, or administration of local and regional efforts; to exchange information and ideas about new techniques of planning and to encourage through comparative studies their modification for application in developing countries; to support research in an interdisciplinary environment; and to develop materials for training and research for programs abroad. (2) There are a wide variety of planning problems associated with non-metropolitan areas. For example, to identify ways that the poor of the nonmetropolitan United States may find their way into more prosperous and less dependent situations, with more control over their own fortunes. The study of social and political institutions in communities is emphasized because, rather than the several approaches open to those concerned with urban poverty, it is practically the only approach for the study of rural areas. Problems of regional economic development and decline, an issue just emerging in national politics, also are dealt with. (3) Urban and environmental systems planning is concerned with the application of systems analysis techniques and computers to the solution of appropriate urban and regional problems. The role of such analytical methods and of informa-

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tion systems in planning and policy formulation and analysis are also concerns.

### Faculty Interests

- Pierre Clavel: planning theory, administration, regional development
- Stan Czamanski: economic analysis for planning, including urban growth models, regional social accounts, regional applications of input-output analysis, location theory, housing economics, urban land economics
- William Goldsmith: regional development planning and administration, economic analysis, urban and regional planning in developing countries
- Keith Grey: urban design, site planning, land-use planning
- Howard Hammerman: social science research and analysis techniques, ecological influences on land development, human ecology, operational gaming techniques
- Cary Hershey: social policy planning, social change, administrative theory, manpower, education and welfare programs
- Michael Hugo-Brunt: history of architecture, city planning and development
- Walter Isard: regional science
- Barclay G. Jones: urban and regional quantitative analysis, urbanization theory, planning theory, environmental health planning, historic preservation planning
- Burnham Kelly: land-use regulation, development controls, the housing industry
- David B. Lewis: urban and regional planning in developing countries, technology transfer
- Dorothy Nelkin: impact of science and technology on urban society, environmental policy development
- Kermit C. Parsons: comprehensive land-use planning, new community planning, university planning
- Johns W. Reps: land-use regulation, planning administration, comparative planning, history of city planning in the United States
- Sidney Saltzman: quantitative methods and systems analysis in planning, computers and information processing systems
- Stuart W. Stein: planning and urban design within the context of comprehensive planning, housing and renewal, preservation of historic districts, enhancement of the visual assets of the city, land-use planning, urban planning practice
- Ian R. Stewart: urban housing, renewal and development policies and programs; urban politics; new town and suburban development policies and programs; American urban history
- Thomas Vietorisz: urban economics, regional economics, regional science, center city economic development
- D. F. Williams: housing, urban public sector, analysis, social policy planning, planning theory, subgroup economic development, and community planning

### Admissions

Students from all undergraduate disciplines are encouraged to apply for admission to the department. Applicants are expected to hold a bachelor's degree from a recognized institution.

Beginning graduate students may apply to the master's program or to the doctoral program as candidates for the master's degree. Application for transfer to the doctoral program may be made at any time after the second semester of work. Applicants with previous graduate work may apply for advanced standing or direct admission to doctoral study.

All applicants resident in the United States during the year preceding matriculation must submit scores from the Graduate Record Examination Aptitude Tests taken within the previous two years. Applicants are urged to take the tests as early as possible, preferably October. Upon request, the department may accept scores from the Law School Aptitude Tests (LSAT) in place of GRE test scores.

For further information write to the Graduate Faculty Representative, City and Regional Planning, 202 West Sibley Hall.

### Curriculum and Requirements

The curriculum has been designed to provide students with the opportunity to gain knowledge across a breadth of disciplines while at the same time permitting them to concentrate and study in depth in one or more areas of activity within the field. A small number of foundation courses are required very early in the program. These are designed to present a comprehensive view of the field and the opportunities for study within the department and the University. Following this, students are permitted to develop their own programs of study, with the guidance of a faculty member, so that they can build knowledge and skills in at least one area within the field while continuing to broaden their understanding of planning through selection of a wide range of courses drawn from many disciplines. Throughout the program, attention is given to the development of close working relationships between students and individual faculty members.

A minimum of sixty credits of course work are required for the M.R.P. degree in the department. At least thirty of these credits must be taken in courses offered within the department. Ordinarily, two years of course work are necessary to complete the requirements for the degree.

### Curriculum

The first semester will be devoted primarily to introductory courses in social policy plan-

ning, urban planning and development, and urban and regional socioeconomic planning. In addition, two courses in methods of analysis are strongly suggested during the first year. Most students will then design advanced curricula with the advice of faculty in one of the three major programs.

### **Thesis or Final Project**

Candidates for the M.R.P. degree must demonstrate an ability to do independent work as professionals in planning. The nature of this independent effort will be planned by the student and the chairperson of his or her Special Committee. Independent work normally entails specialization in course offerings during the latter part of the program, and students are encouraged to choose an adviser relevant to such specialization early in the program of study.

The faculty of the department encourages the student to integrate applied fieldwork experience with the thesis project or research paper. The opportunities for satisfying this requirement are broad and varied.

### **Electives**

Electives may be taken in any area or in any department or program of the University. The selection of the electives should be made with the guidance of the student's adviser. The department generally attempts to identify relevant courses available outside the department and to provide an up-to-date listing of such courses to all students.

### **Joint Programs**

#### **Master of Regional Planning and J.D.**

This program enables students to earn both a Master of Regional Planning and a J.D. degree in four years. Students should apply to both programs for admission, indicating their interest in the joint program. Students who successfully complete their first year in the Law School may then elect one course each semester in the College of Architecture, Art, and Planning. Students who continue to maintain the quality of their work in the Law School and who demonstrate an aptitude for planning will, at the end of the second year, be guaranteed a place in the College of Architecture, Art, and Planning. Upon successful completion of the requirements for a J.D. degree, these students will spend a fourth year at the College of Architecture, Art, and Planning to complete the requirements for an M.R.P. degree.

Students will be required to select certain Law School courses that have a direct bearing on planning. The proper sequence of introductory planning courses will be announced

each year. These requirements will be fixed by a joint faculty committee representing both the Law School and the College of Architecture, Art, and Planning.

### **Planning and Urban Design**

A joint graduate program between planning and urban design leading to both the Master of Architecture and Master of Regional Planning degrees is possible. Interested students must be admitted to both fields of study. Further information may be obtained from the Graduate Faculty Representative, City and Regional Planning, Cornell University, Sibley Hall, Ithaca, New York 14853.

### **Landscape Architecture**

The department cooperates in the Program in Landscape Architecture, which allows students the opportunity to benefit from the growing potential of the landscape and large-scale environmental design field because of its close integration with the city and regional planning department's program. Students interested specifically in pursuing a graduate-level program in landscape architecture should apply for admission directly to that program by writing to the Landscape Architecture Program, College of Architecture, Art, and Planning.

## **Landscape Architecture**

Landscape architecture is the design profession concerned with the analysis, physical planning, and design of the outdoor environment. Through a comprehensive understanding of natural systems capabilities, land use, human behavior, and site design and construction principles, the landscape architect works to optimize the utility and form of outdoor space while minimizing environmental impact.

In the Colleges of Architecture, Art and Planning, and Agriculture and Life Sciences, the Landscape Architecture 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).

### **Two-Year Graduate Program**

The two-year graduate program serves to broaden and enrich undergraduate education in design by providing an expanded educational experience to those who are technically skilled. Applicants are therefore expected to hold a bachelor's degree in architecture,





landscape architecture, or environmental design from a recognized institution.

The objectives of the two-year program are to permit students to conduct research in the multidisciplinary areas relating to landscape architecture, and to provide advanced education and training to individuals who decide, upon graduation, to teach, to practice, or to conduct applied research in landscape architecture. To further these objectives, students are permitted considerable flexibility in establishing programs which take full advantage of the teaching and research resources of the University.

### Three-Year Graduate Program

Students with bachelor's degrees in areas other than architecture, landscape architecture, or environmental design may enroll in the three-year graduate program. Through an initial curriculum sequence intended to develop basic landscape architecture skills and concepts, the three-year program provides opportunities for students from diverse educational backgrounds to become proficient in landscape design, site construction, graphic communication, plant materials and other related subject areas necessary to enter the profession fully qualified at the master's level. In order to provide advanced education and training for those who decide to conduct applied research, to practice, or to teach in landscape architecture, students are also encouraged to pursue multidisciplinary studies based upon an individualized curriculum developed under the guidance of an adviser in the Field of Landscape Architecture.

### Admission

Applications should include a record of undergraduate academic performance, letters of recommendation, a statement describing the applicant's background and objectives, and any examples of work which may illustrate the applicant's potential for achievement at the graduate level. Graduate Record Examination scores are desirable but not required. For further information prospective students should write to the Graduate Faculty Representative, Landscape Architecture, Cornell University, Sibley Hall, Ithaca, New York 14853. (Undergraduate applications to the Landscape Architecture Program should be directed to the College of Agriculture and Life Sciences.)

### Curriculum and Requirements

#### Two-Year Program

For students enrolled in the two-year program, sixty credits constitutes the course work requirement. Two academic years constitutes the

minimum residence requirement. A student may petition the Graduate School for a maximum of one semester's advanced standing based upon previous education or experience.

The core courses include 481, Contemporary Issues in Landscape Architecture; and 582 and 681, Landscape Planning and Design Workshop. Additional professional landscape courses may be required for students with bachelor's degrees in architecture or environmental design. Electives may include courses in statistics, quantitative methods, landscape construction, landscape history, plant materials, and design, and will vary among individual students depending upon their educational backgrounds and interests.

#### Three-Year Program

Ninety credits, including satisfactory completion of the following core curriculum courses, fulfills the course work requirement of the three-year M.L.A. program:

<i>Course Area</i>	<i>Credits</i>
Studio-design	25
Site construction	8
Plant materials/natural systems	9
Visual communications	6
History of landscape architecture	4
Contemporary issues in landscape architecture	1
Professional practice	2

Two-year and three-year M.L.A. program students are required to choose a minor area of concentration. This consists of a minimum of fifteen credits of course work and may be chosen from any of the relevant fields in the Graduate School, or from subject areas such as the ecologic, economic, social, historical, or legal determinants of landscape architectural design.

In addition to satisfactory completion of course work, requirements for the M.L.A. degree include an approved summer internship and completion of a thesis or final project.

## General Admissions

### Undergraduate

The University believes in the educational values inherent in bringing to the campus persons of widely different backgrounds, and directs its admissions policy to the preservation of this fundamental principle. In choosing from among candidates of approximately equal qualifications, some preference may be given to those whose homes are in areas not adequately represented in the student body.

It is the policy of Cornell University actively to support equality of educational opportunity.

## 26 General Admissions

No student shall be denied admission to the University or be discriminated against otherwise because of race, color, creed, religion, national or ethnic origin, or sex.

The number of students that may be admitted each year in each program, undergraduate and graduate, is limited. Preference is given to those applicants whose academic preparation and character show greatest evidence of professional promise.

Students entering the College are reminded that they are entering specialized programs with the intention of becoming professional artists or architects. In a few cases, students may find that their aims change when they are in residence, and it is, therefore, important for all to understand that transfer to other programs in Cornell is not possible as a rule until the student has completed a full year in the program originally entered.

A maximum of ninety students a year matriculate in the program in architecture; the entering class in art is limited to thirty students. Those selected for admission must have demonstrated through their previous schooling the intellectual capacity to carry the classroom work and to profit from the instruction offered. Intellectual preparedness is judged by the candidate's entire secondary school record, the recommendations from the school, and either the Scholastic Aptitude Test of the College Entrance Examination Board (SAT) or the American College Testing Program (ACT). Transfer students are normally accepted for admission only in September.

The intangible, but important, factors that form good character, personal integrity, and effective personality receive full consideration by the selection committee. Capacity for creative work and degree of motivation for a specific field of professional education are basic considerations.

Prospective students should write to the Office of Admissions, Cornell University, 410 Thurston Avenue, Ithaca, New York 14853, for forms to be used in making application for admission. Applications for admission must be received at the University in ample time to allow credentials to be assembled, required tests to be completed, and the application to be reviewed by the Committee on Admissions. Secondary school students should, if possible, initiate their applications in the fall of the year preceding matriculation in college. Undergraduate applications for entrance in the College of Architecture, Art, and Planning should be completed by January 15.

Every undergraduate applicant who is able to do so should plan to come to Ithaca during the fall term preceding the year for which he or she has made application for a visit to the College and an interview with a member of its

Committee on Admissions. An appointment for this interview can be made by writing directly to the Admission Secretary, College of Architecture, Art, and Planning, West Sibley Hall, Ithaca, New York 14853. For those who cannot come to Ithaca interviews with alumni of the College can be arranged in some areas through the admissions secretary.

### Requirements

All candidates for admission to the College must take the Scholastic Aptitude Test of the College Entrance Examination Board or submit American College Testing Program scores. Entrance credit on the basis of the school record will be granted only in those subjects in which the candidate has attained the college-recommending mark of the school.

Three years of a foreign language, ancient or modern, are required for entrance. Candidates who have less than three years of preparation in a foreign language, but who make a satisfactory score on the Achievement Test of the College Entrance Examination Board may meet the requirement. When the required language credit is not offered for admission, a letter of explanation of this deficiency must be sent to the Committee on Admissions for its consideration. If the applicant is admitted, the language requirement must be satisfied before graduation. If an applicant plans to continue in college the study of a language already begun, the College advises the student to take the College Entrance Examination Board Achievement Test in that language, for placement in the proper course. Three college credits in a language are considered, for the purpose of making up the entrance requirement while in college, to be equivalent to one year of high school language credit.

Candidates for admission to the *Department of Architecture* must present sixteen units including four units of English, four units of mathematics, and three units of foreign language (see above). Mathematics must include intermediate algebra, plane geometry, and trigonometry, taken either as separate courses or included within comprehensive mathematics courses. An acceptable course in physics, taken either in secondary school or in college is required for graduation.

The program in architecture is professional in its objectives. Only those who are seriously interested in careers in architecture should make application for admission. Candidates for admission are advised to read professional literature, visit professional offices, talk with students of architecture or recent graduates, and otherwise inform themselves about the field. It is usually wise to resolve serious doubts by starting with a program of general education.



Candidates for admission to the *Department of Art* should present sixteen units including four units of English, two units of college preparatory mathematics, and three units of foreign language (see above). Remaining units should, in the main, consist of science and social studies (including history).

The program in art is preprofessional in objective. Those who are seriously interested in careers in painting, sculpture, or the graphic arts are the most logical candidates. Candidates for admission are advised to read art criticism and art history, to visit museums and galleries, and to otherwise inform themselves about the field of art. Art work done by the applicant, or slides thereof, should be presented at the time of the interview. Examples of class assignments, or independent work, or both, are acceptable. Prospective students who live outside the radius of the Boston-New York-Ithaca areas and cannot travel for personal interviews may write to the Department of Art to arrange for an interview with a Cornell graduate who lives in the prospective student's part of the country and in addition send to the Department of Art one unmounted 9" x 12" self-portrait in pencil, exactly ten selective slides of their work, and a brief statement of professional interest and purpose.

### Transfer Students

A student who has already attended another institution of collegiate rank is admitted at the beginning of the fall term. The applicant is required to meet all entrance requirements and to comply with the rules governing admission. In addition, the applicant should file with the Office of Admissions, 410 Thurston Avenue, an official transcript of record of work at the institution already attended, together with a certificate of honorable dismissal. The applicant should be prepared to send, if requested, a catalog of that institution, and marking the courses taken as listed in the transcript. The Scholastic Aptitude Test of the College Entrance Examination Board is required.

### Graduate

Graduate programs in the College of Architecture, Art, and Planning are of two general types, requiring different admissions procedures. First, professional programs leading to the degrees of Master of Architecture, Master of Fine Arts, Master of Regional Planning and Master of Landscape Architecture are formally under the jurisdiction of the Division of Architecture, Art, and Planning of the Graduate School. Candidates for admission should apply for the necessary forms to the appropriate office at Cornell University, Ithaca, New York 14853 as follows: Candidates for the degree of Master of Architecture should write to the

Chairman, Department of Architecture, Sibley Hall; candidates for the degree of Master of Fine Arts should write to the Chairman, Department of Art, Franklin Hall; candidates for the degree of Master of Regional Planning should write to the Chairman, Department of City and Regional Planning. Candidates for the degree Master of Landscape Architecture should write to the Program Coordinator for Landscape Architecture, Sibley Hall.

Second, academic programs leading to the degrees of Master of Science (architectural sciences), Master of Arts (history of architecture and urban development, preservation planning), and Doctor of Philosophy (architectural history, city and regional planning) are formally under the jurisdiction of the dean of the Graduate School. Candidates for admission should apply for the necessary forms to the Graduate School, Sage Graduate Center, Cornell University, Ithaca, New York 14853, sending a copy of the letter to the appropriate department chairman in the College of Architecture, Art, and Planning so that the College may know when an application is in process. Regulations governing the students in these academic programs may be found in the *Announcement of the Graduate School*.

Graduate applications should be completed by February 1 except in the Field of City and Regional Planning where applications will be received until March 15. However, in all graduate programs, applications should be completed by February 1 in order to be considered for awards of fellowships, scholarships, and other financial aids. When places remain to be filled, later applications will be accepted. The applications from United States citizens and from foreign applicants who reside in the United States and Canada must be accompanied by a \$20 nonrefundable application fee. Foreign applicants residing elsewhere who have been accepted for admission must pay this application fee before registration.

Foreign students whose undergraduate training has been outside the United States are usually admitted to provisional candidacy during the first semester, during which their qualifications to continue in their selected programs will be evaluated. In most cases, they should plan to spend at least four terms in residence. Foreign applicants whose native language is not English, but who received their secondary school or their university education in the English language, must submit a statement certifying to this, signed by a responsible officer of a United States Embassy or Consulate or by an appropriate official of the educational institution involved. All other foreign applicants must take the National Council Test of English as a Foreign Language by arrangement with the Educational Testing Service, Princeton, New Jersey 08540, or the Michigan English

Language Test by arrangement with the English Language Institute, University of Michigan, Ann Arbor, Michigan 48104. In either case, the test scores must be reported directly by the testing organization to the Graduate School as part of the essential application information, and no final action on applications will be taken until the scores have been received. Both testing programs are available throughout the world. Information on times and places for administration of the tests may be obtained directly from the addresses given above. Since these tests are diagnostic, admission to those applicants whose scores indicate unsatisfactory command of English may be denied or be made contingent upon evidence of improved command of English.

All applicants for admission to the programs in history of architecture and urban development, architectural science, and city and regional planning who are currently residing in the United States are required to take the Graduate Record Examination (GRE) Aptitude (Verbal and Quantitative) Tests of the Educational Testing Service, and to have the scores sent to the College or to the Graduate School as part of their application materials. Information about the times and places of test administration may be obtained directly from the Educational Testing Service, Princeton, New Jersey 08540.

### Special Students

A person, especially one of comparative maturity, may, in certain circumstances, even without satisfying the entrance requirements, be admitted as a special student not a candidate for a degree. Applicants must give evidence of ability to do creditable work in the College, and their applications for admission must be recommended by the department in which they propose to do the main part of their work. They must file applications with the Office of Admission, 410 Thurston Avenue.

If a person admitted as a special student without satisfying the entrance requirements subsequently satisfies those requirements, he or she may be graduated under the ordinary regulations of the College.

### Special Opportunity Programs

Cornell University administers a variety of special opportunity programs designed to provide financial assistance and other forms of assistance to low-income, minority students and others meeting program guidelines. Special programs exist to aid in increasing representation of students from minority groups present in New York State who historically have been underrepresented in higher education. For details, prospective students should consult the *Guide for Candidates* which accompanies

each undergraduate application or will be sent upon request by the Office of Admissions, Cornell University, 410 Thurston Avenue, Ithaca, New York 14853.

### Thomas' Lectures

The Preston H. Thomas Memorial Lecture Series, made possible through an endowment provided by a generous gift from Mr. and Mrs. Leonard B. Thomas in memory of their son, Preston H. Thomas, Class of '75, makes possible outstanding lectures in the field of architecture and related areas each year.

## Financial Aid

### Undergraduate Scholarships

Prospective students requiring financial assistance should write to the Office of Scholarships and Financial Aid, Cornell University, Day Hall, Ithaca, New York 14853; students in residence should call in person at that office.

As one of the more than 900 colleges that are members of the College Scholarship Service, Cornell follows the general policies as outlined by that organization. Scholarship awards are made on the basis of academic achievement and promise, but the actual cash stipends vary according to the financial need of the applicant. As a matter of policy every effort is made by means of scholarship aid and the student work and loan programs to make it financially possible for students of promise to come to and remain at Cornell.

Financial assistance is awarded through scholarships and long- and short-term loans available to students in all branches of the University, and through scholarships administered by the various colleges.

The scholarships described below are awarded by the Scholarship Committee of the College of Architecture, Art, and Planning. All awards are made on the basis of promise and need.

**Dean's Scholarships.** The University has made available annually approximately \$80,000 that may be awarded to undergraduate students, including entering students, in architecture and art.

**Gillespie Prize Scholarships.** Scholarships totaling \$800 may be awarded each year to fourth- or fifth-year students in architecture. These awards are made from the bequest of a former student of the College, the late Albert D. Gillespie, and are granted on the basis of general academic performance and need.

**The Waldo S. Kellogg Scholarship Fund.** Through a bequest made by Mrs. Frances E. Osborne Kellogg in memory of her husband,

Waldo S. Kellogg '93, \$5,000 is available annually to students in the undergraduate and graduate programs in architecture.

**H. R. Dowswell Scholarship Fund.** Open to a student in the College who stands in the top quarter of his class academically, who has a good personality, and who has demonstrated qualities of leadership. This fund was established by Col. John R. Dowswell and Mrs. Harold E. Van Der Linde in memory of their father. Annual award, \$700.

**Nancy A. Bernstein Scholarship.** Open to a promising undergraduate woman in art in need of financial assistance. This scholarship is granted from a fund established by Mr. and Mrs. Nathan C. Bernstein and Margaret Bernstein in memory of Nancy A. Bernstein '49. Annual award, \$700.

**The David Bean Scholarship** was established in 1972 by Mr. and Mrs. Robert C. Bean in memory of their son David R. Bean '71. The sum of \$1800 is to be awarded to a student in art who wishes to spend the junior spring semester or the senior year working in Europe.

**The Charles A. Holcomb Memorial Scholarship** of \$200 was established in 1963 by Mrs. Holcomb in memory of her husband, who received his Bachelor of Architecture degree from Cornell in 1920. It is to be awarded to a student, preferably a sophomore, in the College.

**George Louis Coleman Scholarships.** These scholarships were established for students in the College in 1965 through a bequest of Louise Gertrude Coleman, in memory of her husband, a devoted alumnus of Cornell, B.A. in architecture '95.

**The Norman C. Weiffenbach Memorial Fund.** Established in July 1967 by Mr. and Mrs. Eugene W. Kettering in memory of Mrs. Kettering's father, Norman C. Weiffenbach, architecture '04. The sum of approximately \$3,000 is to be awarded to worthy and financially needy young men or women.

**The George Fraser Awards.** Established in 1968 for the benefit of one or more upper-class or graduate students who, in the opinion of the faculty, have done outstanding work and who preferably are in need of financial assistance.

## Medals and Prizes

**The Alpha Rho Chi Medal** is awarded by Alpha Rho Chi, a professional architectural fraternity, to a student in the graduating class who has shown ability for leadership, has performed service to the school, and gives promise of professional merit through attitude and personality.

**The Student Medal of the American Institute of Architects** is awarded to the member of the graduating class in architecture who has maintained the best academic grade average throughout the entire course.

**The Baird Prizes** consist of one or more prizes in the total amount of \$400 in a special problem competition in second-year design. The fund established in 1927 was the gift of Mrs. M. Z. Baird.

**The Paul Dickinson Prize**, established in 1927 by Mrs. George A. Shedden '23 in memory of her father, is a \$50 prize awarded to the student in the first-year undergraduate class of the College who has attained the highest scholastic record. This prize is not awarded unless the record is well above the average of the first-year work in the College.

**The Eschweiler Prize** is made from a bequest of Alexander C. Eschweiler, Jr., '15 in memory of his father, Alexander C. Eschweiler, Sr., '90. An annual award of approximately \$700 is awarded to a student in architecture with high scholastic achievement who has been accepted in one of the architecture graduate programs in architecture at Cornell.

**The New York Society of Architects Medal and Certificate** are awarded annually to that senior student who, in the opinion of the faculty and the society's committee, is the leader of the class in total design—that is, design, planning, and construction.

**The Charles Goodwin Sands Memorial Medal**, founded in 1900 by the family of Charles Goodwin Sands '90, may be awarded for work of exceptional merit done by a student in courses in architectural design, or by a student in the art curriculum for work of exceptional merit in painting and composition or sculpture. Theses in architecture or painting and sculpture are eligible for medal consideration.

**The Edwin A. Seipp Memorial Prizes**, one or more prizes in the total amount of \$150, were established in 1948 by Mrs. E. A. Seipp in memory of her husband, an alumnus of the Class of 1905. They are awarded in a special competition in third-year design.

**The Edward Palmer York Memorial Prizes**, one or more prizes in the total amount of \$100 which shall be awarded in a special competition for students in introductory design. Traditionally, the problem, lasting approximately one week, is given in the second term. The fund, established in 1931, was the gift of Mrs. Edward P. York.

**The Faculty Medal in Art** is awarded each year to the member of the graduating class in the

curriculum in art who, by academic record and work in the studio, has, in the estimation of the faculty, shown the greatest promise of future achievement in the field of art.

**The Edith and Walter King Stone Memorial Prizes** are awarded to juniors at the end of their third year. Two awards of \$250 each are given on the basis of promise and accomplishment in the field of art.

**The American Institute of Planners Student Award** is presented to a candidate for the professional degree in planning (M.R.P.) in recognition of outstanding ability. The qualities to be identified include consistently high academic record, leadership ability, maturity, research ability, and professional promise.

**The Peter B. Andrews Memorial Thesis Prize** is awarded for the best thesis prepared for the degree of Master of Regional Planning. It is granted from the income of a fund established by Mrs. Peter B. Andrews and Dr. George C. Andrews in memory of Peter B. Andrews, Bachelor of Architecture, 1955, M.R.P., 1957.

**The Mackesey Prize**, in honor of former dean of the College of Architecture, Thomas W. Mackesey, is awarded to a candidate for a degree in city and regional planning who has demonstrated unusual competence in academic work or who, by qualities of personality or leadership, has significantly contributed to the intellectual advancement of fellow students.

**The Fuertes Memorial Prizes in Public Speaking**, founded in 1912 by Charles H. Baker, a graduate of the School of Civil Engineering of the class of 1886, are offered annually to members of the junior and senior classes in the Colleges of Engineering and Architecture, Art, and Planning for excellence in public speaking. The prizes are cash awards totaling \$400.

### Traveling Fellowship

**The Robert James Eidlitz Fellowship**, the gift of Sadie Boulton Eidlitz, is available to persons who hold degrees in architecture from Cornell or who are now graduate students in architecture at Cornell. Its purpose is to supplement the professional training, by foreign travel or in other ways, of those who could not otherwise afford it. The income of the fund, approximately \$4000 per year, may be awarded to one or more candidates.

### Graduate Fellowships

The *Announcement of the Graduate School* carries full information about Cornell University graduate fellowships and scholarships for which both entering students and students in resi-

dence are eligible. These awards are made by the Fellowship Board of the Graduate School. Graduate fellowships carry stipends from \$1500 to \$3500 plus tuition. Application forms may be obtained from the Office of the Graduate School.

The Kellogg Scholarships and the Eidlitz Fellowships, described earlier in reference to undergraduates, are also available to graduate students in architecture.

Twenty-one teaching assistantships are awarded by the College of Architecture, Art, and Planning. Fellows are assigned to aid in the instruction in the various areas of study offered by the College: architectural design, architectural sciences, city and regional planning, architectural history, painting, sculpture, and graphic arts. Full teaching assistantships carry a stipend of \$3,200 plus tuition.

The Department of City and Regional Planning awards a number of research assistantships in planning and for study in the M.R.P. program.

Prospective graduate students are reminded that there are a number of private agencies and foundations that offer scholarships for highly qualified students. The American Institute of Architects, for instance, awards a number of such scholarships annually.

Prospective foreign students should investigate awards under the fellowship program of the Organization of American States, the United Nations, United States Fulbright Commissions in many foreign countries, and the United States Agency for International Development. The United Nations publication *Study Abroad* lists numerous scholarships and fellowships, many of them for study in the United States, by citizens of other countries.

### Loans

University, New York State, and National Defense student loans are available to students at Cornell. Applications should be made through the Office of Scholarships and Financial Aid, Cornell University, 203 Day Hall, Ithaca, New York 14853.

## General Information

### Expenses

Living costs depend to a great extent upon the individual's standard of living. Recent estimates indicate that undergraduate students spend approximately \$2,000 a year for room and board. Laundry and cleaning, books, instruments, and other supplies will cost about \$700 a year. Additional allowance must be made for clothing, travel, and incidentals.

The tuition charge for both undergraduate and graduate students in the College of Architecture,

Art, and Planning is \$4,110 for the 1976-77 academic year. In addition, a nonrefundable fee of \$25 is required at the time of application and a nonrefundable \$50 registration fee must be paid when an applicant receives notice of acceptance.

## University Health Requirements

Each entering student, graduate or undergraduate, is expected to assume personal responsibility for the health requirements adopted by the Board of Trustees of Cornell University. Prospective students should consult the *Announcement of General Information*. Permission to register for a new semester will not be granted unless all health requirements pertaining to the previous semester have been fulfilled.

## Health Services and Medical Care

The health services for students are centered in two Cornell facilities: the Gannett Medical Clinic (outpatient department) and the Sage Infirmary. Students are entitled to unlimited visits at the Clinic. Appointments with individual doctors at the Clinic may be made, if desired, by calling or by going in person; an acutely ill student will be seen promptly whether he or she has an appointment or not. Students are also entitled to laboratory and x-ray examinations indicated for diagnosis and treatment, hospitalization in the Sage Infirmary with medical care for a maximum of fourteen days each term, and emergency surgical care. The cost of these services is covered by tuition.

The University Health Services offers a prepaid health care plan for student spouses that is identical in benefits to the student health care. For the payment of a fee each term, a student spouse is entitled to unlimited medical visits to Gannett Clinic, up to fourteen days each term of hospitalization in Sage Infirmary and emergency surgical care. In addition, the Health Services will assume the cost of a first visit to a specialist (when referred by a Health Services physician).

Other services are available at reduced cost to those who participate in this program. Students may enroll their spouses prior to or during the first thirty days of any term.

This primary care program is not to be confused with the Student Accident and Sickness Insurance Plan (for Cornell students and their dependents). The student insurance supplements basic health care by providing twelve-month insurance coverage for students (and dependents) over and above benefits of the University Health Services, and by protecting the student when away from the Cornell campus (e.g., vacations).

Information and enrollment forms for the Student Spouse Prepaid Health Care Plan may

be obtained by writing or visiting the University Health Services, Gannett Medical Clinic, Cornell University, 10 Central Avenue, Ithaca, New York 14853.

If, in the opinion of the University authorities, the student's health makes it unwise for the student to remain in the University, he or she may be required to withdraw.

## Physical Education

All undergraduate students are required to complete four semesters of physical education within the first four terms. Postponements are allowed only by consent of the University Faculty Committee on Physical Education.

Exemptions from the requirement may be made by the Committee on Physical Education when it is recommended by the University Medical Department or because of unusual conditions of age, residence, or outside responsibility.

For a student entering with advanced standing, the number of terms of physical education required is reduced by the number of terms that the student has satisfactorily completed (whether or not physical education was included in the student's program) in a college of recognized standing.

## Swim Test

A fifty yard swim test will be required of all new students who have not fulfilled the physical education requirement. All nonswimmers will be registered in beginner swim classes. This will serve as the physical education requirement during the semester or semesters involved. All other students may elect the activity of their choice from a wide range of offerings. Publications describing the courses offered will be made available to entering students by the Department of Physical Education.

## Military Training

As a land-grant institution chartered under the Morrill Act of 1862, Cornell has offered instruction in military science for more than 100 years. This instruction is provided through the ROTC programs of the three military departments, the Army, the Navy, and the Air Force.

These programs offer students the opportunity to earn a commission while completing their education. Participation in ROTC is voluntary. Interested students should consult the *Announcement of Officer Education*.

## University Summer Session

It is usual for the Departments of Art and Architecture to offer certain studio courses as part of the University's six- or eight-week

## 32 General Information

summer sessions. Further information is available from the Division of Summer Session and Extramural Courses, Cornell University, Day Hall, Ithaca, New York 14853.

Special summer conferences and institutes are offered in addition, principally by the graduate Program in City and Regional Planning. Details regarding these special offerings may be obtained from the College.

Information on the summer term in architecture is given on page 14.

### Facilities

#### Buildings

The College occupies Sibley Hall, Franklin Hall, part of Rand Hall, and the Foundry. In Sibley are the facilities for architecture and city and regional planning as well as the administrative offices and the Fine Arts Library. The Department of Art is housed in Franklin Hall. Sculpture and shop facilities are in the Foundry. The Green Dragon, a student lounge, is located in the basement of Sibley Hall.

Through the generosity of the late Mrs. Lillian P. Heller, the College has acquired 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. A library of over 85,000 books, it is capable of supporting undergraduate, graduate, and research programs. Some 1,600 serials are currently received and maintained.

The College maintains in Sibley Hall a slide library containing extensive files of slides of architectural history and a large and growing collection of slides of art and architecture from all parts of the world. The library now includes approximately 185,000 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 new 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 Univer-

sity, the museum has no administrative affiliation with any department. In this way, its programs cut freely across 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 Franklin Hall.

### Housing

Cornell University provides residence halls on the campus for approximately 5500 single students. Meals may be taken where desired. Freshmen are strongly urged to live in residence halls although there is no requirement. An application form will be mailed each candidate for admission as a freshman or transfer student at the time of notification of provisional acceptance. Assignments are made in the order in which applications are received at the Housing Assignment Office. A freshman whose application is postmarked no later than June 1 will be assured of a room assignment. Freshman applications postmarked after that date will also be honored, but in some late cases assignments may not be immediately available.

Further information about housing may be obtained from the Department of Student Housing, 223 Day Hall, Ithaca, New York 14853

#### Graduate Students

Sage Graduate Center provides dormitory housing for about 190 men and women. The building is in the center of the campus and provides a convenient cafeteria. Cascadilla Hall houses 155 men and women. To obtain an application for graduate-student housing write to Department of Student Housing, 223 Day Hall, Ithaca, New York 14853. Forms should be returned promptly as assignment priority is established by the date of receipt of the application by the University.

#### Family Housing

The University operates the Pleasant Grove Apartments and the Hasbrouck Apartments, garden-type housing developments at the edge of the campus, and the Cornell Quarters, a housing development southeast of the campus. For more detailed information, address inquiries to Hasbrouck Housing Office, Hasbrouck Apartments, Pleasant Grove Road, Ithaca, New York 14850.



### Off-Campus Housing

Off-campus housing may be obtained in privately owned properties in Ithaca and the vicinity. As a service to students, the University posts and maintains a partial listing of available housing in the Off-Campus Housing Office, 223 Day Hall. This office will assist students in finding satisfactory living quarters in Ithaca and the surrounding communities.

### Faculty Advisers

Each undergraduate student will be assigned a faculty adviser who, with those in charge of preregistration, will assist the student in working out an academic schedule, term by term.

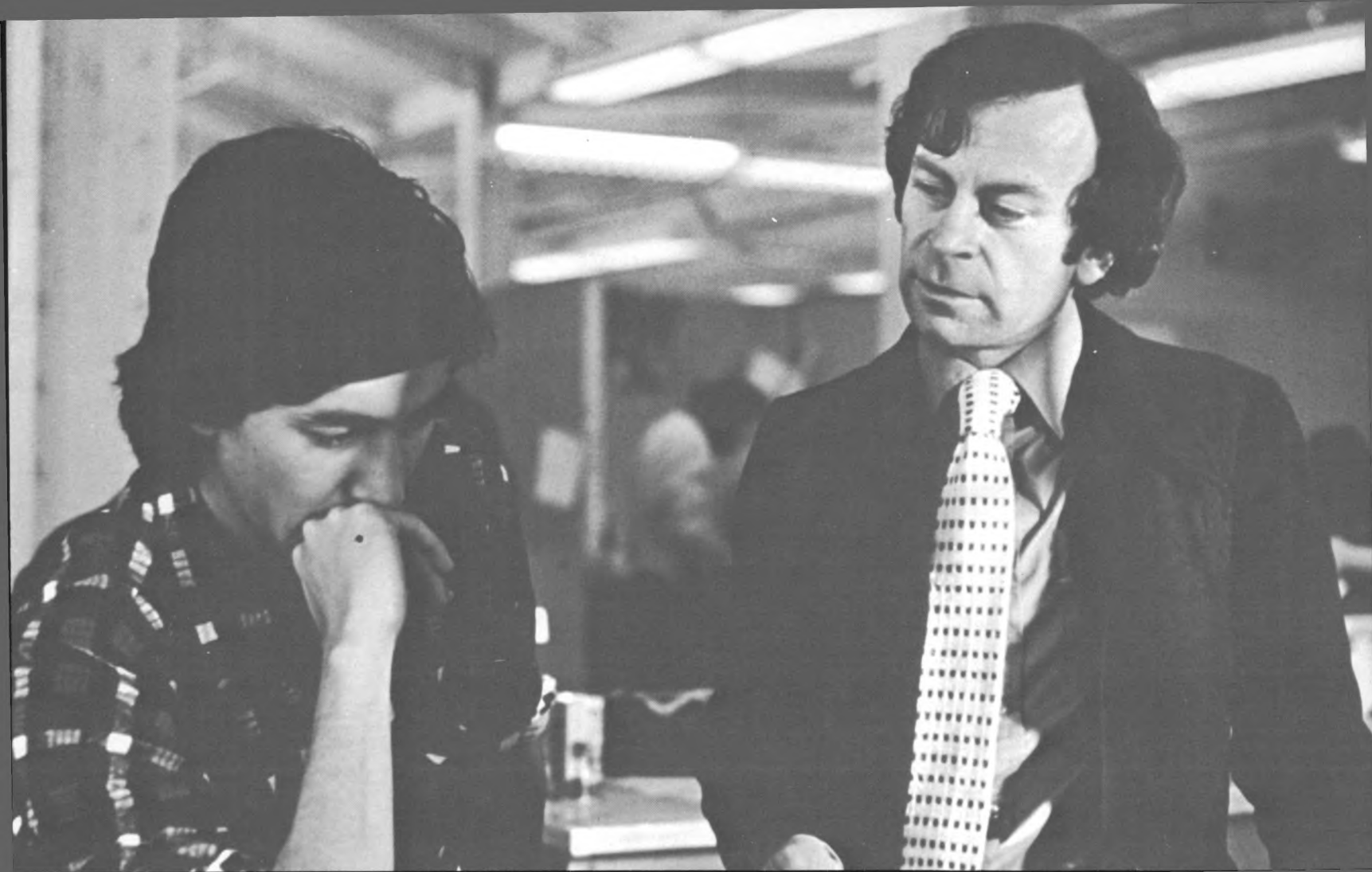
The Office of the Dean stands ready at all times to help and guide students, not only in academic matters, but also, when possible, in personal problems and difficulties they may encounter. In addition, the Office of the Dean of Students has trained staffs of counselors who may be consulted by University students on nonacademic matters.

### University Privileges

Students of the College of Architecture, Art, and Planning are entitled to the use of all of the University's general facilities and privileges. They may elect courses of study in any of the University's colleges. All the usual extracurricular activities ordinarily to be found at a university are open to all students at Cornell. They include: musical and dramatic clubs; undergraduate publications; religious, social, and professional organizations; and a great variety of athletic sports both intramural and intercollegiate.

### International Students

The staff of the University's International Student Office is prepared to advise and assist students from other countries in every way possible. It is suggested that foreign students interested in studying at Cornell University write for advice on registration, living conditions, and other matters to Director of the International Student Office, Cornell University, Barnes Hall, Ithaca, New York 14853.





## Cornell University

# Description of Courses

All academic courses of the University are open to students of all races, religions, ethnic origins, ages, sexes, and political persuasions. No requirement, prerequisite, device, rule, or other means shall be used by any employee of the University to encourage, establish, or maintain segregation on the basis of race, religion, ethnic origin, age, sex, or political persuasion in any academic course of the University.

## Architecture

### Architectural Design

#### Sequence Courses

**101 Design I** Fall. 3 credits. Studio and lecture. Open to department students only. Fee charged.

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

**102 Design II** Spring. 3 credits. Studio and lecture. Open to department students only. Fee charged.

A continuation of 101. Human, social, technical, and aesthetic factors related to space and form. Design problems ranging from the immediate environment of the individual to that of small social groups.

**201-202 Design III and IV** Fall or spring. 4 credits per term. Studio and seminar. Must be accompanied by Architecture 231-232. Open to department students only. Fee charged.

**301-302 Design V and VI** Fall or spring. 6 credits per term. Studio and seminar. Open to department students only. Fee charged.

**401-402 Design VII and VIII** Fall or spring. 6 credits per term. Studio and seminar. The

programs offered are architectural design, urban design, or architectural technology and environmental science each term. Fee charged.

**501 Design IX** Fall or spring. 8 credits. Studio. Fee charged.

**502 Design X—Thesis** Fall or spring. 8 credits. Studio. Fee charged. All students who are candidates for the degree of Bachelor of Architecture will be required to complete satisfactorily a thesis during one term of the last year in residence. Students accepted for admission to the graduate studio are exempt from the thesis requirement.

**503-504 Design IX—Thesis I and Design X—Thesis II** Fall or spring. 8 credits per term. Studio. Fee charged.

Upon approval by the department students may elect to spend two terms working on the thesis.

**510 Thesis Introduction** Fall and spring. 2 credits. Lecture and seminar. Staff.

Required of all architecture students in the year preceding their thesis. 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 will be followed by tutorial work with the student's advisory committee.

**601-602 Special Program** 601, fall; 602, spring. 8 credits per term. To be arranged with faculty during the fourth year. Intended primarily for students applying to a graduate program in the College. Fee charged.

**111-112 Elective Design Studio** 111, fall; 112, spring. 3 credits. Registration restricted to out-of-department students. Permission of department office required. To be coordinated by Department of Architecture Office. Fee charged.

**200, 300, 400, 500 Elective Design** Fall or spring. Credit as assigned. Open by permission to students who wish to take additional work in design or for transfer students who have not been assigned to a sequence course. The student will be assigned to work with a class of appropriate level. Fee charged.

#### Nonsequence Courses

**310 Special Problems in Architectural Design** Fall or spring. Independent study. Registration and credit by arrangement.

**611-612 Urban Housing Developments** 611, fall; 612, spring. 2 credits per term. Seminar. Limited to fourth- and fifth-year students in architecture and graduate students. Prerequisite: permission of instructor.

O. M. Ungers.

Concentrates on large-scale housing developments, particularly in relation to size, density, and problems of infrastructure.

**613 Transportation** Fall. 2 credits. Seminar. Prerequisite: permission of instructor.

P. Cohen, A. Meyburg.

A seminar concerning the impact of various transportation forms upon the environment involving architects, engineers, planners, and human ecologists. Readings and discussions of past, current, and future transportation modes will focus on the aesthetic and physical aspects.

**614 Low-Cost Housing** Spring. 2 credits. Seminar. Prerequisite: permission of instructor.

F. O. Slate, P. Cohen, C. B. Daniels, H. W. Richardson.

The major objectives of this course are to present aspects of low-cost housing involving engineering technology, architecture, physical planning, economics, and sociology.

#### Graduate Courses

**618-619 Seminar in Urban and Regional Design** 618, fall; 619, spring. 3 credits per term. Open to fifth-year and graduate students.

O. M. Ungers, staff, visitors.

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

#### 711-712 Problems in Architectural Design

711, fall; 712, spring. 9 credits per term. Studio and seminar. Open to fifth-year undergraduate students by permission of chairman and instructor.

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 per term. Studio and seminar. Open to fifth-year undergraduate students by permission of chairman and instructor.

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

**715-716 Problems in Regional Design** 715, fall; 716, spring. 9 credits per term. Studio and seminar. Open to fifth-year undergraduate students by permission of chairman and instructor.

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

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

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.

Second-year design course for graduate students whose major concentration is urban design.

**813 Thesis or Research in Regional Design** Fall or spring. 9 credits.

Second-year design course for graduate students whose major concentration is regional design.

#### Structures

##### Sequence Courses

**221 Mathematical Techniques** Fall. 3 credits. Two lectures and one recitation.

Mathematics department staff.

Introduction to mathematical concepts and operations utilized in architecture.

**222 Structural Concepts** Fall or spring. 4 credits. Lectures and seminars. Prerequisite: Arch 221 or approved equivalent.

Staff.

Fundamental concepts of structural behavior. Statics and strength of materials.

**321 Structural Systems I** Fall. 3 credits. Lectures and seminars. Prerequisites: Arch 221 and 222.

Staff.

Structural design concepts and procedures for steel building construction.

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

Staff.

Structural design concepts and procedures for reinforced concrete building construction.

## Nonsequence Courses

**323 Advanced Steel Building Design** Fall. 3 credits. Seminar. Prerequisites: Arch 321 and permission of instructor.

F. W. Saul.

Design and investigation of advanced systems of steel building structure, plastic design of continuous beams, rigid frames, and high-rise buildings.

**324 Surface Structures** Spring. 3 credits. Seminar. Permission of instructor required.

D. P. Greenberg.

The qualitative and quantitative analysis and design of thin shell architectural structures including shells of revolution, cylindrical shells, hypars, and folded plates. Suspension structures. The architectural implications and problems of curvilinear forms. Construction techniques.

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

F. W. Saul.

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

**328 Advanced Reinforced Concrete Building Systems** Spring. 3 credits. Seminar. Prerequisites: Arch 322 and permission of instructor.

Staff.

Review of methods and specifications for the design and construction of reinforced concrete building systems. Two-way framing systems. Precast concrete construction. Discussion of ultimate strength and yield line theories. Quality control of reinforced concrete. Exploration of new techniques in concrete construction. Other selected topics.

## Architectural Principles, Theories, and Methods

### Sequence Courses

**131 Introduction to Architecture** Fall. 2 credits. Lecture. Open to out-of-College students.

A. Kira.

An introduction to the built and natural environments as cultural context. The field of architecture as an environmental design discipline and its relation to other fields.

**231 Architectural Elements and Principles** Fall. 3 credits. Studio and lecture. Architecture students must register for this course with Architecture 201.

Staff.

Theory of the order, perception, and function of architectural space. Discourse on the nature of architectural systems and an examination

of the multiplicity of ways they can be used to solve architectural problems. Demonstrative exercises.

## 232 Design Methods and Programming

Spring. 3 credits. Studio and lecture. Architecture students must register for this course with Architecture 202.

Staff.

Basic methods for developing architectural programs. Emphasizes programming as a conceptual as well as a descriptive task. Basic methods of design. Stresses analytic and synthetic skills. Demonstrative exercises.

## 630-631 Advanced Seminar in Architecture

630, fall; 631, spring. 1 credit per term. Required of all fifth-year architecture students. Open to graduate students.

Staff and visiting critics.

## Nonsequence Courses

**[333 Computer Applications]** Fall. 3 credits. Prerequisites: one term of calculus, (Architecture 221 or equivalent), one term of FORTRAN programming, Computer Science 100 and 102 or equivalent. Not offered 1976-77.

D. P. Greenberg.

The course is designed to acquaint the student with current uses and potentials of digital computers in the architecture profession. Topics include architectural and planning models, structural analyses, energy simulation, critical path scheduling, and computer graphics.]

**334 Computer Graphics** Spring. 3 credits. Prerequisites: two terms of calculus, Computer Science 211 or equivalent.

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 per term. Lecture. First term not prerequisite to the second.

L. Hodgden.

## 437-438 Special Projects in Computer Graphics

437, fall; 438, spring. 4 credits. Prerequisites: Arch 334, concurrent registration in Computer Science 314 or equivalent. Enrollment limited to third-year students or above. Permission of instructor required.

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. Prerequisites: Arch 334, C & EE G301 and C & EE G302 Structural Engineering, concurrent registration in C & EE G612 Advanced Structural Analysis. Enrollment limited to fourth-year students and above. Permission of instructor required. Not offered 1976-77.

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. Prerequisites: Arch 334 and 362, one year of college physics. Enrollment limited to fourth-year students and above. Permission of instructor required. Not offered 1976-77.

D. P. Greenberg.

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

**633-634 Introduction to Comparative Theories in Inquiry**

633, fall; 634, spring. 3 credits per term. Seminar. Third-year students and above.

D. M. Simons.

The study of approaches to problem inquiry: the formal procedures of the fields of architecture, natural sciences, and applied sciences and the aesthetic and rational intelligences exemplified in these. Discussions of significant writings from the various fields.

**635 Theory of Organic Architecture**

Spring. 3 credits. Open to undergraduate and graduate students. Prerequisite: permission of instructor.

W. G. Lesnikowski.

Comparative study of historical concepts of idealism and rationalism in architecture. Concepts of unity, dualism, regular and irregular forms, core and centrum, symbolism, cellularity, and morphological growth patterns. The seminar consists of a series of lectures and design and formal exercises.

**639 Principles of Design Process**

Spring. 3 credits. Seminar. Third-year architecture students and above. Out-of-college students by permission of instructor.

Staff.

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. Students are required to complete exercises and a paper or a project.

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 per term. Lecture. Students in other colleges may take either or both terms for credit.

C. F. Otto and staff.

History of architecture as social and cultural expressions of Western civilizations. The nature of the field is considered in the fall; history of modern architecture is discussed in the spring. Slide lectures, readings, short papers, and examinations.

**Nonsequence Courses****244 History of Preindustrial Building**

Spring. 4 credits. Lecture.

W. W. Cummer.

The development of traditional architectural elements and forms; materials, methods, and design expression. Lectures, readings, and papers or exercises.

**[340 Architecture of the Ancient Near East**

Spring. 3 credits. Lecture. Prerequisite: Arch 141 or permission of instructor. Not offered 1976-77.

W. W. Cummer.

Architecture of the oldest historic civilizations associated with Western tradition, with emphasis on Egypt, Mesopotamia, and Anatolia.]

**341 Architecture of the Classical World**

Fall. 4 credits. Prerequisite: Arch 141 or permission of instructor.

Staff.

Architecture of the ancient Mediterranean civilizations, with emphasis on Greece and Rome.

**[342 The Early Middle Ages**

4 credits. Lecture. Prerequisite: permission of instructor. Not offered 1976-77.]

**343 Introduction to the History of Urban Planning (also CRP 400)**

Fall. 4 credits. J. W. Reps, W. W. Cummer, S. W. Jacobs. Survey of urban planning in Western civilization from the Greeks and Romans, through medieval, renaissance, and modern Europe, to colonial and nineteenth-century America. Lecture, discussion sessions, readings, and term paper.

**[344 Islamic Architecture**

4 credits. Lecture. Prerequisite: permission of the instructor. Not offered 1976-77.]

**346 The Renaissance**

Fall. 4 credits. Lecture. Prerequisites: Arch 141-142 or permission of instructor.

C. Otto.

European architecture of the fifteenth and sixteenth centuries.

**347 The Baroque** Fall. 4 credits. Lecture. Prerequisites: Arch 141-142 or permission of instructor.  
C. Otto.

European architecture of the seventeenth and eighteenth centuries.

**348 American Architecture** Fall or spring. 4 credits. Lecture. Prerequisite: Arch 141 and 142 or permission of instructor.  
S. Jacobs.

Building in the United States from colonial time to 1860, in the fall; after 1860, in the spring.

**349 Modern European Architecture** Fall. 4 credits. Prerequisite: permission of instructor.  
C. Otto.

A survey of nineteenth- and twentieth-century architecture in Europe.

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

Students will prepare papers discussing problems relating to design or architecture using historical evidence as the basis.

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

**447 History Workshop** Fall or spring. Variable credit. Seminar.  
Staff.

**448 Historical Lectures in Architecture** Fall or spring. Variable credit. Lecture. Prerequisite: permission of instructor.  
Staff.

A series of one or two lectures per week on topics related to architectural history.

**540 Architectural Problems in Archaeological Fieldwork** Fall. Variable credit. Seminar.  
W. W. Cumber.

A review and critique of students' participation in the excavation of ancient cities or historic sites during the previous summer. For students in architecture, the archaeology major, or related areas.

**541 Surveying for Archaeologists** Spring. Variable credit.

W. W. Cumber and staff.  
The excavation architect on an archaeological team. Methods of site survey, recording ancient buildings, and preparation of working, analytic, and restored drawings. For stu-

dents in architecture or the archaeology major who anticipate joining a summer excavation.

**542 Methods of Archival Research (also CRP 404)** Spring. 3 credits. Lecture.  
K. C. Parsons.

Examination of methods of using archival materials for research in the history of architecture and urban development, using manuscripts, drawings, correspondence, and documents in the Cornell University archives and regional history collections.

**544 Case Studies in Preservation Planning** Spring. 2 credits. Seminar.

S. W. Jacobs, staff, visiting lecturers.  
A review and critique of preservation planning projects selected to indicate the range of current approaches.

**545 Design and Conservation (also CRP 844)** Fall. 2 credits. Seminar.

S. W. Jacobs, B. Jones.  
Introductory course for preservation planning. The rationale for and methods of utilizing existing cultural and aesthetic resources in the planning and design of regions and cities.

**546 Documentation for Preservation Planning (also CRP 845)** Spring. 2 credits. Seminar.

S. W. Jacobs, staff, visiting lecturers.  
Methods of collecting, recording, processing, and analyzing historical architectural and planning materials.

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

**[640 Seminar in Architecture of the Ancient Near East** Fall. 4 credits. Prerequisite: Arch 340 or permission of instructor. Not offered 1976-77.

W. W. Cumber.  
Problems in Near Eastern architectural history.]

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

Problems in Greek and Roman architectural history.

**[643 Seminar in Medieval Art and Architecture** 4 credits. Seminar. Prerequisite: permission of instructor. Not offered 1976-77.]

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

Historical problems of European architecture of the fifteenth and sixteenth centuries.

**647 Seminar in Baroque Architecture**

Spring. 4 credits. Seminar. Prerequisite: Arch 349 or permission of instructor.

C. Otto.

Historical problems in European architecture of the seventeenth and eighteenth centuries.

**648 Seminar in the History of American Architecture**

Fall. 4 credits. Seminar. Prerequisite: permission of instructor.

S. W. Jacobs.

Investigation by means of reading, 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. 4 credits. Seminar. Prerequisite: permission of instructor.

C. Rowe.

Problems in modern art and architecture.

**650 Introductory Seminar in the History of Architecture and Urban Development**

Fall. 2 credits. Seminar.

S. W. Jacobs, C. F. Otto, staff.

Motives, methods, and resources for scholarly work in history of architecture and history of urban development. Lectures, readings, and reports. Required for graduate students entering the field, and undergraduates in BFA history of architecture program.

**Graduate Courses**

**740 Informal Study In the History of Architecture**

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

**840 Thesis in Architectural History**

Fall or spring. Variable credit.

Independent study for the master's degree.

**940 Dissertation in Architectural History**

Fall or spring. Variable credit.

Independent research by candidates for the Ph.D. degree.

**Design Communications**

**Sequence Courses**

**151 Design Fundamentals I**

Fall. 2 credits.

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 lecture.

Staff.

Theory of visual and conceptual organization,

spatial perception, spatial organization and its representation; demonstrative problems of an analytic and conceptual nature.

**251 Advanced Visual Communications**

Fall or spring. 3 credits. Lecture.

S. Bowman.

Introduction to photographic tools and methods and their application to architectural presentation and design simulation.

**Nonsequence Courses**

**250 Beginning Photography (also Art 161)**

Fall or spring. 3 credits. Lecture/studio.

S. Bowman.

A lecture-studio course in black and white photography for beginners. Emphasis on basic camera skill, darkroom techniques, and understanding of photographic imagery. Fee charged.

**350 Intermediate Photography (also Art 162)**

Fall or spring. 3 credits. Studio. Prerequisite: Arch 250 or permission of instructor.

J. Livingston.

A studio course in black and white photography at the intermediate level. Emphasis on expanding camera and darkroom skills, image, content, and creative use of black and white photography. Fee charged.

**[351 Photo Tools for Architects**

Fall or spring. 3 credits. Lecture/studio. Prerequisite: Arch 152 or 250 or permission of instructor. Not offered 1976-77.

R. E. Messick.

A lecture-studio in the use of photography in architecture. Emphasis on architectural photography, photography as a graphic tool, photographic techniques in design, and photographic methods in presentation. Fee charged.]

**[352 Color Photography (also Art 262)**

Spring. 3 credits. Studio. Prerequisite: Arch 250 or permission of instructor. Not offered 1976-77.

S. Bowman.

A studio course in color photography. Emphasis on camera skill, basic color darkroom techniques, image content, and creative use of color photography. Fee charged.]

**[353 Photo Processes (also Art 263)**

Fall or spring. 3 credits. Studio. Prerequisite: Arch 250 or permission of instructor. Not offered 1976-77.

J. Livingston.

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

**[354 Fundamentals of Motion Film**

Fall. 3 credits. Lecture/studio. Prerequisite: Arch 250 or permission of instructor. Not offered 1976-77.



Design communications staff.

A lecture-studio course in basic principles of motion film in 16mm format, black and white and color, including use of camera and basic editing techniques. Fee charged.]

**355 Graphic Design Studio** Fall or spring. 3 credits. Lecture/studio. Prerequisite: Arch 152 or permission of instructor.

Staff.

An introduction lecture-studio course in 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. Lecture/studio. Prerequisite: Arch 152 or permission of instructor.

G. Hascup.

A lecture-studio course in two- and three-dimensional simulation techniques in architecture. Emphasis on simulation of environment, space, materials, and lighting as visual tools for architectural design.

**357 Large Format Architectural Photography**

Spring. 3 credits. Lecture/studio. Prerequisites: Arch 250 and one 300-level photography course or permission of instructor.

Design communications staff.

A lecture-studio course dealing with the special uses of large format view camera photography. Emphasis on the creative use of the view camera in architectural photography.

**450 Advanced Photography (also Art 261)**

Fall. 3 credits. Studio. Prerequisite: Arch 350 or permission of instructor.

S. Bowman.

A studio course in black and white photography. Emphasis on advanced camera and dark-room skills, image content, and creative use of black and white photography. Fee charged.

**451 Advanced Graphic Design** Spring. 3

credits. Lecture/studio. Prerequisite: Arch 355 or permission of instructor.

Staff.

An advanced lecture-studio course in design and preparation of materials for reproduction in print media. Emphasis on specialized projects dealing with graphic processes.

**452 Media Environments Studio** Spring.

3 credits. Studio. Prerequisite: Arch 250 or permission of instructor.

Staff.

A studio course dealing with programmed multiple projection presentations as communication systems, including the use of multiscreen slides, motion film, and sound in the creation of media environment. Fee charged.

**457 Special Project in Photography** Fall or spring. Variable credit. Independent study.

Prerequisite: permission of instructor in design communications.

Staff.

An independent study course for exploration of a special project. Written proposal required.

**458 Special Project in Design Communication**

Fall or spring. Variable credit. Independent study. Prerequisite: permission of instructor in design communications.

Staff.

An independent study course for exploration of a special project. Written proposal required.

**459 Thesis Project in Design Communication**

Spring and fall. 6 credits. Independent study. Prerequisite: design communications majors only.

Staff.

A special study in design communication leading to a thesis project. Written proposal required.

## Architectural Science and Technology

### Sequence Courses

**162 Introduction to Social Sciences in**

**Design** Spring. 2 credits. Lecture.

R. D. MacDougall.

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

**261 Introduction to Environmental Science**

Fall. 2 credits. Lecture.

R. Crump.

The role of the architect in controlling environment. Natural influences and climatological factors. The body as an environmental control device. Theoretical aspects of behavioral science that relate to physical design.

**262 Building Technology, Materials, and**

**Methods** Spring. 3 credits. Lecture. Prerequisites: Arch 162 and 261.

Staff.

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. 3 credits.

Lecture. Prerequisite: Arch 262.

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. Artificial lighting with good and bad examples.

**362 Environmental Controls II** Spring. 2 credits. Lecture. Prerequisite: Arch 162.

R. Crump.

Basic properties and principles of air movement and temperature. Criteria for health, comfort, and efficiency. Water use and return as an ecological factor.

### Nonsequence Courses

**371 Environmental Technology Workshop I** Fall. 2 credits. Studio. Must be preceded or accompanied by Arch 361.

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 utilizing full-scale mock-ups and specific building type studies. Cost factors.

**372 Environmental Technology Workshop II** Spring. 2 credits. Studio. Must be preceded or accompanied by Arch 362.

R. Crump.

The mechanical engineer's task and its relation to the architectural design process. Mechanical equipment and plumbing design studies of specific building types. Full-scale and model studies of the role of air movement and temperature in building design. Cost factors.

**561-562 Special Problems in Architectural Science** 561, fall; 562, spring. Variable credit. Independent study. Prerequisite: permission of science staff instructor.

Staff.

**662 Environmental Control Systems** Spring. 3 credits. Lecture/seminar. Prerequisites: Arch 362 and 462.

R. Crump.

A study of the influences of environment on the design of buildings and urban developments. Lectures and problems involving the relation and integration of environmental phenomena and psychophysical factors in the design of control systems.

**663 Introduction to Industrialized Building** Fall. 3 credits. Lecture/seminar. Prerequisite: permission of instructor.

Staff.

Definition of terms. Survey of the evolution of industrialization of the building industry to present. The influence of natural and man-made resources of building industrialization and systems building. Case studies.

**664 Industrialized Building** Spring. 3 credits. Lecture/seminar. Prerequisite: Arch 671 or permission of instructor.

Staff.

Conceptual and practical consequences of the industrialization of the building process on the design and production of building systems. Development of user requirements, performance specifications, evaluation criteria, etc. as part of large series building systems.

**[666 Human Factors in Architecture]** Spring. 3 credits. Lecture. Open to upperclass and graduate students and to students in related design fields by permission of instructor. Not offered 1976-77.

A. Kira.

Introduction to "Ergonomics" as it relates to problems of architectural design and detailing. Normal and special population groups, applications of anthropometric data, activity space requirements, controls, and hardware. Emphasis on architectural applications from the viewpoint of user requirements.]

**667-668 Architecture in Its Cultural Context I and II** 667, fall; 668, spring. 3 credits per term. Seminar. Prerequisite: permission of instructor.

R. D. MacDougall.

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

### Graduate Courses

**665 Visual Perception and Architecture** Fall. 3 credits. Seminar. Intended primarily for graduate students. Prerequisite: permission of instructor.

J. Gibson, R. Crump, staff.

A study of the visual perception of space and architecture. Discussions of the theories of perception, of the problem of the nature of visual depth, of the constancy of the characteristics of perceived objects in relation to geometric space, and other related topics. The course will be structured on a group discussion, problem-solving format involving architects and perception-oriented psychologists.

**761-762 Architectural Science Laboratory** 761, fall; 762, spring. 6 credits per term. Open to graduate students only.

Staff.

Projects, exercises, and research in the architectural sciences.

**763-764 Thesis or Research in Architectural Science** 763, fall; 764, spring. Variable credit.

Independent study. Open to graduate students only.

## The Profession of Architecture

### Sequence Course

**480-481 Professional Practice** 480, fall; 481, spring. 2 credits per term. Lecture.  
M. L. Schack and 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. Lectures and seminar/workshop sessions with selected guest participants will utilize case studies as a major instructional vehicle.

### Nonsequence Course

**484 Controls and the Designer (also CRP 432)** Fall. 3 credits. Lecture/seminar.  
B. Kelly.

Broad survey of public and private codes, regulations, and organizations influencing the design of urban areas, intended to give understanding of basic characteristics and to suggest innovations that encourage design advances while protecting public interests.

### Architectural Drawing

**191 Analytical Drawing I** Fall. 2 credits.  
Studio.  
Staff.

Freehand drawing with emphasis on the graphic analysis of forms and space. Drawing as a means of conceiving and expressing spatial form.

**192 Analytical Drawing II** Spring. 2 credits.  
Studio.  
Staff.

Analytical drawing; freehand and projective drawing systems. Elementary descriptive drawing; shades and shadows.

## Art

Most courses given in the Department of Art are open to students in any college of the University who have fulfilled the prerequisites and who have the consent of the instructor. All such students must register at the department office.

### Courses in Theory and Criticism

**110 Color, Form, and Space** Fall. 3 credits.  
N. Daly.  
A study of traditional and contemporary ways

of drawing and painting. An analysis of color theory and pictorial space.

### 210 Seminar: Conceptual Intermedia

Spring. 3 credits.

N. Daly.

An experimental effort in which each student will correlate two distinct fields of study into the unified presentation of an original project (performance or exhibition).

**610 Seminar in Art Criticism** Fall or spring. 2 credits. May be repeated for credit. Four terms required of Master of Fine Arts candidates. Open to other graduate students.

J. Seley.

A study of critical opinions, historical and modern, and their relation to problems in the theory of art.

### Studio Courses in Painting

**121-122 Introductory Painting** 121, fall; 122, spring. 3 credits per term.  
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 per term. Prerequisite: Art 121 or 122 or permission of instructor.  
Staff.

Study of traditional and contemporary media.

**321 Third-Year Painting** Fall. 4 credits.  
Prerequisite: nine to twelve studio hours, depending on major.  
Staff.

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. 4 credits.  
Prerequisite: Art 322.  
Staff.

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. 4 credits. Prerequisite: Art 421.  
Staff.

Advanced painting project to demonstrate creative ability and technical proficiency.

**720 Graduate Painting** Fall or spring. Credit as assigned. May be repeated for credit. For Master of Fine Arts students in painting. Staff.

Students are responsible, under 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 Introduction to the Graphic Arts** Fall or spring. 3 credits.

A. Singer.

Students will explore the techniques of making impressions from the raised surface of the relief print, the lowered surface of the intaglio print, and the flat (planographic) surface of the lithograph.

**132 Introductory Silk-Screen Printing** Fall or spring. 3 credits.

S. Poleskie, P. Thompson.

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

**230 Advanced Intaglio Printing** Fall or spring. 3 credits. Prerequisite: Art 131, 132, or permission of instructor.

P. Thompson.

Continuation of the study and practice of methods of printing from below the surface with emphasis on engraving, lift ground, experimental techniques, and color.

**232 Plate Lithography** Spring. 3 credits. Prerequisite: Art 131, 132, or permission of instructor.

A. Singer.

The special problems relating to the use of the aluminum lithographic plate will be studied. Particular importance will be placed upon the role of the plate in color printing.

**233 Stone Lithography** Fall. 3 credits. Prerequisite: Art 131, 132, or permission of instructor.

A. Singer.

The theory and practice of planography, utilizing limestone block. The basic lithographic techniques of crayon, wash, and transfer will be studied.

**330 Advanced Silk-Screen Printing** Fall or spring. 3 credits. Prerequisite: Art 132.

S. Poleskie.

Continuation of Art 132 including photographic stencils, three-dimensional printing, and printing on metal, plastic, and textiles.

**331 Advanced Printmaking** Fall. 4 credits. Prerequisite: six hours of graphic art courses. P. Thompson.

Study of the art of graphics through both assigned and independent projects. Work may be concentrated in any one of the graphic media or in a combination of media.

**332 Advanced Printmaking** Spring. 4 credits. Prerequisite: six hours of graphic art courses. P. Thompson.

Continuation and expansion of Art 331.

**431 Senior Printmaking** Fall. 4 credits. Prerequisite: four courses in printmaking.

P. Thompson.

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. 4 credits. Prerequisite: four courses in printmaking.

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. For Master of Fine Arts candidates in graphic arts. Prerequisite: permission of instructor.

Staff.

Students are responsible, under 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 per term.

V. Colby, J. Seley, J. Squier.

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

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

V. Colby, J. Squier.

Various materials including clay, plaster, wood, and stone will be 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.

V. Colby, J. Seley, J. Squier.

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.

V. Colby, J. Seley, J. Squier.  
Continuation and expansion of Art 341.

**441 Fourth-Year Sculpture** Fall. 4 credits. Prerequisite: Art 342.

V. Colby, J. Seley, J. Squier.  
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. 4 credits. Prerequisite: Art 441.

V. Colby, J. Seley, J. Squier.  
Advanced sculpture project to demonstrate creative ability and technical proficiency.

**840 Graduate Sculpture** Fall or spring. Credit as assigned. May be repeated for credit. For Master of Fine Arts students in sculpture.

V. Colby, J. Seley, J. Squier.  
Students are responsible, under 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 and weekly discussion sessions of works in progress are held.

## Studio Courses in Photography

**161 Beginning Photography (also Arch 250)** Fall or spring. 3 credits.

S. Bowman.  
A lecture-studio course in black and white photography for beginners. Emphasis upon basic camera skills, darkroom techniques, and understanding of photographic imagery. Fee charged.

**162 Intermediate Photography (also Arch 350)** Fall or spring. 3 credits. Prerequisite: Art 161 or permission of instructor.

S. Bowman, J. Livingston.  
A studio course in black and white photography at the intermediate level. Emphasis upon expanding camera and darkroom skills, image content, and creative use of black and white photography. Fee charged.

**261 Advanced Photography** Fall. 3 credits. Prerequisite: Art 162 or permission of instructor.

S. Bowman, J. Livingston.  
A studio course in black and white photography. Emphasis upon advanced camera and darkroom skills, image content, and creative

use of black and white photography. Fee charged.

**[262 Color Photography (also Arch 362)]**

Spring. 3 credits. Prerequisite: Art 161 or permission of instructor.

S. Bowman, J. Livingston.  
A studio course in color photography. Emphasis upon camera skill, basic color darkroom techniques, image content, and creative use of color photography. Fee charged.]

**[263 Photo Processes (also Arch 353)]** Fall or spring. 3 credits. Prerequisite: Art 161 or permission of instructor. Not offered 1976-77.

S. Bowman, J. Livingston.  
A studio course in early photo and nonsilver processes. Emphasis upon camera skill, basic techniques and processes, image content, and creative use of photo processes. Fee charged.]

**361-362 Third-Year Photography** 361, fall; 362, spring. 4 credits per term. Prerequisite: Art 261 or permission of instructor.

S. Bowman, J. Livingston.  
A studio course for photography majors and other qualified students. Continued study of creative use of photography with emphasis upon specialized individual projects. Fee charged.

**461-462 Fourth-Year Photography** 461, fall; 462, spring. 4 credits. Prerequisites: Art 361-362 or permission of instructor.

S. Bowman, J. Livingston.  
A studio course for photography majors and other qualified students. Continued study of creative use of photography leading to thesis exhibition. Fee charged.

## Studio Courses in Drawing

**151-152 First-Year Drawing** 151, fall; 152, spring. 3 credits per term.

Staff.  
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 per term. Prerequisite: Art 151, 152, or permission of instructor.

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

## 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

**270 Special Studio** Fall or spring. Credit as assigned. May be repeated for credit. Permission of instructor required.

Staff.

For transfer students and others whose standing in the professional sequence is to be determined. May be in painting, sculpture, graphics, or photography.

**370 Studio Concentration** Fall or spring. Credit as assigned. May be repeated for credit. Permission of instructor is required.

Staff.

For B.F.A. degree candidates who wish a greater concentration in drawing, painting, sculpture, graphics, or photography in the upperclass years.

## City and Regional Planning

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 who have the consent of the instructor.

### Urban Development History and Preservation Planning

**400 Introduction to the History of Urban Planning (also Arch 343)** Fall. 4 credits.

J. W. Reys, W. W. Cumber, S. W. Jacobs. Survey of urban planning in Western civilization from the Greeks and Romans, through medieval, renaissance, and modern Europe, to colonial and nineteenth-century America. Lecture, discussion sessions, readings, and term paper.

**404 Methods of Archival Research (also Arch 542)** Spring. 3 credits.

K. C. Parsons.

Examination of methods of using archival materials for research in the history of architecture and urban development, using manuscripts, drawings, correspondence, and documents in the Cornell University archives and regional history collections.

**504 Seminar in the History of American City Planning** Fall or spring. 3 credits. Prerequisites: CRP 400, Arch 343, or permission of instructor.

J. W. Reys.

**575 Historic Preservation Planning Workshop** Fall or spring. 4 credits.

S. Stein.

Preparation of surveys, analyses, plans, and programs for preservation of historic areas of small, medium, or large communities. Fieldwork emphasized, working with real "clients" in their communities.

### 576 Historic Preservation Planning

**Workshop—Advanced** Fall or spring. Credit variable. Prerequisite: 575.

S. Stein.

In-depth exploration of special problems in historic preservation planning focusing on specific issues in existing towns, villages, cities, or regions.

### 602 Seminar in American Urban History

Spring. 3 credits. Prerequisite: permission of instructor.

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.

### 679 Informal Study in Preservation Planning

Fall or spring. Credit as assigned.

Staff.

### 709 Special Problems in the Historical Development of Urban Areas

Fall or spring. Credit as assigned.

Staff.

### 809 Informal Study in Urban Development

History Fall or spring. Credit as assigned.

Staff.

### 844 Design and Conservation (also Arch 545)

Fall. 2 credits.

B. G. Jones, S. W. Jacobs.

The rationale for and methods of utilizing existing cultural and aesthetic resources in the planning and design of regions and cities.

### 845 Documentation for Preservation Planning (also Arch 546)

Fall or spring. 2 credits.

S. W. Jacobs, staff, visiting lecturers.

Methods of collecting, recording, processing, and analyzing architectural and cultural survey materials.

## Urban, Regional, and Planning Theory

### 440 Introduction to Urban Planning Theory and Practice

Fall. 3 credits.

B. G. Jones.

An undergraduate course designed to introduce the student to the practice of urban planning within the context of the major bodies of theory utilized in planning. Urban and regional theory and planning theory will be examined. Their usefulness and applications to planning activities and urban problems will be highlighted within the context of the process of urban growth and development.

### 614 Neighborhood Theory

Spring. 3 credits.

Open to graduate and upperclass students.

Seminar course.

H. Hammerman.



The role of neighborhoods and small communities in urban society from a sociological perspective. The social, design, and cultural determinants of "sense of community" will be applied to planning in cities and new towns.

**\*710 Introduction to Urban and Regional Theory** Fall. 4 credits.

W. W. Goldsmith.

A first-year graduate course on the growth and structure of cities. Eclectic, borrowing theories from economics, sociology, and geography to explain size, functioning, and location of cities and their components integrated by a Marxist analysis of the shortcomings of planning.

**721 Introduction to Planning Theory** Spring. 3 credits.

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 on social decision processes.

**820 Planning and Organizational Theory**

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

P. Clavel.

A seminar examining 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.

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

Staff.

**915 Location Theory** Fall. 3 credits. Prerequisites: 710, 733, and Econ 311-312, or equivalent.

W. Isard.

Traditional Weberian location doctrine; transport orientation, labor orientation, agglomeration, and urban rent theory will be examined. Inter-regional trade and market and supply area analysis will be treated. Particular attention paid to Loschian and Christaller systems of urban places.

**916 Advanced Seminar in Urban and Regional Theory I** Fall. 2 credits. Prerequisite: 710.

B. G. Jones.

Seminar in the theory of urban spatial organization. Economic, technological, and social factors leading to urbanization and various kinds of spatial organizations will be explored. Major theoretical contributions to the under-

\* Indicates courses open to upperclass undergraduate students and to graduate students.

standing of intraregional and intraurban distribution of population and economic activity will be reviewed.

**917 Advanced Seminar in Urban and Regional Theory II** Spring. 2 credits. Prerequisite: 916.

B. G. Jones.

A continuation of CRP 916 concentrating on recent developments.

**919 Informal Study in Urban, Regional, and Planning Theory** Fall or spring. Credit as assigned.

Staff.

**920 Seminar in Planning Theory** Fall. 2 credits. Prerequisite: 820 or 821.

B. G. Jones.

A survey of the works of scholars who have contributed to current thinking about planning theory. The course deals with alternative assumptions concerning models of man and theoretical concepts concerning the nature of planning today.

## Planning Analysis

**524 Gaming Simulation Workshop** Fall. 2 credits.

H. Hammerman.

An eight-week course covering the major urban planning and social policy training games available. Fundamentals of game design and administration. Students will design original games or modifications of existing operational games around their own interests.

**525 Data Interpretation and Presentation in Urban Planning** Fall. 3 credits.

H. Hammerman.

The technique of making cogent arguments in applied statistical analysis. The processes of assembly and computer analysis of social and planning data. Simple statistical procedures and tabular presentation. Lectures and workshop.

**\*730 Mathematical Concepts for Planning**

Fall. 1, 2, or 3 credits. Prerequisite: permission of instructor.

Staff.

An introductory course for students having little or no background in college mathematics. Basic concepts in matrix algebra, calculus, and probability will be covered in self-contained units of one credit each. Students may register for any or all of these topics. Mathematics 201, Mathematics for the Social Sciences, is an acceptable substitute.

**\*731 Statistical Analysis for Planning**

Spring. 3 credits. Prerequisites: 730 or equivalent and permission of instructor.

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.

**\*733 Planning Analysis** Spring. 4 credits.

Prerequisite: 731.

B. G. Jones.

City planning applications of general analytical economic and spatial models.

**736 Introduction to Computers in Planning**

Fall. 3 credits.

Staff.

An introduction to the use of computers in the problem-solving and planning processes. Students will run programs on the Cornell computer using PL/I or another appropriate programming language. Brief introduction to computer systems and the use of library routines. Advantages and limitations of using computers will be considered.

**751 Planning Information Systems** Spring.

3 credits. Prerequisite: 736 or equivalent.

S. Saltzman.

Considers 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.

**830 Quantitative Techniques for Policy Analysis** Fall. 4 credits.

D. Lewis.

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

**832 Simulation in Planning and Policy Analysis** Fall. 3 credits. Prerequisites: 731 and 736 or equivalent.

S. Saltzman.

The design and use of simulation models in planning and policy analysis. Alternative approaches such as discrete stochastic simulation, econometric simulation, and urban dynamics will be evaluated. Applications in design, land use, regional development, and social policy will be considered. Students will run their own programs on the Cornell computer.

**839 Informal Study in Planning Analysis**

Fall or spring. Credit as assigned.

Staff.

\* Indicates courses open to upperclass undergraduate students and to graduate students.

**[855 Systems Analysis in Urban Policy Planning**

Spring. 3 credits. Prerequisite:

permission of instructor. Not offered 1976-77.

S. Saltzman, D. F. Williams.

An examination of the uses of systems analysis in policy-planning issues. Advantages and limitations of the uses of systems analysis methodology in public policy planning will be explored.]

**930 Seminar in Methods for Planning and Policy Analysis** Fall. 2 credits. Prerequisite:

permission of instructor.

S. Saltzman.

A review and critical analysis of various analytical and computer methods of actual and potential use in planning and in the analysis of public policy. The material covered will vary each semester depending upon the interests of the members of the seminar.

**Social Policy Planning**

**425 Theories and Strategies of Social Change**

Spring. 4 credits.

C. Hershey.

Broadly concerned with social change on both a theoretical and action level. The principal thrust will be to evaluate the possibilities for major social, cultural, and political changes within an emergent postindustrial society, including a critical evaluation of several current change strategies and an articulation of several alternative futures.

**\*513 Introduction to Human Ecology** Fall. 4 credits. Lectures and discussions.

H. Hammerman.

An examination of man-environment relationships (including the resource, energy, food, population, and pollution crises) will be examined from sociological and systems analysis points of view. Solutions (in terms of social organization) will be suggested.

**\*526 Introduction to Survey Research**

Spring. 3 credits.

H. Hammerman.

The techniques of conducting a scientific social survey. Sampling, questionnaire writing, interviewing, and analysis of results. Students will conduct survey in local area. The course will qualify students to conduct professional surveys. Workshop.

**\*720 Policy Planning and Collective Choice** Fall. 4 credits.

D. F. Williams.

An introductory course in the practical uses of planning theory with specific emphasis on the praxis of planning theory and planned action. The logic of individual and group behavior in collective action and public policy-making is applied in examining public policy

effects of the intersocial transfer of material goods.

**\*770 Introduction to Social Policy Planning** Fall. 4 credits.

C. Hershey, D. F. Williams.

An introduction to theories, methods, and processes of social policy planning. Recent social policies will be examined within the context of the evolution of the welfare state and the development of social science methodologies for policy analysis.

**824 Organizational Change and Public Service Delivery Systems** Fall. 3 credits.

C. Hershey.

An examination of the operation of the urban political system and policymaking process with particular emphasis on the service outcomes of local public bureaucracies in the education, health, welfare, manpower, social service, and police fields.

**856 Urban Public Service Planning I** Fall. 3 credits.

D. F. Williams.

Analysis of the function, distribution, and impact of urban public services. The major focus will be the problems and analytics of planning and resource allocation in nonmarket systems.

**857 Urban Public Service Planning II**

Spring. 3 credits. Prerequisite: 856.

D. F. Williams.

A seminar on application of selected methods of urban public service planning and analysis. Emphasis on analysis of real and simulated public service planning situations.

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

C. Hershey.

The focus will be on examining contemporary methods of social policy analysis, especially their ideological implications, and developing multidisciplinary approaches to selected social policy issues. The dilemmas of action research and of implementing research findings will be explored.

**872 Housing and Community Development**

Fall. 3 credits.

D. F. Williams.

Examination of methods and strategies for planning, policy formation, and resource allocation in the urban housing sector. Emphasis on the housing element of urban plans, housing sector analysis, and analysis of the impact of development and development controls on housing costs.

\* Indicates courses open to upperclass undergraduate students and to graduate students.

**873 Housing Analysis and Research** Spring. 3 credits. Prerequisite: 872.

D. F. Williams.

Intensive concentration on selected problems and methods of housing analysis, empirical housing research, and national and subnational housing policy formation.

**879 Informal Study in Social Policy Planning** Fall or spring. Credit as assigned.

Staff.

**Urban Development Processes, Controls, and Implementation**

**432 Controls and the Designer (also Arch 484)** Fall. 3 credits.

B. Kelly.

Broad survey of public and private codes, regulations, and organizations influencing the design of urban areas, intended to give understanding of basic characteristics and to suggest innovations that encourage design advances while protecting public interests.

**434 The Impact and Control of Technological Change** (Cosponsored by the Program on Science, Technology, and Society) Spring. 4 credits. Visiting speakers and sections.

J. Milch.

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

**\*510 Introduction to Concepts and Principles of Urban Planning and Development** Fall.

4 credits. Upperclass undergraduates admitted by permission of instructors.

J. W. Reys, I. R. Stewart.

A survey of the history of American planning, major problems of city development, and solutions advanced to improve the urban condition. Major emphasis is on physical development and related social, political, economic, and legal matters.

**531 Suburbanization and New Communities**

Fall. 3 credits. Prerequisite: permission of instructor.

I. R. Stewart.

Seminar concentrates on the major issues in suburban development and the role of new communities in accommodating expected future population. New towns programs are examined and current and proposed state and federal legislation is reviewed.

**533 The Politics of Technical Decisions**

(Cosponsored by the Program on Science,

## 50 City and Regional Planning

Technology, and Society) Fall. 4 credits.

J. Milch.

Political aspects of decision making in areas traditionally regarded as technical. Focus on site selection process of large-scale projects such as airports and power plants. Political nature of expert decision making and the rise of citizen opposition to technology.

### **\*550 Seminar in Housing and Urban Development** Fall. 3 credits.

I. R. Stewart.

An introductory course reviewing the evolution of governmental policy and programs in the area of housing, urban renewal, and development. Subjects will involve both theory and case-study analyses of recent American experience in these fields.

### **551 Social Facilities for Large-Scale Housing Developments** Fall. 3 credits.

B. Kelly.

Study of the need for a full range of community social facilities in large-scale housing developments and the procedures by which these needs may be met. Illustrations from experience in the United States and Europe.

### **612 The Urban Development Process** Spring. 2 credits. Prerequisite: 510 or permission of instructor. Enrollment limited.

J. W. Reps.

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.

### **631 Urban Land Policy and Programs** Fall. 3 credits. Prerequisite: 632 or permission of instructor.

J. W. Reps.

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

### **632 Legal Aspects of Land-Use Planning**

Spring. 3 credits. Prerequisite: 510 or permission of instructor.

B. Kelly.

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

### **639 Informal Study in Urban Development**

**Processes, Controls and Implementation** Fall or spring. Credit as assigned.

Staff.

\* Indicates courses open to upperclass undergraduate students and to graduate students.

### **\*650 Urban Politics and Planning** Spring. 3 credits.

I. R. Stewart.

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

### **659 Informal Study in Housing, Renewal, and Community Development** Fall or spring. Credit as assigned.

Staff.

### **738 Special Problems in Urban Land Policy and Programs** Fall or spring. Credit as assigned.

Staff.

### **759 Special Problems in Housing, Renewal, and Community Development** Fall or spring. Credit as assigned.

Staff.

### **821 Politics of the Planning Process** Fall or spring. 4 credits.

P. Clavel.

Analysis of planning and political institutions in selected subjects and policy areas, relating national and subnational levels. Subjects will be 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.

## **Physical Planning and Environmental Design**

### **\*522 Urban Land-Use Planning** Spring. 3 credits.

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.

### **523 Urban Land-Use Planning—Special Topics** Fall. 3 credits. Prerequisite: 522 or permission of instructor.

S. Stein.

Case-study explorations of some or all of the following: neighborhoods, central business districts, shorelines and waterfronts, new towns, planned-unit developments, high-density housing, highway-oriented uses, and others. Lectures, seminars, and field exercises.

### **\*[530 Urban and Regional Transportation Planning** Fall. 3 credits. Not offered 1976–77. Staff.

An examination of the transportation planning process and its interrelationship with comprehensive urban and regional planning; to communicate the increasingly systematic knowledge about travel, land use, and transportation networks; to examine implications of transportation planning processes in metropolitan and regional planning.]

**[532 Socioeconomic Impacts of Transportation Investments** Spring. 3 credits. Not offered 1976-77.

Staff.

Development of a comprehensive framework for the monitoring and evaluation of transportation programs and their social and economic impacts upon the immediate environments and the region as a whole. Seminar sessions deal with the construction/application of this frame to the evaluation of transportation impacts at the regional and community levels.]

**\*540 Introduction to Environmental Planning and Design** Fall. 3 credits. For graduate planning students; others by permission of instructor.

K. Grey.

Planning and design of built environments as an aesthetic reflection of comparative values and needs. Lectures, seminars, and readings will explore basic concepts and issues related to architecture, landscape, urban design, and urban planning.

**541 Environmental Planning and Design Workshop** Spring. 4 credits. Prerequisite: 540 or permission of instructor.

K. Grey.

Studio-lecture course examining planning and design problems related to the built environment. An understanding of the design process will be developed and graphic communication techniques explored. No previous graphics experience required.

**542 Planning Design** Spring. 4 credits.

Prerequisite: 541 or background in design with permission of instructor.

K. Grey.

Studio course to explore in detail typical urban planning problems. Projects will be related to urban land-use activities. Field surveys, program development, design solutions, implementation programs, report preparation and presentation techniques will be emphasized.

**[543 Advanced Planning Design** Fall. 4 credits. Not offered 1976-77.

K. Grey.

\* Indicates courses open to upperclass undergraduate students and to graduate students.

Continuation of the exploration of physical planning problems found in urban settings, building on the work begun in 542 Planning Design. Increasingly more complex problems will be undertaken to develop greater design skills.]

**561 College and University Planning** Spring. 3 credits. Prerequisite: permission of instructor.

M. Toomey, 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 will be stressed.

**562 Planning and Management in Higher Education** Fall. 3 credits. Prerequisite: permission of instructor.

Staff.

The various facets of planning and management in higher education will be reviewed from an operational standpoint. Techniques and methods to make a university an effective and efficient entity will be discussed and used in simulation projects. Policy issues dealing with the planning and management of a university will be evaluated.

**[640 Seminar in Urban Design** Fall. 3 credits. Not offered 1976-77.

S. Stein.

Investigation of historical and current thought on the visual aspects of cities, including evaluation of technological and cultural influences on urban design, perception of urban form, and relationships between contemporary city planning process and visual form in cities.]

**649 Informal Study in Physical Planning and Environmental Design** Fall or spring. Credit as assigned.

Staff.

**669 Informal Study in Institutional and Public Facilities Planning** Fall or spring. Credit as assigned.

Staff.

**728 Special Problems in Physical Planning** Fall or spring. Credit as assigned.

Staff.

**749 Special Problems in Environmental Design** Fall or spring. Credit as assigned.

Staff.

**769 Special Problems in Institutional and Public Facilities Planning** Fall or spring.

Credit as assigned.

Staff.

## Urban and Regional Economic Development Planning

**[457 The Public Economy of Urban Areas]** Spring. 3 credits. Not offered 1976-77.

D. F. Williams.

An examination of the structure, function, and impact of the local public sector with specific emphasis on the externalities and fiscal interactions in metropolitan areas.]

**460 Regional Economic Development** Fall. 4 credits.

W. W. Goldsmith.

A focus on problems of and theories about development of lagging, underdeveloped, or poor regions in industrial nations with emphasis on planning implementation.

**\*512 Urban Economic Analysis** Fall. 4 credits. Prerequisites: 730 and an introductory course in microeconomics.

Staff.

Examination of the city as an economic entity with spatial characteristics. Urban phenomena are analyzed from an economic point of view, using economic analysis tools. Areas to be examined include patterns and determinants of urbanization, urban structure and location of activities, urban land and housing markets, the role of urban transportation, and urban public policy.

**\*740 Introduction to Planning Institutions** Fall. 3 credits.

P. Clavel.

A survey of contemporary organizational forms and political forces facilitating and inhibiting the development of the planning profession at the city, state, and regional levels. The focus is on subnational planning in the United States, but the national context and other nations are dealt with where appropriate.

**777 Low-Cost Housing for Developing Nations** Spring. 3 credits.

D. F. Williams.

A course on dimensions of the practice and problems of production, location, delivery, and use of shelter for low-income population groups in urban centers, periurban squatter settlements, and rural regions of developing nations.

**814 Urban Economics I** Fall. 2 to 4 credits. Prerequisites: 710 or Econ 311-312 or equivalent.

Staff.

A series of lectures presenting broad aspects of urban economic development and planning complemented by original research work carried out in working groups. The groups will report in seminars at approximately three-week

\* Indicates courses open to upperclass undergraduate students and to graduate students.

intervals. Problems of race, poverty, the dual economy, and the urban ghetto are considered.

**815 Urban Economics II** Spring. 2 to 4 credits. Prerequisite: 814.

Staff.

**818 Regional Planning Methods I** Fall. 4 credits. Prerequisites: basic economics, some calculus, and statistics.

S. Czamanski.

Study of problems in the formulation and testing of scientific hypotheses. Main focus will be depressed or underdeveloped regions, with some discussion of past and current work of participants and their dissertations. Topics covered include construction of models, main estimating techniques, and discussion of some applied regional models.

**822 Seminar in Regional Interindustry Analysis and Programming** Fall. 3 credits. Prerequisites: basic economics, elementary matrix algebra.

S. Czamanski.

Advanced treatment of regional industrial structure, methods of construction and applications of input-output, linear programming, saturation and dynamic optimization. Examples of recent applications of the techniques discussed to the solution of actual regional problems will be analyzed.

**823 Regional Development Administration** Fall or spring. 4 credits.

P. Clavel.

A seminar on 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 reference to the design of effective programs.

**860 Introduction to Regional Development Planning** Fall. 4 credits. Prerequisite: second-year graduate standing.

W. W. Goldsmith.

Theories about development of lagging, underdeveloped, and poor regions of industrial nations. Readings survey various theoretical works upon which regional development planning is, or ought to be, based. Course will deal with difficult transition from theory to planning recommendations and policy. Brief case studies will be used.

**862 Seminar on Science and Technology Policy in Developing Nations** Spring. 4 credits.

D. Lewis.

An examination of the issues facing developing countries as they endeavor to use technology in the 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.

**863 Regional Planning and Development in Developing Countries** Spring. 4 credits.

Prerequisite: second-year graduate standing.  
W. W. Goldsmith.

Selected problems from 860 will be elaborated and applied. Extensive case studies of development planning will be analyzed. Focus will be on the process of regional development through urbanization and in particular 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 will be discussed.

**865 Seminar in Policy Planning in Developing Nations: Technology Transfer and Adaption**

Fall. 2 credits.

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 emphasized.

**869 Informal Study in Comparative Planning**

Fall or spring. Credit as assigned.

Staff.

**[914 Metropolitan Land Use: Economic Analysis** Fall. 3 credits. Prerequisites: 510,

815, 733, and/or permission of instructor.

Not offered 1976-77.

Staff.

The housing market, land-use competition, and location of retail, service, wholesale, and manufacturing enterprises. The determination of land values, and urban structure and form. Public controls, urban redevelopment, and evaluation of social costs and benefits.]

**[932 Techniques of Regional Accounting**

Fall. 3 credits. Prerequisites: 733 and Econ 312 or equivalent. Not offered 1976-77.

Staff.

Methods of construction of the regional, social accounts and their application to regional planning. Measuring levels of activity within regions, such as income and product accounts, is emphasized as well as methods of estimating flows between regions, such as balance of payment accounts.]

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

W. Isard.

Advanced applications of interregional and

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

**963 Planning Techniques for Developing Regions and Small Nations** Spring. 4 credits.

Prerequisite: 860 or 863.

W. W. Goldsmith.

Simulation of the work of a consulting team's proposals and analyses of policies for development of various sectors and problem areas such as manufacturing, agriculture, health, education and services, infrastructure, urbanization, and exports. The final product will be a set of plans. Requirements include minimal reading, extensive research on a topic of interest, an interim report, and a written final report.

**969 Informal Study in Urban and Regional Economic Development Planning** Fall or

spring. Credit as assigned.

Staff.

**Environmental Health and Health Systems Planning**

**452 Introduction to Environmental Health Policy** Fall. 3 credits.

Staff.

An examination of some of the concepts and issues in environmental health planning, such as housing quality, occupational health and safety, and environmental protection.

**852 Environmental Health Planning** Fall. 2 credits. Prerequisites: second-year graduate standing.

Staff.

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, and housing quality.

**853 Planning and Evaluation of Environmental Health Programs and Projects** Spring. 3

credits. Prerequisite: second-year graduate standing.

Staff.

The major focus is 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.

**[877 Health Systems Planning** Spring. 3 credits. Not offered 1976-77.

Staff.

This seminar is intended to increase understanding of issues, institutions, politics, eco-

nomics, and social elements involved with planning and administration of health problems. Special emphasis will be placed on planning techniques and methodologies. Visiting practitioners in the field will be invited to make presentations.]

**959 Informal Study in Environmental Health Planning** Fall or spring. Credit as assigned. Staff.

**979 Informal Study in Health Systems Planning** Fall or spring. Credit as assigned. Staff.

### **Planning Fieldwork and Professional Practice**

Fieldwork in urban planning and development problems may be taken upon completion of an appropriate academic course and approval of the instructor of that course. In certain cases, the appropriate course may be taken at the same time as the fieldwork. If the proposed fieldwork is not part of a regularly organized fieldwork course, arrangements for faculty supervision and evaluation of the fieldwork must be approved in advance.

**441 Field Studies in Planning** Spring. 3 credits. Staff.

The student is offered the opportunity to apply theories and techniques of analysis and planning to real problem situations.

**570 Planning and Development Workshop** Fall or spring. 4 credits. Prerequisite: 510. Staff.

Research and analysis in an urban, suburban, or rural community leading to the preparation of spatial studies, plans, and programs. Individual and group reports. Fieldwork emphasized, working with real clients.

**571 Housing Renewal and Community Development Workshop** Fall or spring. 4 credits.

S. Stein.

Surveys and analyses of housing renewal and community development problems in specific communities. Preparation of plans based upon existing legislation and funding mechanisms and the development of new programs. Fieldwork emphasized.

**572 Fieldwork in Community Social Facilities** Spring. Credit as assigned. Prerequisite: 551. B. Kelly. Fieldwork follow-up to CRP 551.

**579 Special Problems in Fieldwork** Fall, spring, or summer. 4 to 6 credits. Staff.

Arrangements for enrollment and credit must be made with the agreement of a faculty member and the approval of the entire city and regional planning faculty.

**670 Planning Practice Seminar** Spring. 1 credit. Staff.

Visiting lecturers and seminar discussions focusing on various roles and responsibilities for urban planners in society.

**742 Summer Internship in Planning** Summer. 3 to 6 credits. Prerequisite: second-year graduate standing. Staff.

**[771 Summer Internship in Planning—New York City** Summer. 3 credits. Instruction limited to July and August. Graduate students in planning and others by permission. Not offered 1976–77.

S. Stein, staff, visiting lecturers.

Summer internship in the New York metropolitan area. Full-time work at current salaries, supplemented with evening lectures and discussions two evenings a week and field trips. Program offering dependent on economic conditions and availability of internship jobs in New York City.]

**890 Professional Planning Colloquium** Fall or spring. 1 credit. Staff.

Presentation of current professional and research problems in planning by visitors, faculty, and students.

**949 Informal Study in Planning Fieldwork and Professional Practice** Fall or spring. Credit as assigned. Staff.

### **Research**

**490 Undergraduate Honors Research** Fall or spring. Credit as assigned. Staff.

**898 Thesis in the History of Urban Development** Fall or spring. Credit as assigned. Staff.

**899 Thesis in City and Regional Planning.** Fall or spring. Credit as assigned. Staff.

**990 Planning Research Seminar** Fall or spring. 1 credit. Staff.

Registration limited to doctoral candidates in city and regional planning. Presentation and discussion of current research by advanced doctoral students and faculty.

**998 Dissertation in the History of Urban Development** Fall or spring. Variable to maximum of 10 credits.  
Staff.

**999 Dissertation in City and Regional Planning** Fall or spring. Credit as assigned.  
Staff.  
Advanced independent research by candidates for Ph.D. degree.

## Landscape Architecture Program

**481 Contemporary Issues in Landscape Architecture** Fall, 1 credit.  
L. Mirin, staff, visitors.  
Recent technological, methodological, and legislative developments are assessed in terms of their probable impact on the practice of landscape architecture.

**581 Landscape Planning and Design Workshop I** Fall, 6 credits.  
Staff.  
Analysis, planning, and design response to problems of environmental impact. Traditional and advanced techniques of landscape architecture applied to study of natural and cultural systems and processes.

**582 Landscape Planning and Design Workshop II** Spring, 6 credits.  
L. Mirin, staff, visitors.  
Application of planning and design techniques to environmental problems of increasing complexity.

**583 Urban Landscape Planning and Design** Fall, 4 credits.  
L. Mirin.  
Planning and design of the elements of urban open space, including arboriculture, graphics, vest pocket parks, playgrounds, and squares.

**[584 Landscape Recreation Planning and Design]** Spring, 4 credits. Not offered 1976-77.  
Staff.  
Planning and design of general and specialized recreation facilities for state and regional service areas. Design based upon appropriate research.]

**585 Historic Development of Modern Landscape Architecture** Spring, 3 credits.  
L. Mirin.  
A survey of man's arrangement of outdoor space to meet his varied needs including Italian Renaissance, Versailles and LeNotre, English naturalistic movement, Olmsted and Central Park, and urban public space.

**681 Landscape Planning and Design Workshop III** Fall, 6 credits.  
Staff.

Advanced study of problems in environmental design with an urban or regional focus. Emphasis on evolution of the design process as determined by physical and cultural restraints.

**[682 Social Factors in Landscape Design]** Spring, 4 credits. Not offered 1976-77.  
Staff.  
An introduction to the use of social science findings, structured observational techniques, and social survey techniques for formulation of design criteria and/or evaluation of landscape architectural projects.]

**[683 State and Regional Landscape Planning]** Fall, 3 credits. Not offered 1976-77.  
Staff.  
Case studies of land-use policies and programs that various states and localities have designed to protect environmental quality. Examination and evaluation of larger scale land-use planning methodologies.]

**689 Informal Study in Landscape Planning and Design** Fall or spring. Credit as assigned.  
Staff.  
**889 Thesis Research and Preparation in Landscape Architecture** Fall or spring, 6 credits.  
Staff.

See *Cornell University: Description of Courses* for the following additional courses in landscape architecture, offered through the College of Agriculture and Life Sciences:

- 102 Introduction to Landscape Architecture
- 201 Fundamentals of Landscape Design
- 202 Planting Design and Implementation
- 231 Landscape Architectural Design I—Principles of Landscape Architecture
- 232 Landscape Architectural Design II—Site Planning
- 242 Site Construction I—Materials and Construction Details
- 331 Landscape Architectural Design III—Recreation Design
- 332 Landscape Architectural Design IV—Community Design Workshop
- 341 Site Construction II—Grading, Circulation, and Utilities
- 362 Landscape Graphics
- 371 Site Analysis Techniques
- 431 Landscape Architectural Design V—Regional Landscape Design Studio
- 432 Landscape Architectural Design VI—Design Workshop and Terminal Project
- 452 Professional Practice
- 491 Plants and Design
- 555 Special Problems in Landscape Architecture



## Cornell University

## Register

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Samuel A. Lawrence, Vice President for  
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E. Hugh Luckey, Vice President for  
Medical Affairs  
Robert M. Matyas, Vice President for  
Planning and Facilities  
Paul L. McKeegan, Vice Provost  
Arthur H. Peterson, University Treasurer and  
Chief Fiscal Officer  
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Public Affairs  
Byron W. Saunders, Dean of the  
University Faculty  
Neal R. Stamp, University Counsel and  
Secretary of the Corporation

### College Administration

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the College  
Alexander Kira, B.Arch., M.R.P., Associate  
Dean for Administration and Student Records  
Charles W. Pearman, B.Arch., Associate Dean  
for Admissions and Financial Aid  
Henry W. Richardson, B.Arch., M.Arch., M.R.P.,  
Assistant Dean for Minority Student Affairs  
Allan A. Lentini, B.E.E., M.B.A., M.A., Ed.D.,  
Director of Administrative Services  
Howard E. Bullock, Clerk of the Works  
M. Sophie Newhart, Registrar  
Betty Gangle, Accountant  
Margaret Webster, Slide Curator

### College Council

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Thomas Armstrong  
Edmund N. Bacon  
Noland Blass  
Goldie Feigert  
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M. Arthur Gensler, Jr.  
Jonathan King  
Jerome W. Lindsey  
Robert P. Madison  
Robert Mayers  
Walter McQuade  
Richard A. Meier  
Nathaniel Owings  
Robert Piper  
Elsie Dinsmore Popkin  
Courtney Riordan  
Erik A. Svenson  
Ervin H. Zube

### Faculty

#### Architecture

Mario L. Schack, Dipl.Arch., (ETH) M.Arch. in  
U.D., Professor of Architecture; Chairman  
Stuart M. Barnette, B.S. in Arch., Professor of  
Architecture, Emeritus  
Stanley Bowman, B.A., B.Arch., M.F.A.,  
Assistant Professor of Architecture  
Ludlow D. Brown, M.Arch., Professor of  
Architecture, Emeritus  
Thomas H. Canfield, B.S. in Arch., Professor  
of Architecture, Emeritus; Visiting Lecturer  
Gilmore D. Clarke, B.S., L.H.D., Professor of  
Landscape Architecture, Emeritus  
Peter M. Cohen, B.A., M.Arch., Adjunct  
Associate Professor  
Ralph Crump, B.Arch., Associate Professor of  
Architecture

W. Wilson Cummer, B.A., M.A., Ph.D., Assistant Professor of Architecture  
 Michael D. Dennis, B.Arch., Adjunct Associate Professor of Architecture  
 Werner Gochner, M.Arch., Assistant Professor of Architecture  
 Donald P. Greenberg, B.C.E., Ph.D., Professor of Architecture  
 Keith H. Grey, B.Arch., L.Arch., M.U.D., Assistant Professor of Architecture and Planning  
 Martin Harms, B.Arch., A.R.I.B.A., Assistant Professor of Architecture  
 John A. Hartell, B.Arch., Professor of Architecture, Emeritus  
 George Hascup, B.Arch., Assistant Professor of Architecture  
 Lee H. Hodgden, B.S.Arch.Eng., M.Arch., Adjunct Associate Professor  
 Stephen W. Jacobs, A.B., M.Arch., M.F.A., Ph.D., Professor of Architecture  
 Burnham Kelly, A.B., M.C.P., J.D., Professor of Planning  
 Alexander Kira, B.Arch., M.R.P., Professor of Architecture; Associate Dean  
 Urszula Lesnikowski, B.Arch., M.A., M.U. in Arch., Assistant Professor of Architecture  
 Wojciech G. Lesnikowski, M.A., M.U. in Arch., Associate Professor of Architecture  
 Jacqueline Livingston, B.A., M.A., Assistant Professor  
 James S. Loveall, B.Arch., M.Arch. in U.D., Instructor in Architecture  
 Robert D. MacDougall, B.Arch., Ph.D., Assistant Professor of Architecture  
 Archie Mackenzie, B.Arch., Assistant Professor of Architecture  
 Leonard Mirin, A.B., M.L.A., Assistant Professor of Landscape Architecture  
 Stephen Muse, B.Arch., M.Arch. in U.D., Instructor in Architecture  
 Christian Otto, B.A., M.A., Ph.D., Associate Professor of Architecture  
 Charles W. Pearman, B.Arch., Professor of Architecture; Associate Dean of the College of Architecture, Art, and Planning  
 Henry W. Richardson, B.Arch., M.Arch., M.R.P., Assistant Professor of Architecture; Assistant Dean for Minority Student Affairs  
 Colin Rowe, B.Arch., M.A., Professor of Architecture  
 Francis W. Saul, B.S., M.S., P.E., Associate Professor of Architecture  
 John P. Shaw, B.Arch., M.Arch., Professor of Architecture  
 David M. Simons, B.S.C.E., M.Arch., Associate Professor of Architecture  
 Stuart Stein, B.Arch., M.C.P., Professor of Urban Planning and Design  
 O. Mathias Ungers, Dipl.Ing. (Berlin), Professor of Architecture  
 Frederick M. Wells, B.Arch., Andrew Dickson White Professor of Architecture, Emeritus

J. Alan Wells, B.Arch., Adjunct Associate Professor of Architecture

## Art

Zevi Blum, B.Arch., Assistant Professor of Art; Acting Chairman 1976-77  
 Eric Berendt, B.F.A., M.F.A., Instructor of Art  
 Stanley Bowman, B.A., B.Arch., M.F.A., Assistant Professor of Art  
 Victor Colby, A.B., M.F.A., Professor of Art  
 Norman D. Daly, B.F.A., M.A., Professor of Art  
 Kenneth Evett, A.B., M.A., Professor of Art. On leave 1976-77  
 John A. Hartell, B.Arch., Professor of Art, Emeritus  
 Jacqueline Livingston, B.A., M.A., Assistant Professor of Art  
 James O. Mahoney, A.B., B.F.A., F.A.A.R., Professor of Art, Emeritus  
 Gillian Pederson-Krag, B.F.A., M.F.A., Associate Professor of Art  
 Steve Poleskie, B.S., Associate Professor of Art. On leave fall 1976  
 Jason Seeley, B.A., Professor of Art  
 Arnold Singer, Associate Professor of Art  
 Jack L. Squier, B.S., M.F.A., Professor of Art  
 Richard Savini, B.F.A., M.F.A., Assistant Professor of Art  
 Phyllis Thompson, B.F.A., M.F.A., Assistant Professor of Art. On leave spring 1977  
 Visiting Critics

## City and Regional Planning

Sidney Saltzman, B.S., M.S., Ph.D., Professor of Planning; Chairman  
 V. Wesley Boyer, Lecturer; Assistant Chairman; Director of Community Services  
 Pierre Clavel, A.B., M.R.P., Ph.D., Associate Professor of City and Regional Planning and Rural Sociology; Graduate Faculty Representative  
 Stanislaw Czamanski, Lic. es Sc. Comm., Ph.D., Professor of City and Regional Planning  
 William W. Goldsmith, B.S.C.E., Ph.D., Associate Professor of City and Regional Planning  
 Keith H. Grey, B.Arch., M.U.D., Assistant Professor of Architecture  
 Howard H. Hammerman, B.A., M.S.W., Ph.D., Assistant Professor of City and Regional Planning  
 Cary Hershey, A.B., M.P.A., Ph.D., Assistant Professor of City and Regional Planning  
 Walter Isard, B.A., M.A., Ph.D., Visiting Professor of Regional Science, Economics, and Planning  
 Barclay Jones, B.A., B.Arch., M.R.P., Ph.D., Professor of City and Regional Planning; Codirector, Program in Urban and Regional Studies  
 Burnham Kelly, A.B., M.C.P., J.D., Professor of City and Regional Planning



David B. Lewis, B.S., M.S., Ph.D., Assistant Professor of City and Regional Planning; Assistant Director PSTDN  
 Dorothy W. Nelkin, B.A., Associate Professor of Planning  
 Kermit C. Parsons, B.Arch., M.R.P., Professor of City and Regional Planning; Dean of the College of Architecture, Art, and Planning  
 John R. Reps, A.B., M.R.P., Professor of City and Regional Planning  
 Stuart W. Stein, B.Arch., M.C.P., Professor of City and Regional Planning  
 Ian R. Stewart, B.A., M.R.P., Ph.D., Assistant Professor of City and Regional Planning  
 Darrell F. Williams, B.A., M.A., M.U.P., Ph.D., Assistant Professor of City and Regional Planning

### Landscape Architecture

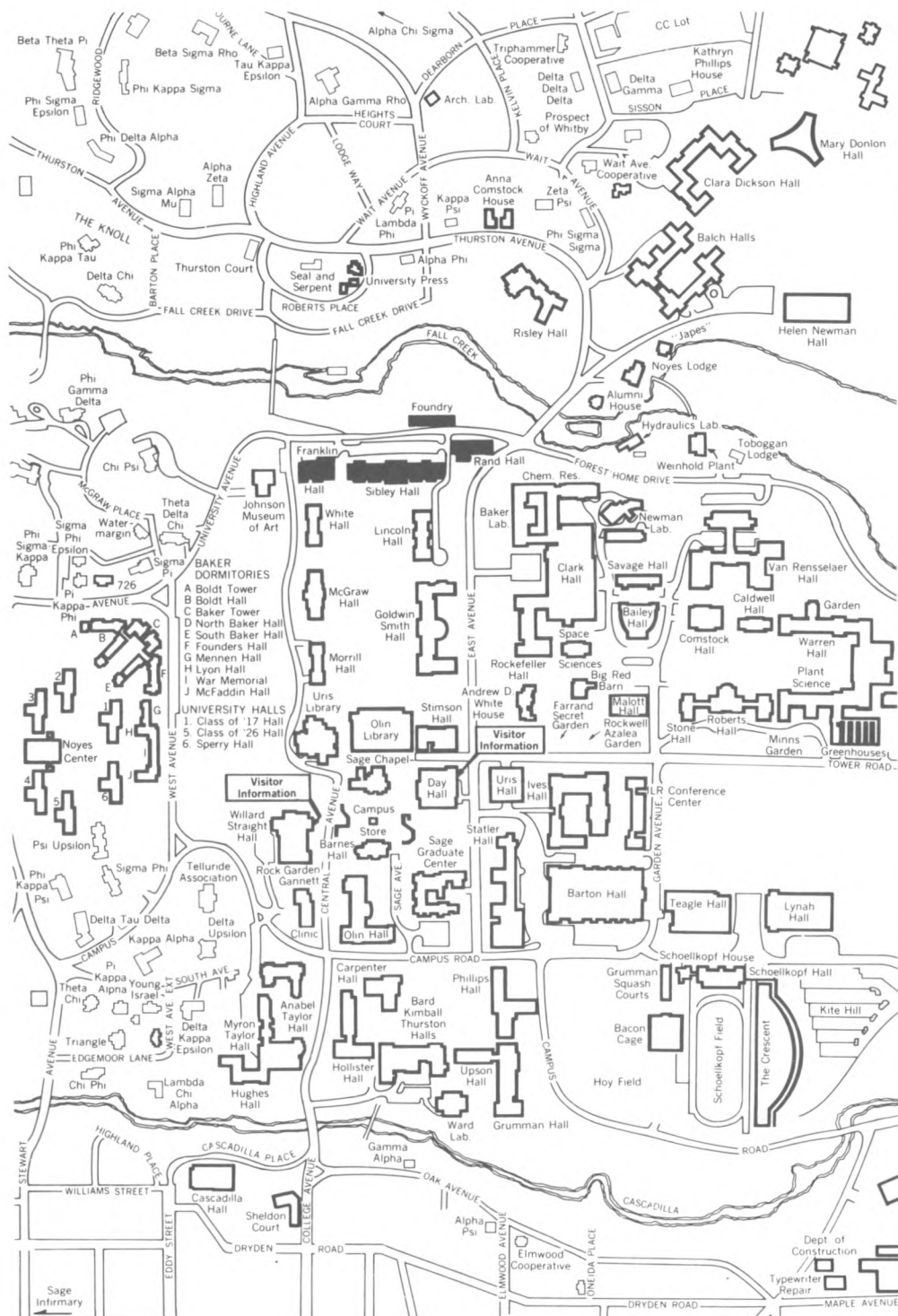
Marvin I. Adelman, B.S., M.L.A., Associate Professor of Landscape Architecture; Program Coordinator  
 Robert L. Dwelle, B.S.L.A., Lecturer in Landscape Architecture  
 Thomas H. Johnson, B.F.A., M.L.A., Assistant Professor of Landscape Architecture  
 Leonard J. Mirin, A.B., M.L.A., Assistant Professor of Landscape Architecture  
 Phillip S. Tresch, B.S.L.A., M.L.A., Assistant Professor of Landscape Architecture

### Elected Members of the Faculty

Marvin I. Adelman, B.S., M.S., Associate Professor in Landscape Architecture  
 Joseph A. Carreiro, B.S. in Ed., Professor, Chairman, Design and Environmental Analysis  
 Irving Lazar, B.A., M.A., Ph.D., Chairman and Professor, Community Service Education  
 Martie W. Young, A.B., M.A., Ph.D., Professor, History of Art

### Estimated Enrollment, Fall 1976

Total Enrollment	700
Undergraduates	475
Architecture	350
Art	130
Graduates	225
Architecture	40
Art	15
Planning	135
Landscape Architecture	10
History of Architecture and Urban Development	25



## Cornell University

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## List of Announcements

Following is a list of *Announcements* published by Cornell University to provide information on programs, faculty, facilities, curricula, and courses of the various academic units.

Agriculture and Life Sciences at Cornell  
College of Architecture, Art, and Planning  
College of Arts and Sciences: Introduction  
Graduate School of Business and Public  
Administration  
Engineering at Cornell  
Graduate Study in Engineering and Applied Sciences  
General Information\*  
Graduate School  
School of Hotel Administration  
Human Ecology: College Choice  
School of Industrial and Labor Relations:  
ILR at Cornell  
Graduate Study at ILR  
Law School  
Medical College (New York City)  
Graduate School of Medical Sciences (New York City)  
Cornell University-New York Hospital School of  
Nursing (New York City)  
Officer Education (ROTC)  
Summer Session  
New York State College of Veterinary Medicine

\* The *Announcement of General Information* is designed to give prospective students pertinent information about all aspects and academic units of the University.

In addition to the *Announcements* listed above, the University publishes a master catalog of University courses, *Cornell University: Description of Courses*.

Requests for the publications listed above should be addressed to

Cornell University Announcements  
Edmund Ezra Day Hall  
Ithaca, New York 14853.  
(The writer should include a zip code.)

Office of University Publications  
876 15M HU