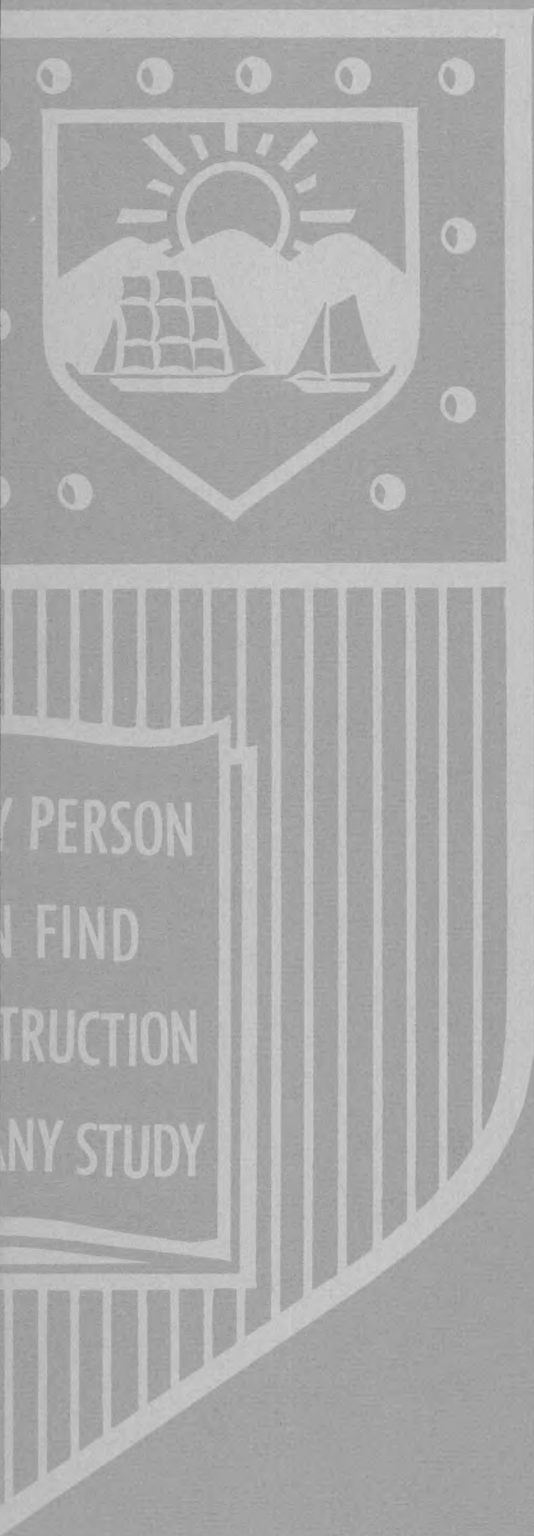
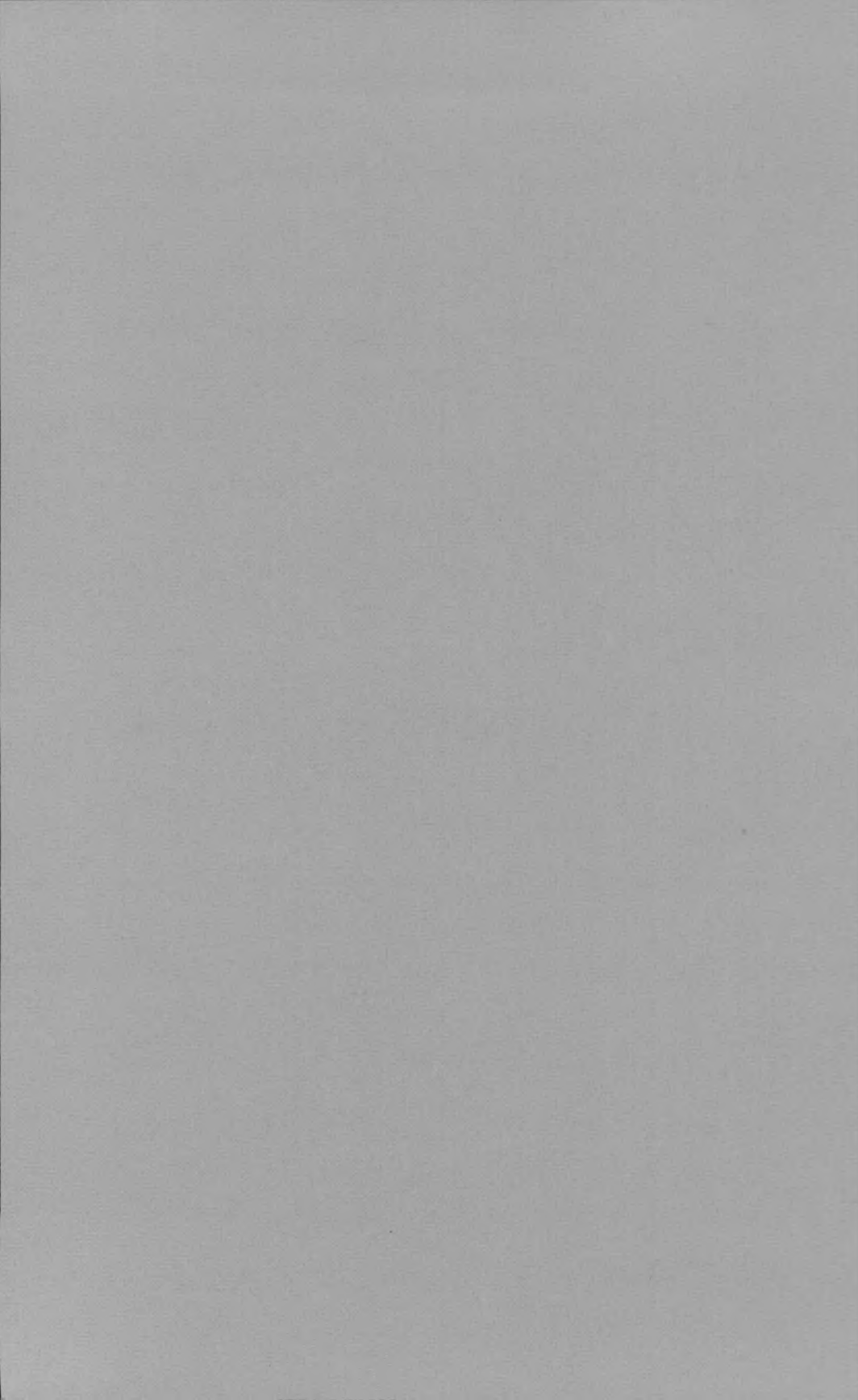


ell University Announcements



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



Cornell University

College of Architecture, Art, and Planning

1974-75

Cornell University Announcements

Volume 66 of the Cornell University Announcements consists of twenty-two catalogs, of which this is number 15, dated August 15, 1974. Publication dates: twenty-two times a year (four times in August; three times in January and March; twice in June, July, September, and November; once in April, May, October, and December). Publisher: Cornell University, Sheldon Court, 420 College Avenue, Ithaca, New York 14850. Second-class postage paid at Ithaca, New York.

Cornell Academic Calendar

1974-75

Registration, new students	Thursday, August 29
Registration, continuing and rejoining students	Friday, August 30
Fall term instruction begins	Monday, September 2
Thanksgiving recess:	
Instruction suspended, 1:10 p.m.	Wednesday, November 27
Instruction resumed, 7:30 a.m.	Monday, December 2
Fall term instruction ends, 1:10 p.m.	Saturday, December 7
Final examinations begin	Friday, December 13
Final examinations end	Saturday, December 21
Registration, new and rejoining students	Thursday, January 23
Registration, continuing students	Friday, January 24
Spring term instruction begins, 7:30 a.m.	Monday, January 27
Spring recess:	
Instruction suspended, 1:10 p.m.	Saturday, March 22
Instruction resumed, 7:30 a.m.	Monday, March 31
Spring term instruction ends, 1:10 p.m.	Saturday, May 10
Final examinations begin	Monday, May 19
Final examinations end	Wednesday, May 28
Commencement Day	Monday, June 2

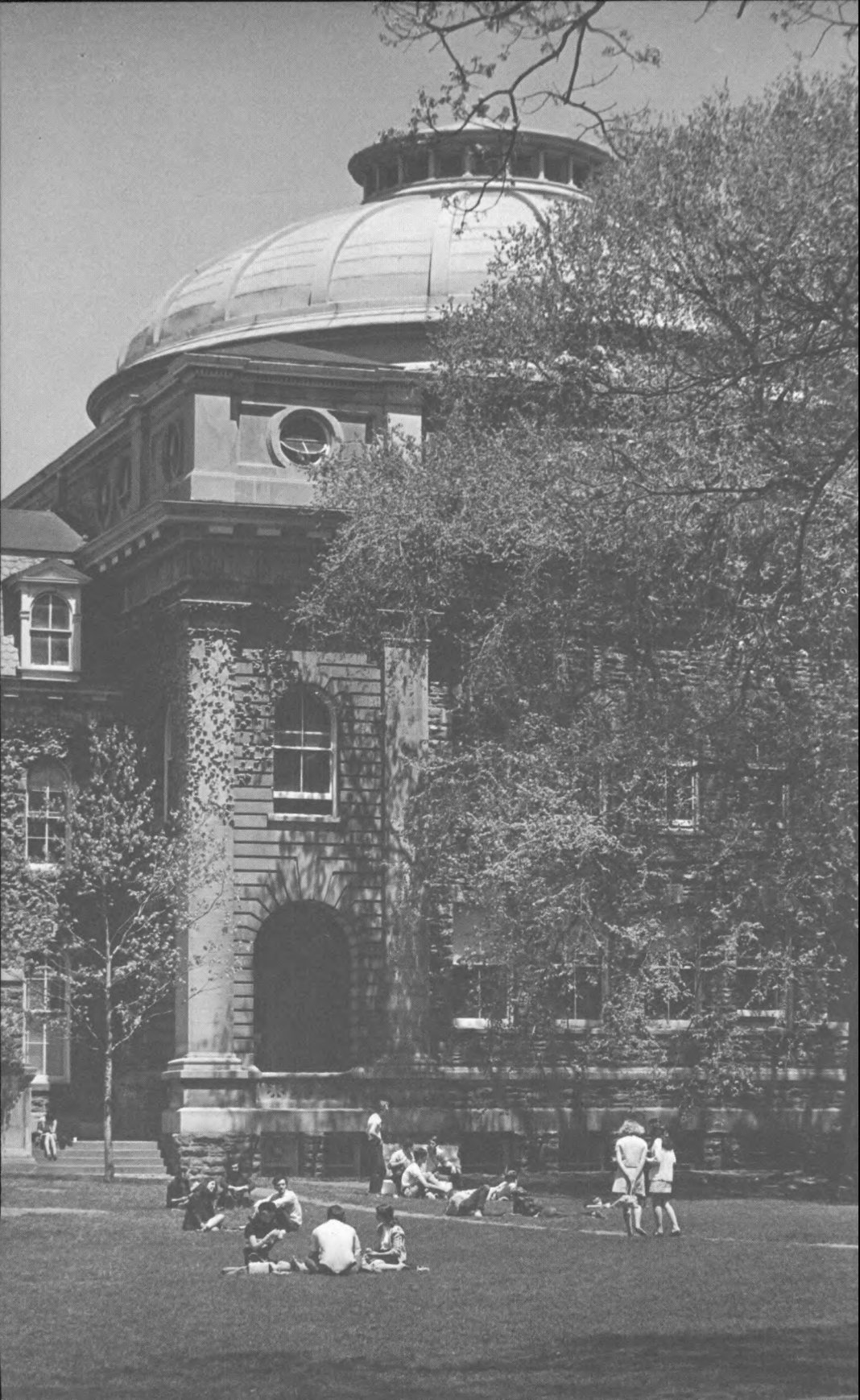
The dates shown in the Academic Calendar are subject to change at any time by official action of Cornell University.

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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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 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 it. 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 an increasingly useful library and store of illustrative equipment.

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 Department of City and Regional Planning was divided to form a Department of Urban Planning and Development and a Department of Policy Planning and Regional Analysis.

In 1971, the College celebrated the centennial of professional instruction in architecture. A bronze portrait head of Professor Babcock was placed in the south porch of Sage Chapel to culminate in the celebration of the centennial year.

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 faculty of the College, acting as a division of the Graduate School, has jurisdiction over the advanced professional degrees Master of Architecture, Master of Landscape Architecture, Master of Regional Planning, and Master of Fine Arts. The College also offers programs in the following fields leading to degrees over which the Graduate School has jurisdiction: architectural sciences, M.S.; history of architecture and urban development, M.A. and Ph.D.; city and regional planning, Ph.D.

Students in each of these programs, working in physical proximity to each other, 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 in such proportion 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 acted

on in the form of the curriculum, the methods of teaching, and the extracurricular life of teachers and students.

Architecture

The field of architecture becomes 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 to other professions. 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 from the construction of buildings to 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.

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 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.

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 base 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 College, with the possibility of completing the requirements for the master's degree in one additional year.

Curriculum

First Year

<i>Fall Term</i>	<i>Credit Hours</i>
101 Design I	4
131 Introduction to Architecture	2
151 Visual Communication I	3
141 History of Architecture	3
Elective (out of College) or fine arts option ¹	3
Elective (out of College)	3
	<hr/> 18

Spring Term

102 Design II	4
132 Introduction to Architecture	2
152 Visual Communication II	3
142 History of Architecture II	3
Elective (out of College) or fine arts option ¹	3
Elective (out of college)	3
	<hr/> 18

¹ One course in fine arts must be taken during the first year.

7 Professional Degree Program

Second Year

Fall Term	
201 Design III	4
231 Architectural Elements and Principles	2
221 Mathematical Techniques	2
261 Introduction to Environmental Science	2
Option (200 Design Communication or 300-level course or fine arts course)	3
Elective (out of College)	3
	16

Spring Term

202 Design IV	4
232 Architectural Elements and Principles	2
222 Structural Concepts	4
262 Introduction to Social Sciences in Design	2
Option (200 Design Communication or 300-level course or fine arts course)	3
Elective (out of College)	3
	18

Third Year

Fall Term	
301—	
302 Design V	6
360 Building Technology, Materials, and Methods	3
321 Structural Systems I	3
Elective option (in Department)	2
Elective (in College)	3
	17

Spring Term

301—	
302 Design VI	6
362 Environmental Controls I	3
322 Structural Systems II	3
Elective option (in Department)	2
Elective (in College)	4
	18

Fourth Year

Fall Term	
401—	
402 Design VII	6
462 Environmental Controls II	2
Elective (in College)	3
Elective (in Department)	2
Elective (in College)	4
	17

Spring Term

401—	
402 Design VIII	6
465 Technological Integration in Design	2
480 The Practice of Architecture	2
Elective (in or out of College)	3
Elective (out of College)	4
Program Planning for Fifth Year (Required)*	0
	17

Fifth Year

Fall Term	
501—	
502 Architectural Studio, 504 Thesis, or 505 Special Program	8
630 Advanced Seminar in Architecture	2
Elective (in or out of College)	3
Elective (out of College)	4
	17

Spring Term

501—	
502 Architectural Studio, 504 Thesis, or 505 Special Program	8
631 Advanced Seminar in Architecture	2
Elective (in or out of College)	3
Elective (out of College)	4
	17
Total	173

* Students in 401–402 Design elect a studio option in architectural design, urban design, or architectural technology-environmental science each term of the fourth year. The student is expected to take recommended elective courses that relate to the studio concentration.

Distribution Requirements

In order to fulfill the College distribution requirement, a student must take two intermediate level courses in architectural history in addition to Architecture 141 and 142, one three-hour course in city and regional planning, and two three-hour courses in fine arts. In-college electives may include courses in the Architecture Department.

Each student must also fulfill the out-of-college distribution requirement with one three-hour course from each of the following areas: (1) social or behavioral sciences; (2) humanities; and (3) mathematics, or physical or biological sciences.

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 several other schools. The graduate Design Program at Cornell requires a Bachelor of Architecture degree.

Transfer Students

While the 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 a year or even 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 appropriate 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 the 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 hours 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 credits obtained in courses above the intermediate level in history of architecture and urban development areas. In addition, eight credits must be obtained in related fields, i.e., history of art; archaeology; intellectual, cultural, or political history; 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 accepted for the Program by the history 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-hour research course in the fall of their senior year. In the spring there will be a four-credit-hour 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	<i>Credit Hours</i>
Bachelor of Architecture curriculum	70

Third Year

<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

Third Year

<i>Spring</i>	
Related field courses	4
History of architecture (intermediate level)	
or history of urban development	4
Electives	7
	15

Fourth Year

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

9 Nonprofessional Alternative Programs

Fourth Year

Spring	
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 hours 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

Prerequisite: first two years of Bachelor of Architecture curriculum	Credit Hours 70
--	--------------------

Third Year

Fall	
Design communication courses, 300 level	6
Related field courses	6
Electives	3
	15

Third Year

Spring	
Design communication courses, 300 level	6
Related field courses	6
Electives	3
	15

Fourth Year

Fall	
Design communication courses, 400 level	6
Related field courses	3
Electives	7
	16

Fourth Year

Spring	
Design communication courses, 400 level	3
Thesis project in design communication	6
Electives	7
	16
Total	132

Policy Planning and Regional Analysis

The program is designed to provide undergraduate students in architecture, who have completed two years of study, the option to major in policy planning and regional analysis in their third and fourth years. It is intended to provide students who have already some training in design, with an additional foundation in the social, behavioral, and policy sciences. Students completing the program should be well prepared to undertake graduate work in a variety of fields such as 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 a more and more integral part of a wide range of public organizations whose programs attempt to address the critical social problems of our time.

Typical kinds of agencies for which graduates of the program might work are those concerned with policy formation, program development, implementation and evaluation of health and mental health services, health facilities, environmental quality control, environmental protection facilities, transportation systems and facilities, income maintenance, manpower and human resource development, educational systems and facilities, housing, economic development, and others. Students considering the program should consult with one of the faculty to discuss career opportunities.

Admission to the Major

Policy planning and regional analysis may be elected as a major subject if the student has completed the first two years of the architecture program with requisite competency as determined by a committee composed of faculty members of the Departments of Architecture and Policy Planning and Regional Analysis.

Requirements

To satisfy the major subject requirement, a minimum of 40 hours of planning course work must be completed with a grade of C or better. Of these 40 credits, 30 must be in the Department of Policy Planning and Regional Analysis. A total of 132 credit hours is required for the degree. Eight courses comprise the core requirements.

Program of Study

<i>Required Courses</i>	<i>Credit Hours</i>
410 Introduction to Urban and Regional Theory	4
430 Mathematical Concepts for Planning (or equivalent)	1,2,3
431 Statistical Analysis for Planning	3
433 Planning Analysis	4
436 Introduction to Computers in Planning (or equivalent)	3
440 Introduction to Urban Planning Theory and Practice (or equivalent)	3
470 Introduction to Social Policy	3
721 Planning Theory	3

Departmental Electives

A number of electives in both the social and physical planning areas will be open to the student during the two upperclass years to

satisfy the planning major requirement. Among these are:

	<i>Credit Hours</i>
420 Policy Planning and Collective Choice	3
425 Theories and Strategies of Social Change	3
441 Field Studies in Urban Policy Planning	
452 Introduction to Environmental Health Planning	3
457 The Public Economy of Metropolitan Areas	3
460 Regional Economic Development	3

Independent Study

A number of independent work courses are available for students interested in pursuing subjects of special interest to them.

419 Informal Study in Urban and Regional Theory (credit as assigned)
429 Informal Study in Planning Theory and Policy Analysis (credit as assigned)
439 Informal Study in Planning Analysis (credit as assigned)

Fieldwork

Students are encouraged to take fieldwork problems providing them with experience in dealing with the problems of Upstate communities. Credit can be awarded by taking 441 Field Studies in Urban Policy Planning.

Possible Programs of Study for Undergraduate Major in Policy Planning and Regional Analysis*Undergraduate Planning Major Interested in Social Planning:*

Introduction to Urban and Regional Theory

Introduction to Social Policy

Theories and Strategies of Social Change

Ghetto Economic Development

Urban Social Planning Theory

Internship in Urban Studies and Policy Planning

Social science electives

Undergraduate Planning Major Interested in Urban Environmental Policy Planning:

Introduction to Urban and Regional Theory

Introduction to Environmental Policy

The Public Economy of Urban Areas

Regional Economic Development

Field Studies in Urban Policy Planning

The Political Economy of Environmental Protection

Engineering electives

Undergraduate Planning Major Interested in Community Development Planning:

Introduction to Urban and Regional Theory

Planning Analysis

Ghetto Economic Development

Regional Economic Development

Theories and Strategies of Social Change

Field Studies in Planning

Social science electives

A number of other programs can be developed.

11 Nonprofessional Alternative Programs

During the three month summer period between the third and fourth year, the student would be encouraged to gain the experience of an internship in city and regional planning. This field placement would be in a planning agency or group and could be supervised by a faculty member. Credit can be awarded, if circumstances warrant, by taking 442 Internship in Urban Studies and Policy Planning (3-6 credit hours).

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 accepted for the program by the departmental 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 policy planning and regional analysis courses.

Honor candidates will register for 490 Undergraduate Honors Research in both the fall and spring semesters of their senior year for at least three credit hours each semester. In the fall the course will be devoted to research and in the spring the student will prepare and defend a planning project or demonstration, or a paper approximately fifty pages long.

Concentrations

Students will be expected to consult with an adviser to develop a concentrated program of study related to their interests. Departmental courses can be organized into a number of sequences that, when combined with well chosen electives in or out of the College, can build a sound preparation in a particular area. Each specialization can be seen as appropriate to particular types of students, given their backgrounds, majors, and interests. Courses can be added or substituted as appropriate; students are also expected to take a sufficient number of electives to fill degree requirements. The independent study and field work courses noted above may be taken to develop the concentration. For three illustrative sequences, see page 10. A number of others can be developed.

Curriculum

Prerequisite: first two years of Bachelor of Architecture curriculum Credit Hours 70

Third Year

Fall	
410 Introduction to Urban and Regional Theory	4

430 Mathematical Concepts for Planning	3
436 Introduction to Computers in Planning	3
440 Introduction to Urban Planning Theory and Practice	3
Electives	3
	16

Third Year

Spring	
431 Statistical Analysis for Planning	3
721 Planning Theory	3
Electives	9
	15

Fourth Year

During the fourth year, the student is required to enroll in two additional planning courses:

Fall	
470 Introduction to Social Policy	4
Electives	12
	16

Spring

433 Planning Analysis	4
Electives	11
	15

Total 132

Urban Planning and Development

The intention of this program is to offer students completing their first two years in the undergraduate architecture program the opportunity to major in urban planning and development during their third and fourth undergraduate years. It is not the goal of this undergraduate major program to train students to be professional urban planners; the master's program in urban planning and development is organized for that purpose. This major is organized primarily to offer students coming from an architectural program an opportunity to redirect their academic training toward the understanding of urban 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.

The program is designed to effect a smooth transition from architecture to planning. It is contemplated that students may wish to continue a few special interests in architecture on an elective basis, and a special workshop is required in the third year in which inputs from urban design, landscape architecture,

12 Nonprofessional Alternative Programs

and urban planning and development are combined to form a general introduction to the special concerns of the major.

It is also contemplated that the major may serve as a preparation for graduate work, not only in planning, but possibly in other directions such as urban design, landscape architecture, public administration, or environmental engineering.

Admission to the Major

Students intending to take the major in urban planning and development 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 UPD Committee on Undergraduate Majors.

Requirements

The major requires a minimum of thirty credit hours of course work in the Department of Urban Planning and Development, including the following specific requirements.

<i>Required Courses</i>	<i>Credit Hours</i>
-------------------------	---------------------

510 Introduction to Concepts and Principles of Urban Planning and Development	4
One of the following three courses:	4
400 Historical Development of the World's Cities	
513 Introduction to Human Ecology	
520 Introduction to Quantitative Techniques	
Junior Workshop	6
Senior Field Problem or Thesis	4

A total of 132 credit hours is required for the degree.

Electives

A number of UPD 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. A number of courses in the Department of Architecture are appropriate to the major; for example,

333 Computer Applications
544 Case Studies in Preservation Planning
545 Design and Conservation
613 Transportation
639 Cybernetics and Design
666 Human Factors in Architecture
667 Architecture in Its Cultural Context

Other courses appropriate to the major may be elected from many departments, including Policy Planning and Regional Analysis, Landscape Architecture, Economics, Sociology, Public Administration, Law, Rural Sociology,

and Design and Environmental Analysis. Choice among electives depends on the program worked out between the student and the department adviser.

Graduate Degree

Students who wish to continue in the Department to complete the requirements of the degree of Master of Regional Planning must announce their intention during the fall term of their fourth year. These students must have shown superior performance in their planning courses; their records will be reviewed by the regular standards for admission to the graduate program, and the decision on admission will be announced to them at the end of the fall term.

Students informed that they will be admitted to the graduate program will be excused from the requirement of a senior field problem or thesis, so that they may take other course work with the objective of completing the requirements for the degree of Master of Regional Planning in one additional year. This option depends upon approval by the Graduate School.

Curriculum

<i>Prerequisite:</i> first two years of Bachelor of Architecture curriculum	<i>Credit Hours</i> 70
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Third Year Fall

510 Introduction to Concepts and Principles of Urban Planning and Development	4
Urban planning and development elective*	4
Other electives	8
	<hr/>
	16

Third Year Spring

Junior Workshop	6
Urban planning and development elective	4
Other electives	7
	<hr/>
	17

Fourth Year Fall

513 Introduction to Human Ecology (or UPD 400 or UPD 520)	4
Urban planning and development elective	4
Other electives	9
	<hr/>
	17

* Urban planning and development electives must total at least twelve credit/hours for total Department requirement of thirty credit hours.

13 Nonprofessional Alternative Programs

Fourth Year
Spring

Senior Field Problem or Thesis	4
Other electives	8
	—
	12
Total	132

Graduate Programs

The programs in which graduate study may be pursued in the Department of Architecture are architectural design, urban design, and regional design leading to the Master of Architecture (M.Arch.) degree; architectural science leading to the Master of Science degree; architectural history and history of urban development leading to the Master of Arts and Ph.D. degrees. There is also a joint program, which normally requires three years, leading to both the Master of Architecture and the Master of Regional Planning degrees conducted by the Departments of Architecture, Policy Planning and Regional Analysis, and Urban Planning and Development.

The graduate program in landscape architecture leading to the Master of Landscape Architecture (M.L.A.) degree is administered jointly by the Department of Architecture and the Department of Urban Planning and Development.

Design

Students who have satisfactorily completed all requirements for an undergraduate professional degree in architecture or its equivalent at an approved institution may be admitted as candidates for the degree of Master of Architecture. Holders of nonprofessional degrees in architectural studies or environmental design 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 urban planning and development or policy planning and regional analysis courses.

Normally four terms of study are required, and the student should not anticipate completing studies in less than this time, although in special cases the requirements may be completed within three semesters of residence.

The programs leading to the Master of Architecture degree are administered by Program Concentration Committees consisting of the Field representative and those faculty offering work in the area of concentration. Each graduate student selects a Special Committee that advises and administers the program. 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 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.

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:

1. To afford an opportunity for students of architecture to expand their creative design potential by increasing their knowledge and understanding of environmental science and 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 students 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.

Facilities include a well-equipped structural model laboratory and immediate access to the Cornell computing center (IBM 360).

Architectural History

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 either history of architecture or history of urban development as major or minor subjects. They have normally undertaken undergraduate curricula emphasizing architecture, history of art, or related studies.

The graduate program in architectural history 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. 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. It is administered jointly with the graduate program in history of urban development. Preservation planning is offered as a minor subject. Work consists of seminars and courses in this and other departments in combination with independent study under individual direction by faculty. For the degree of Master of Arts in architectural history, candidates must satisfy the requirement for a reading knowledge of one approved foreign language, pass examinations in their major and minor subjects, and submit a satisfactory

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

Landscape Architecture

The graduate program in landscape architecture leading to the Master of Landscape Architecture (M.L.A.) degree is administered jointly by the Department of Architecture and the Department of Urban Planning Development. A full description of the program may be found on page 25.

Summer Term in Architecture

Whenever there is sufficient student demand and an adequate faculty available, a summer term will be offered at both graduate and undergraduate levels in the field of architecture.

The term is usually of six to eight weeks duration.

At the undergraduate level the time is normally devoted exclusively to one subject—architectural design. Credit will be given for successful completion of the work, and it may, with faculty approval, be considered one term of design as required in the curriculum or may be allocated to elective credit hours.

Registration will be limited to students of satisfactory 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 the program.

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 thus established between training 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 accelerated graduation upon the following terms and conditions: (1) The petition must be submitted to the faculty prior to 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 in order for the petition to be considered.

A candidate for the B.F.A. degree who wishes, in addition, 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, however, who are primarily

interested 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, if they wish, take studio courses as electives in the Department of Art in the College of Architecture, Art, and Planning.

Curriculum

<i>First Year</i>	
<i>Fall Term</i>	
151 Introductory Drawing	Credit Hours 3
110 Color, Form, and Space	4
B.F.A. students must take at least two of the following three courses:	
121 Introductory Painting	3
141 Introductory Sculpture	3
161 Introductory Photography	3
Out-of-college electives	0 or 3
	16

<i>Spring Term</i>	
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 Introductory Photography	3
Out-of-college electives	4 or 7
	16

<i>Second Year</i>	
<i>Fall Term</i>	
251 Second-Year Drawing	Credit Hours 3
221 Second-Year Painting	3
B.F.A. students must take one of the following two courses:	
241 Second-Year Sculpture	3
261 Second-Year Photography	3
Introductory Graphics	3
Electives	4 or 7
	16

<i>Spring Term</i>	
252 Second-Year Drawing	3
222 Second-Year Painting	3
B.F.A. students must take one of the following two courses:	
242 Second-Year Sculpture	3
262 Second-Year Photography	3
Introductory Graphics	3
Electives	4 or 7
	16

Third and Fourth Year

In the last two years students should design their programs so that they complete the fourth-year level in painting or sculpture or graphics or so that they achieve the completion of the third-year level in two of those three 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 that must be taken in the Department of Art and a minimum of 52 credits that must 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. This distributional requirement must be completed in the first two years. Six credits in art history at the 200 level or higher or in architectural history must also 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; 121, 122 Introductory Painting; 141, 142 Introductory Sculpture; 161, 162 Introductory Photography; 151, 152 Introductory Drawing; 251, 252 Second-Year Drawing; 130 or 131 or 132 Introductory Printmaking.

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 credit hours; 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 hours 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 credit hours 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. A verbal examination on these subjects in general 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 will have been 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.

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 educa-

tion 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 policy-making 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, 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 each of the two departments that offer the M.R.P. degree. 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 their department. These requirements are listed in the departmental descriptions on page 20.

The Department of Policy Planning and Regional Analysis and the Department of Urban Planning and Development are the two departments within the College that offer programs leading to the M.R.P. degree. Each department has clearly defined educational goals that, while related, are aimed at providing training for significantly different areas of planning activity. Before applying for admission in planning a prospective student should review carefully the descriptions and courses for each department and apply to the one that most closely satisfies his or her interests. Specific questions about the M.R.P. programs may be addressed to the dean of the College, the appropriate department chairman, or the graduate field representative for the Field of City and Regional Planning.

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 in planning 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 chairman 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, 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, public administration, research methodology, sociology, statistics, environmental and civil engineering, sanitary engineering, and transportation engineering among others. In consultation with the chairman 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 Field Representative, City and Regional Planning, 109 West Sibley Hall.

Department of Policy Planning and Regional Analysis

Programs of Study

The Department of Policy Planning and Regional Analysis 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. Policy planning is the attempt to analyze choices and values that underlie public policy and, given sparse resources, to help policy makers choose between alternatives so as to reach the community's goals and objectives. 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. 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 social policy planning, regional analysis and development planning, urban and environmental

systems planning, housing, health planning, and nonmetropolitan planning, among others. Some of these specializations are elaborated as follows: (1) The structure and content of the social policy planning specialization reflects 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 social change. The program offers instruction and research in the socioeconomic, spatial, and political aspects of social systems and the policy-making process. (2) 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. (3) There are a wide variety of planning problems associated with nonmetropolitan areas. For example, one might be to identify ways that the poor of nonmetropolitan America 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 one for the study of rural areas. Furthermore, problems of regional economic development and decline, an issue just emerging in national politics, are also dealt with. (4) 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 information systems in planning and policy formulation and analysis are also concerns.

Specific Faculty Interests

- Francis J. Cesario, Ph.D. (economics): regional science, environmental quality management, recreation analysis
- Pierre Clavel, Ph.D. (city and regional planning): planning theory, administration, regional development
- William Goldsmith, Ph.D. (city and regional planning): regional development planning and administration, economic analysis, urban and regional planning in developing countries
- Cary Hershey, Ph.D. (public administration): social policy planning, social change, administrative theory, manpower, education and welfare programs
- Walter Isard, Ph.D. (economics): regional science
- Barclay G. Jones, Ph.D. (economics): urban and regional quantitative analysis, urbanization theory, planning theory, environmental health planning, historic preservation planning
- David B. Lewis, Ph.D. (city and regional planning): urban and regional planning in developing countries, technology transfer
- K. C. Parsons, M.R.P.: university and institutional planning, land-use planning, urban renewal, new community planning
- Sidney Saltzman, Ph.D. (operations research): quantitative methods and systems analysis in planning, computers and information processing systems
- Bert Swift, Ph.D. (political science): public administration, social policy planning, planned organizational and community change
- Thomas Vietorisz, Ph.D. (economics): urban economics, regional economics, regional science, center city economic development
- D. F. Williams, Ph.D. (urban planning): economic and social elements of urban housing, social planning theory and practice, political economic analysis for collective choice in the public sector, political economics of change in developing countries

Admissions

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

Applicants are expected to hold a bachelor's degree from a recognized institution. It may be an academic or professional degree in any field of 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, so that results will be available for review.

Joint graduate programs between planning and law and between planning and urban design are possible. Students desiring to pursue such a joint program must be admitted to the two fields of study of interest to them. Under such a joint program, it may be possible to complete the requirements for both professional degrees in less time than normally required when both degrees are pursued separately.

Curriculum and Requirements

Graduate study for the Master of Regional Planning degree is intended to provide the basic foundation in theory and professional skills in analysis, methods, and techniques needed for practice in the field. The course of study for the M.R.P. degree normally requires two years.

Students in the first year select a Special Committee consisting of one to three faculty members with whom they develop the course of study they will pursue. There are no specific courses required. Students normally take one or more courses in the following areas: (1) planning theory, (2) urban and regional theory, (3) methods of investigation and analysis, and (4) planning institutions, to attain a foundation for specialization. A variety of programs of study are available in such areas as social policy planning, planning in developing countries, urban and environmental systems planning, regional economic and development planning, health systems planning, and housing. Unique programs of study can also be developed.

Field work experience in the summer between the two years is recommended.

A minimum of sixty credit hours of course work is required for the M.R.P. degree. Thirty of these credits must be in courses offered by the Department. In addition, candidates for the M.R.P. degree must demonstrate an ability to do independent work as a professional in planning. The nature of this independent effort will be planned by the student and the chairman 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.

For further information not found in this *Announcement*, the student may write to the Graduate Field Representative, City and Regional Planning, 109 West Sibley Hall.

Department of Urban Planning and Development

Programs of Study

The basic goals of the Department of Urban Planning and Development is to provide graduate-level professional training essential for persons seeking careers with the broad range of public agencies involved in urban planning, development, housing, renewal, and many other related activities. These are 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 Department's teaching, research, and community service programs is on the applied aspects of urban planning and development activities. The Department's 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 is also 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 input to the Department's interests, 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 Department is primarily prescriptive, emphasizing case studies and fieldwork courses that are integrated with a broad range of academic courses. These necessarily draw 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 that would ordinarily face the practicing urban planner. Working together with faculty and fellow students, a student can learn his or her own strengths and weaknesses and can also 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 it has its greatest strength within its own program 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 the program of studies offered by the Department concentrates primarily on those aspects of planning dealing in a comprehensive way, with improving the urban environment, and with the action programs necessary to achieve that goal. Students interested primarily in planning for social services with no interest in planning for the physical environment should address their inquiries to other departments that focus on these areas. Those concerned mainly with social and economic policies, quantitative methods of analysis, urban and regional theory, policy planning for developing nations, etc., should apply to the Department of Policy Planning and Regional Analysis. Those concerned mainly with three-dimensional, large-scale architecture or urban design should apply to the Department of Architecture. Those concerned mainly with the design and analysis of the natural environment and the means to protect, conserve, and modify it, should apply to the graduate Program in Landscape Architecture.

Admission

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 can 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 can be made at any time after the second semester of work. Applicants with previous graduate work can apply for advanced standing or direct admission to doctoral study.

The Department has recently initiated a new graduate Program in Landscape Architecture jointly with the Department of Architecture. Students in urban planning and development will have the opportunity to benefit from the growing potential of the landscape and large-

scale environmental design field because of its close integration with the urban planning and development 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 Graduate Program, College of Architecture, Art, and Planning.

The Department also offers students an option to enroll in special joint programs that combine urban planning with law or urban planning with urban design. Graduate students may earn both the J.D. and M.R.P. degrees in a total of four years, or the M.Arch. and M.R.P. degrees in a total of three years by following an approved program. In each case, this is a shorter period of time than normally required for both degrees. Students interested in either option should request special information about the joint programs by consulting the advisers in the Departments of Urban Planning and Development or Architecture, and in the Cornell Law School.

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 about application and admission requirements not found in this *Announcement*, write to the Chairman, Department of Urban Planning and Development, 106 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 is required to be taken 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 urban 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 total of sixty credit hours of course work is required for the M.R.P. degree in the Department of Urban Planning and Development. 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.

The curriculum is subdivided into the following requirements:

	<i>Credit Hours</i>
Four specified foundation courses	16
Courses elected by the student in one area of concentration	10
Fieldwork courses	4
Thesis, special approved project, or research paper	6
Electives	24
	—
Total	60

Foundation courses:

- 510 Introduction to Concepts and Principles of Urban Planning and Development
- 540 Introduction to Environmental Planning and Design

Plus two of the following: (Selection based on student's previous course work with the agreement of student's adviser)

- 520 Introduction to Quantitative Techniques in Urban Planning
- 512 Urban Economic Analysis
- 513 Introduction to Human Ecology
- 525 Data Interpretation and Presentation in Urban Planning

Students entering the Department with prior course work in some of the subject matter areas covered in these foundation courses will be permitted to waive all or part of the requirement for such a course, or substitute an advanced course. Waiver of a required foundation course shall not constitute waiver of the required credit hours. While not noted specifically in the course requirements, it is expected that all urban planning and development students will achieve basic minimum competence in statistics. If the student does not enter the program with such competence, it is expected that course work will be taken during the first semester to achieve it.

Areas of Concentration

To fulfill the concentration requirement, the student must take a minimum of ten credit hours in one area. The areas of concentration, in general, are based on subjects where the faculty has special competence. For each area the Department will provide the student with a listing of courses, within and outside of the Department, from which selections can be made. With the consent of his or her adviser, the student may take other courses of special interest not listed, but related to the concentration.

The intent of the concentration requirement is to enable the student to begin to build special competence in at least one area within the profession. The courses are to be selected with the advice of a faculty member whose interests are closely related to the specialty area. A partial list of areas of concentration follows:

- Urban planning history (Hugo-Brunst, Reps, Stewart, Mackesey)
- Historic area preservation (Stein, Hugo-Brunst, Stewart, Reps)
- Housing (Stewart, Stein)
- Urban development policies and programs (Kelly, Reps, Stewart, Stein, Winston)
- Legal aspects of planning and urban development (Reps, Kelly, Stein, Parsons)
- Land-use planning (Stein, Parsons, Gentili, Reps)
- Planning design (Grey, Gentili, Stein, Hugo-Brunst)
- Transportation planning (Romanos, Stein)
- Science, technology, and urban development (Nelkin, Hammerman)
- Ecological planning (Gentili, Hammerman, Hugo-Brunst)
- Sociology of urban communities (Hammerman)
- Economic planning and development (Czamanski, Romanos)
- Planning politics and administration (Stewart, Nelkin)
- Institutional and campus planning (Parsons, Mackesey, Stein)

By building upon the basic planning curriculum and drawing upon the broad resources of the University, additional concentrations may be formulated with the consent of the student's adviser in areas such as the following: natural resource planning and analysis, municipal finance and administration, planning for lagging regions and underdeveloped countries, urban anthropology, environmental psychology, manpower development planning, social service program planning, political mobilization and community organization, urban mass communication techniques, small town and rural development.

Fieldwork Courses

Students can fulfill the fieldwork course requirement by selecting from a broad list of opportunities organized by several members of the faculty. Because these opportunities are based upon the needs of real clients and are in real settings wherever possible, the listing of fieldwork courses is continually changing. Ordinarily, the student will not take a fieldwork course until he or she has completed the first year in the program. However, many students do choose to engage in fieldwork in their first year and are permitted to do so depending upon their prior backgrounds and qualifications. Students will have an opportunity to work singly or in groups, sharing

knowledge, ideas, and backgrounds within a setting that is close to an actual professional experience. These courses, together with a summer internship or other job experience, are aimed at providing an opportunity to apply, in real situations, the skills gained from other courses in the Department.

Thesis

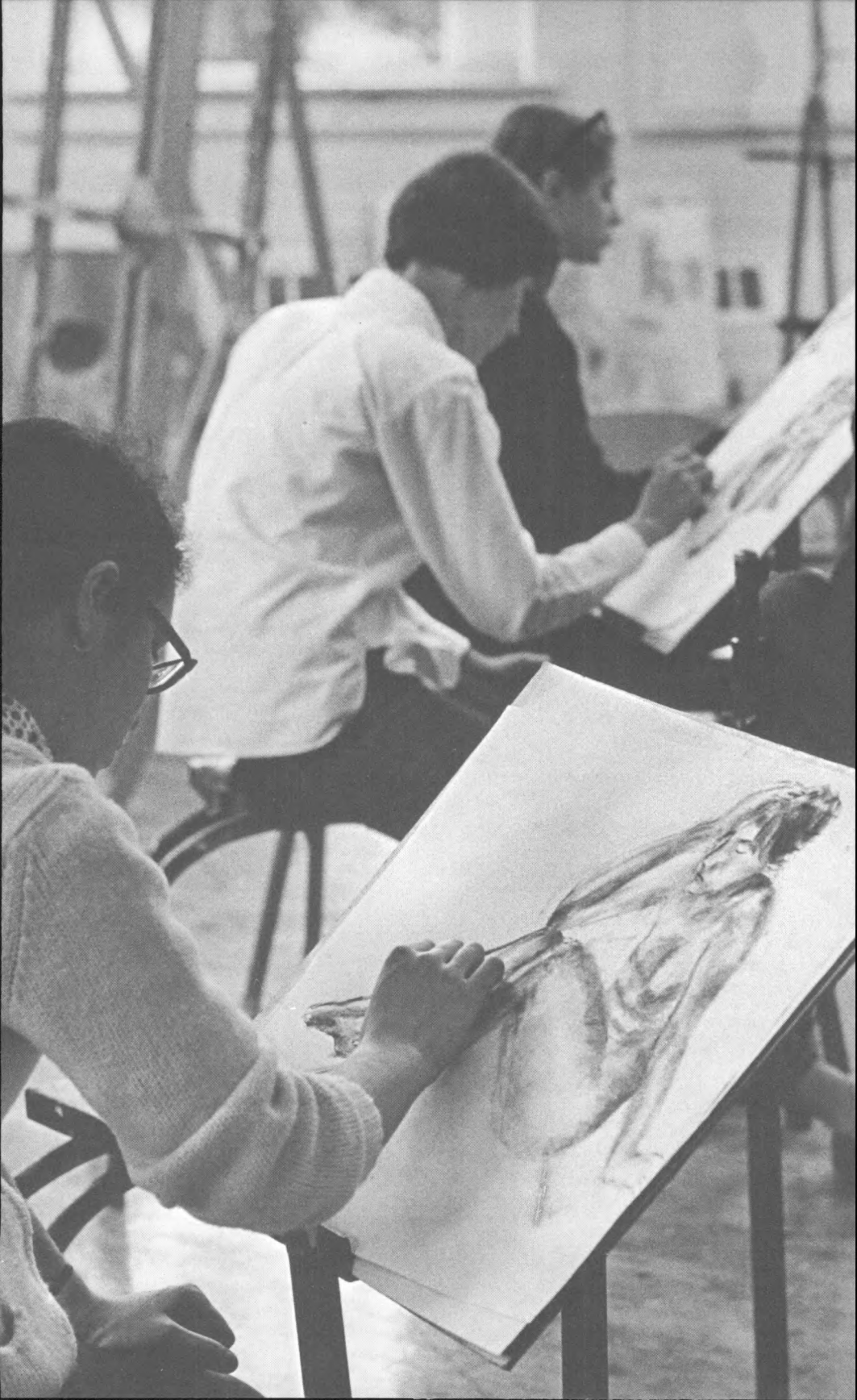
The Department requires that a master's thesis (six credit hours) be completed for the degree. In special circumstances, upon the petition by the student to the faculty of the Department, a community project, a special study, or research paper may be substituted for the thesis. The faculty of the Department encourages the thesis student to integrate his or her applied fieldwork experience with the thesis project or research paper and to vary from the traditional form of an academic thesis. Instead, the student has the option of submitting a professional project or a piece of work, integrally related to the urban planning and development field, that may be presented in other than written form. The opportunities for satisfying this requirement are very 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.

Faculty Interests

- 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
- Joseph Gentili: landscape architecture analysis, social factors in landscape design, large-scale environmental programming and implementation
- 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
- Michael Hugo-Brunst: history of architecture, city planning and development
- Burnham Kelly: land-use regulation, development controls, the housing industry
- Thomas W. Mackesey: history of city planning, university planning
- 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

John W. Reps: land-use regulation, planning administration, comparative planning, history of city planning in the United States

Michael C. Romanos: urban economic analysis, regional science, transportation planning

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

Oliver C. Winston: housing, renewal and urban development planning

Graduate Program in Landscape Architecture

The Department of Urban Planning and Development and the Department of Architecture jointly sponsor a graduate Program in Landscape Architecture. The two-year program leads to the degree of Master of Landscape Architecture (M.L.A.).

The primary objectives of the M.L.A. program are to conduct research and to provide appropriate education and training for individuals who choose to practice, to conduct applied research, or to teach in the field of landscape architecture.

A secondary objective of the program is to provide increased educational opportunities to students of architecture, city and regional planning, civil and environmental engineering, design and environmental analysis, natural resources, and other related fields.

The emphasis of the program is on the systematic inventory, analysis, and synthesis of data from diverse disciplines for the practical purposes of planning and designing modifications of the natural environment. The modifications of the natural environment result from a design process concerned with user needs for man-made physical space and the relationship of that space to the natural environment. The program should be distinguished from training programs concerned mainly with environmental systems engineering or environmental quality control.

Admission

The program serves to supplement undergraduate education in design through providing a broader educational experience to those

who are technically skilled. Applicants are therefore expected to hold a bachelor's degree in architecture, landscape architecture, environmental design, planning, or a similar field from a recognized institution of higher learning.

Undergraduate academic performance, Graduate Record Examination scores (optional), examples of work, letters of recommendation, and the applicant's statement of program-related objectives, considered collectively, must indicate a level of ability adequate to the successful completion of the program.

Degree Requirements

The M.L.A. degree is to be awarded upon the student's demonstration of a satisfactory level of competence in an individualized curriculum that he or she has designed in collaboration with a landscape architecture major adviser.

A total of sixty credit hours of course work constitute the course work requirement; one academic year 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 581, 582, and 681 Landscape Planning and Design Workshop I, II, and III. Directed 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.

A minor area of concentration, to be chosen by the student prior to the beginning of the second semester of study, is also required.

The minor area of concentration consists of a minimum of fifteen credit hours of course work and may be chosen from any of the relevant fields in the Graduate School or from the following nonexhaustive list: ecologic systems determinants of landscape design, economic determinants of landscape design, historic aspects of landscape design, legal determinants of landscape design, social determinants of landscape design.

Other than satisfactory completion of course work, requirements for the M.L.A. degree include an approved summer internship experience and completion of a thesis or final project. Six credit hours will be granted for the thesis or final project which represents the student's findings based upon an inquiry the subject of which was determined in collaboration with the major adviser. The

thesis or final project must be presented in a form that is suitable for storage and retrieval by members of the University community.

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. No student shall be denied admission to the University or be discriminated against otherwise because of race, color, creed, religion, national 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 or the American College Testing Program. 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, Day Hall, Cornell University,

Ithaca, New York 14850, 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 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 Office of the Dean, College of Architecture, Art, and Planning, West Sibley Hall, Ithaca, New York 14850. Interviews will also be arranged in cities across the country during the month of February, and those who have not been able to come to Ithaca will be sent a list of these locations and times.

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* must 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 Art Department 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, Day Hall, 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 14850 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 first review the specific requirements for each department as listed in the departmental descriptions contained in this *Announcement* and write to the appropriate department chairman. 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), 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 14850, 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 in order to be considered for awards of fellowships, scholarships, and other financial aids but may be received until March 15. 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 \$15 non-refundable 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 it may be made contingent upon evidence of improved command of English.

All applicants for admission to the programs in history of architecture and urban design, 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, Day Hall.

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.

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 14850; 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 \$60,000 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 the 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 senior fall semester 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.

The Clarke and Rapuano Scholarship is open to any student in the College of Architecture who is in need of financial assistance. An annual award set up by Gilmore D. Clarke, former dean of the College, and Michael Rapuano, B.L.A. '27. Annual award \$1,000.

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 main-

tained the best academic grade average throughout the entire course.

The Baird Prizes consist of one or more prizes in the total amount of \$100 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 to one of the architecture graduate programs at the end of the fifth year.

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 is 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 a degree 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, \$2,200 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 residence are eligible. These awards are made by the Fellowship Board of the Graduate School. Graduate fellowships carry stipends from \$2,000 to \$3,000 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. Teaching assistantships carry a stipend of \$2,700 plus tuition.

The Department of Urban Planning and Development and the Department of Policy Planning and Regional Analysis also award a number of research assistantships in city planning and urban renewal for study in the M.R.P. program, and several three-year traineeships are supported by the United States Public Health Service.

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 thousands of 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, 105 Day Hall, Cornell University, Ithaca, New York 14850.

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 \$1,700 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.

Undergraduate students should refer to the *Announcement of General Information* for the amounts of tuition and details concerning payment. Graduate students should refer to the *Announcement of the Graduate School* for this information.

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, 10 Central Avenue, Cornell University, Ithaca, New York 14850.

Insurance is available on a voluntary basis. For further details, including charges for special services, see the *Announcement of General Information*.

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 Committee on Requirements for Graduation.

Exemptions from the requirement may be made by the University Faculty Committee on Requirements for Graduation 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 non-swimmers 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 Summer Sessions. Further particulars can be obtained from the Division of Summer Session and Extramural Courses, Day Hall, Cornell University, Ithaca, New York 14850.

Special summer conferences and institutes are offered in addition, principally by the graduate Program in City and Regional Planning. Particulars 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 Rano 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 quite directly to academic programs of the University, 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 can fulfill 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 5400 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. Because space is limited, a prompt return of the application form with a \$10 application fee before May 1 will help to insure assignment to University housing facilities. Entering students should note that *acceptance to Cornell does not necessarily guarantee space in University residence halls.*

Further information about housing may be obtained from the Student Housing Assignment Office, 223 Day Hall, or the Office of the Dean of Students, Barnes Hall, Cornell University, Ithaca, New York 14850.

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. An application form is enclosed with notice of provisional acceptance. Assignments are made in order of receipt of the completed application form at the Housing Assignment Office. Prompt return of the form will help to insure an on-campus housing assignment. A \$10 application fee must be enclosed with the application form.

Married Students

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 Married Student Housing Office, Building 40, 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 Housing Assignment Office, 223 Day Hall. An off-campus housing adviser is also available in the Housing Assignment Office.

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

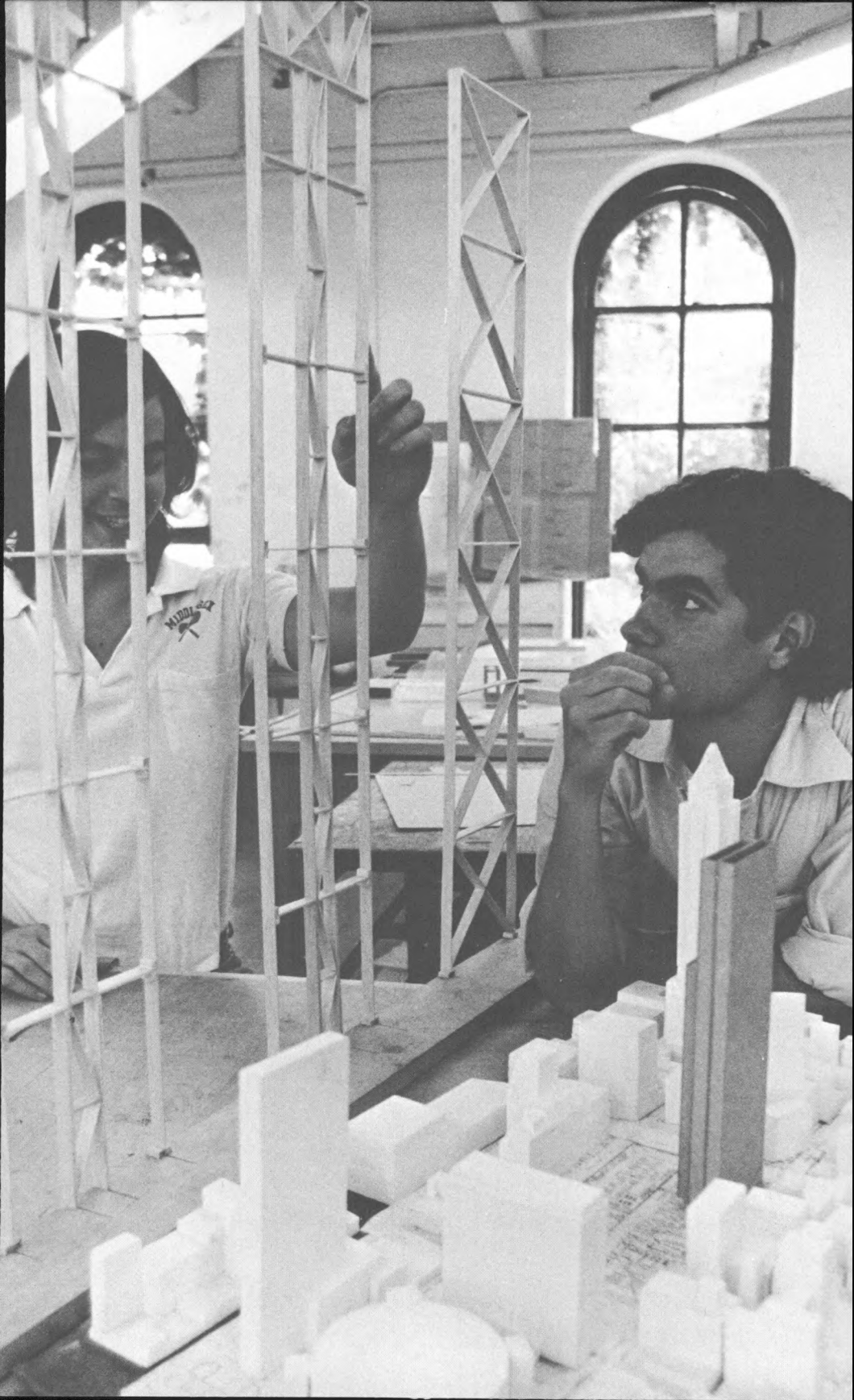
may be consulted by University students on nonacademic matters.

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.

Foreign 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, Barnes Hall, Cornell University, Ithaca, New York 14850.



Cornell University

Courses of Instruction

A new course numbering system has been devised. The number appearing in parentheses next to the new number is the number used in previous years. New course offerings will show only the new number.

The time and place of each course of study and the name of the instructor will be given in a separate memorandum issued by the College office prior to preregistration for each term. In general, an elective course is not offered to fewer than five students.

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

101-102 (101-102) Design I and II Studio and seminar. Throughout the year. Credit four hours a term. Must be accompanied by Architecture 131-132.

201-202 (103-104) Design III and IV Studio and seminar. Throughout the year. Credit four hours a term. Must be accompanied by Architecture 231-232.

301-302 (105-106) Design V and VI Studio and seminar. Either term. Credit six hours a term.

401-402 (107-108) Design VII and VIII Studio option and seminar. Either term. Credit six hours a term.

The studio options are offered in architectural design, urban design, or architectural technology and environmental science each term.

501-502 (109-110) Design IX and X Studio. Either term. Credit eight hours a term.

Advanced Design Studio

503-504 (111) Thesis-Research Either or both terms. Credit eight hours a term. Thesis to be prearranged with the advisers during the fourth year.

505 (112) Special Program Either or both terms. Credit eight hours a term. To be arranged with faculty during the fourth year. Intended primarily for students applying to a graduate program in the College.

Nonsequence Courses

200, 300, 400, 500 (119) Elective Design Either term. Credit as assigned. May be repeated for credit. Open by permission to students who wish to take additional work in design or transfers who have not been assigned to a sequence course. The student will be assigned to work with a class of appropriate level.

111-112 (121-122) Elective Design Studio Either term. Credit as assigned. Registration restricted to out-of-Department students. Permission of the instructor required. To be coordinated by Architecture Department Office. Must be accompanied by Architecture 131-132.

310 (130) Special Problems in Architectural Design Either term. Registration and credit by arrangement. Elective. Staff.

610 (139-140) Theory of Organic Architecture Spring term. Credit three hours. Open to undergraduate and graduate students. G. Lesnikowski. The seminar deals with concepts of organic and cellular architecture, the world of bio-

logical forces, the concept of balance in architecture, the meaning of symbols and central forms, ideas of centrum and core, and with morphological growth patterns and repetitions of architectural functions. A variety of concepts of habitation and planning as well as technical innovations will be discussed and researched.

[611-612 (133-134) Seminar: Urban Housing Developments] Either term. Credit two hours. Limited to fourth- and fifth-year students in architecture and graduate students. Prerequisite: permission of the instructor. O. M. Ungers. Concentrates on large-scale housing developments, particularly in relation to size, density, and problems of infrastructure. Not offered 1974-75.]

613 (142) Transportation Seminar. Spring term. Credit two hours. Prerequisite: permission of the instructor. P. Cohen and A. Meyburg. A seminar concerning the impact of various transportation forms upon the urban environment involving architects, engineers, planners and human ecologists. Readings and discussions including historical, current, and future transportation modes will focus on the aesthetic and physical aspects.

Graduate Courses

[618-619 (185-186) Seminar in Urban and Regional Design] Throughout the year. Credit three hours. Open to fifth-year and graduate students. O. M. Ungers, staff, and 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. Not offered 1974-75.]

711-712 (171-172) Problems in Architectural Design Studio and seminar. Throughout the year. Credit nine hours each term. The basic first-year design course for graduate students whose major concentration is architectural design.

713-714 (181-182) Problems in Urban Design Studio and seminar. Throughout the year. Credit nine hours each term. The basic first-year design course for graduate students whose major concentration is urban design.

715-716 (191-192) Problems in Regional Design Studio and seminar. Throughout the year. Credit nine hours each term. The basic first year design course for graduate students whose major concentration is regional design.

811 (173) Thesis or Research in Architectural Design Throughout the year. Credit eighteen hours. Second-year design course

for graduate students whose major concentration is architectural design.

812 (183) Thesis or Research in Urban Design Throughout the year. Credit eighteen hours. Second-year design course for graduate students whose major concentration is urban design.

813 (193) Thesis or Research in Regional Design Throughout the year. Credit eighteen hours. Second-year design course for graduate students whose major concentration is regional design.

Structures

Sequence Courses

221 (203) Mathematical Techniques Fall term. Credit two hours. Mathematics Department. Two lectures and one recitation. Introduction to mathematical concepts and operations utilized in architecture.

222 (204) Structural Concepts Lecture and laboratory. Spring term. Credit four hours. D. P. Greenberg. Fundamental concepts of structural behavior.

321 (205) Structural Systems I Fall term. Credit three hours. Prerequisites: Architecture 221 and 222. Structural design concepts and procedures for timber and steel building construction.

322 (206) Structural Systems II Spring term. Credit three hours. Prerequisites: Architecture 221 and 222. Structural design concepts and procedures for reinforced concrete building construction.

Nonsequence Courses

323 (221) Advanced Steel Building Design Fall term. Credit three hours. Prerequisites: Architecture 222 and permission of the instructor. F. W. Saul. Design and investigation of advanced systems of steel building structure, plastic design of continuous beams and rigid frames, composite steel beam and concrete slab construction, steel space frames.

324 (222) Surface Structures Spring term. Credit three hours. Permission of the instructor required. 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 (226) Building Substructure Spring term. Credit three hours. Prerequisites: Architecture 322 and permission of the instructor. F. W. Saul.
The principles of soil mechanics and sub-surface exploration. Design of building foundations—footings, piles, subgrade walls.

328 (224) Advanced Reinforced Concrete Building Systems Spring term. Credit three hours. Prerequisites: Architecture 322 and permission of the instructor.
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. Selected topics.

Architectural Principles, Theories, and Methods

Sequence Courses

131–132 (301–302) Introduction to Architecture Throughout the year. Credit two hours a term. Lecture. Architecture students must register for this course with Architecture 101–102. Also open to out-of-Department students.

Introduction to the field of architecture and its relation to other disciplines.

231–232 (303) Architectural Elements and Principles Throughout the year. Credit two hours per term. Lecture. Architecture students must register for this course with Architecture 201–202. Also open to out-of-Department students. Prerequisite: Architecture 131–132. Staff.
Discussion of basic principles and components of architectural organization.

630–631 (309–310) Advanced Seminar in Architecture Throughout the year. Credit two hours per term. Required for all fifth-year architecture students. Open to graduate students. Staff and visiting critics.

Nonsequence Courses

333 (323) Computer Applications Fall term. Credit three hours. Enrollment limited to third-year students and above. D. P. Greenberg.
Designed to acquaint the student with the current uses and potentials of electronic computers in the architectural profession. No prior knowledge of computers is assumed. Topics will include basic principles and logic of computing systems, computer programming (CUPL and FORTRAN), architectural planning models, examples of linear programming problems, computer graphics, and data processing.

335–336 (325–326) Theory of Architecture Throughout the year. Credit three hours a term. First term not prerequisite to the second. L. Hodgden.

437–438 (327–328) Special Projects in Computer Applications in Architecture Either term. Credit three hours per term. Prerequisite: Architecture 333. D. Greenberg.
Advanced work in particular topics covered in Architecture 333 such as CPM, Urban Models, and Computer Graphics.

633–634 Introduction to Comparative Theories in Inquiry Either term. Credit three hours. Prerequisite: permission of the instructor.
Lecture, lecture-seminar, and seminar meetings as appropriate to the subjects under study. Visiting faculty from the fields of concern, with discussions of selected writings, and of related papers prepared by student and teacher participants. D. M. Simons.
The study of historical approaches to formal investigation, procedures of natural sciences, procedures of applied sciences, procedures of architecture, relations between the foregoing. Consideration of the several literatures, beginning with the sixteenth century, with the purposes of establishing acquaintance with significant contributions, and with the consequences of these in investigation, or research.

639 Principles of the Design Process Spring term. Credit three hours. Third-year architecture students and above. Out-of-college students by permission of the instructor. A. MacKenzie.
Analysis of the major theories and techniques of design developed during the past fifteen years, with special emphasis on the application to the solution of whole problems in architectural design. Students are required to complete exercises and a paper or a project.

Architectural History

Sequence Courses

141–142 (401–402) History of Architecture I and II Throughout the year. Credit three hours a term. C. Otto and S. Jacobs.
The history of architecture considered as a social and cultural expression of Western civilization. The nature and scope of the field is considered in the fall; history of modern architecture discussed in the spring. Intended for students in other colleges interested in an introduction to the history of architecture, and required of all architecture students. No special skills or knowledge are necessary. Nonarchitects may take either or both terms for credit. Slide lecture, readings, short papers, and examinations.

244 (404) History of Preindustrial Building Spring term. Credit four hours. W. Cummer. The development of traditional architectural elements and forms: materials, methods, and design expression. Lectures, readings, and papers or exercises.

Nonsequence Courses

340 (430) The Ancient Near East Spring term. Credit four hours. Prerequisite: Architecture 141 or permission of the instructor. Architecture of the oldest historic civilizations associated with Western tradition with emphasis on Egypt and Mesopotamia.

341 (431) The Classical World Fall term. Credit four hours. Prerequisite: Architecture 141 or permission of the instructor. W. Cummer. Architecture of the ancient Mediterranean civilizations, with emphasis on Greece and Rome.

[342 (432) The Early Middle Ages Credit four hours. Prerequisite: permission of the instructor. Not offered in 1973–74.]

344 (434) Islamic Architecture Spring term. Credit four hours. Prerequisite: permission of the instructor.

345 Architecture and Planning in the Orient (AUP 403) Fall term. Credit four hours. Prerequisite: permission of the instructor. M. Hugo-Brunet. The evolution of urbanization and architecture in India, China, Cambodia, Japan, and Thailand.

346 (436) The Renaissance Fall term. Credit four hours. Prerequisite: Architecture 141–142 or permission of the instructor. C. Otto. European architecture of the fifteenth and sixteenth centuries.

347 (437) The Baroque Fall term. Credit four hours. Prerequisite: Architecture 141–142 or permission of the instructor. C. Otto. European architecture of the seventeenth and eighteenth centuries.

348 (438) American Architecture Spring term. Credit four hours. Prerequisite: permission of the instructor. S. W. Jacobs. Building in the United States from colonial times, with emphasis on the nineteenth and twentieth centuries.

349 (439) Modern European Architecture Fall term. Credit four hours. Prerequisite: permission of the instructor. A survey of nineteenth- and twentieth-century architecture in Europe.

442 (451–452) Historical Seminars in Architecture Throughout the year. Credit two

hours a term. Prerequisite: permission of the instructor. Staff.

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

445 (455) Special Investigations in the History of Architecture Either term. Credit as assigned. Prerequisite: permission of the instructor. Staff.

447 (457) History Workshop Either term. Credit as assigned. Staff. Consideration of problems often slighted in histories of architecture.

448 (448) Historical Lectures in Architecture Throughout the year. Credit as assigned. Prerequisite: permission of the instructor. Staff. A series of one or two lectures per week on topics related to architectural history.

540 Architectural Problems in Archaeological Fieldwork Fall term. Credit variable. W. Cummer.

A review and critique of students participation in the excavation of ancient cities or historic sites during the previous summer. Seminars for students in architecture, the archaeology concentration, or related subjects.

541 Introduction to Architectural Aspects of Archaeological Fieldwork Spring term. Credit variable. W. Cummer.

The role and responsibilities of an excavation architect on an archaeological team. Methods of site survey, recording ancient buildings, preparation of working, analytic and restored drawings. Seminar for students in architecture or the archaeology concentration who anticipate joining a summer excavation team.

542 (462) Methods of Archival Research (UPD 404) Spring term. Credit three hours. 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 (464) Case Studies in Preservation Planning Spring term. Credit two hours. S. W. Jacobs, staff, and visiting lecturers. A review and critique of preservation planning projects selected to indicate the range of current approaches.

545 (465) Design and Conservation (PPRA 844) Fall term. Credit two hours. 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 (466) Documentation for Preservation Planning (PPRA 845) Spring term. Credit two hours. S. W. Jacobs, staff, and visiting lecturers.

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

548 (488) Problems in Modern Architecture Spring term. Credit two hours. Prerequisite: permission of the instructor. C. Rowe.

640 (470) Seminar in Architecture of the Ancient Near East Fall term. Credit four hours. W. Cummer. Prerequisite: Architecture 340 or permission of the instructor. Problems in Near Eastern architectural history.

641 (471) Seminar in Architecture of the Classical World Spring term. Credit four hours. W. Cummer. Prerequisite: Architecture 341 or permission of the instructor. Problems in Greek and Roman architectural history.

[643 (473) Seminar in Medieval Art and Architecture Credit four hours. Prerequisite: permission of the instructor. Not offered in 1974–75.]

646 (476) Seminar in Renaissance Architecture Spring term. Credit four hours. Prerequisite: Architecture 346 or permission of the instructor. C. Otto. Historical problems of European architecture of the fifteenth and sixteenth centuries.

647 (477) Seminar in Baroque Architecture Spring term. Credit four hours. Prerequisite: Architecture 349 or permission of the instructor. C. Otto. Historical problems in European architecture of the seventeenth and eighteenth centuries.

648 (478) Seminar in the History of American Architecture Fall term. Credit four hours. Prerequisite: permission of the 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 (479) Seminar in the History of Modern Architecture Fall term. Credit four hours. Prerequisite: permission of the instructor. Problems in modern art and architecture.

Graduate Courses

740 (467–468) Informal Study in the History of Architecture Throughout the year. Credit

as assigned. Prerequisite: permission of the instructor.

840 (491–492) Thesis in Architectural History Either term. Credit as assigned. Independent study for the master's degree.

940 (497–498) Dissertation in Architectural History Either term. Credit as assigned. Independent research by candidates for the Ph.D. degree.

Design Communication

Sequence Courses

151 Visual Communication I Fall term. Credit three hours. R. E. Messick. Fundamental problems of graphic representation related to the design process, with emphasis on drawing systems, including axonometric and perspective forms.

152 Visual Communication II Spring term. Credit three hours. R. E. Messick, Koplik. Advanced problems in graphic representation, including spatial analysis, two and three dimensional transformation systems, and a short-course in the fundamentals of the photographic process.

Nonsequence Courses

250 Beginning Photography (Art 161) Either term. Credit three hours. Bowman, Koplik, Simian.

A basic course in the techniques of still photography. Instruction will be given in the use of the camera and the darkroom. Emphasis will be placed on using the camera as an adjunct to the student's creative vocabulary rather than as a separate creative end. Students are required to provide their own cameras. A course fee will be charged.

350 Intermediate Photography (Art 162) Either term. Credit three hours. Prerequisite: Architecture 250. Bowman, Simian. Course description same as above.

351 Photographic Tools for Architects Fall term. Credit three hours. Prerequisite: Architecture 250. Messick, Koplik. A lecture-laboratory course in advanced applications of photographic technology, including lighting, copying, and duplicating for both black-and-white and color films, directed toward particular tools of value to architects in documentation, analysis, and presentation of design concepts.

352 Historical Photography Studio Spring term. Credit three hours. Prerequisite: Architecture 250. Bowman.

A lecture-laboratory course dealing with nineteenth- and twentieth-century photography as seen from the point of view of the practicing photographer. Basic lectures will consider the style and attitudes of photographers, and laboratory assignments will involve the making of photographs in the manner of particular photographers.

353 Color Photography Spring term. Credit three hours. Prerequisite: Architecture 250. Bowman.

An advanced lecture-laboratory course in color photography techniques, including processing of color reversal materials, color printing, manipulation techniques, color theory, with emphasis on experimentation and post-visualization in the color process.

354 Photo Process Screen Printing Spring term. Credit three hours. Prerequisites: Architecture 250 and Art 132. Burton.

A lecture-laboratory course investigating the medium of photographic screen process printing, including study of and production with the photomechanical process, and the additive theory of color through pigments.

355 Graphic Design Studio Spring term. Credit three hours. Prerequisite: permission of the instructor. Messick.

An introductory studio-lecture course dealing with the design and preparation of material for reproduction in print media. Studies in typography, commonly available printing processes, and the use of photomechanical methods for reproduction.

357 Fundamentals of Filmmaking Fall term. Credit three hours. Burton.

A lecture-laboratory course in the basic principles of motion film in 16 mm format, both black-and-white and color, including use of the camera and basic editing techniques.

359 Simulation Techniques for Design

Either term. Credit three hours. Prerequisite: Architecture 250 or permission of the instructor. Hascup.

A lecture-laboratory course dealing with two- and three-dimensional simulation techniques as visual tools for design analysis and communication of an architectural idea. Initial emphasis will focus on the design applications of various techniques for simulating architectural space and those elements that affect its final resolution—environmental context, structure, materials, natural and artificial lighting. Investigation of related disciplines concerning presentation techniques and formats utilizing various graphic media, lighting, and photographic techniques.

Advanced Nonsequence Courses

451 Advanced Photography I (Art 261) Fall term. Credit three hours. Prerequisite: Architecture 350. Bowman.

A further investigation of photography and processes introduced in the first year as well as exploration of complex imagery in the silver process.

452 Advanced Photography II (Art 262)

Spring term. Credit three hours. Prerequisite: Architecture 451. Bowman.
Course description same as above.

453 Large Format Photography, Architectural

Spring term. Credit three hours. Prerequisites: Architecture 250 and one 300-level photography course. Bowman, Koplik.

An advanced lecture-laboratory course dealing with the special uses, advantages, and limitations of large format view-camera photography. Emphasis on control of image perspective and depth of field as applied to architectural photography.

455 Media Environments Studio Fall term.

Credit three hours. Prerequisites: Architecture 250 and permission of the instructor. Messick.
A studio course, dealing with programmed multiple projection presentations as communication systems. Students will become familiar with the technology of multiple projection systems, programming techniques, and screen format possibilities through projects investigating the use of multiscreen slides, motion film, and sound in the creation of media environments.

456 Special Project in Photography Either

term. Variable credit hours. Prerequisite: permission of instructor. Registration and credit by arrangement. Student must submit a written project proposal to an instructor in Design Communication for approval before registration is accepted.

457 Special Project in Design Graphics

Either term. Variable credit hours. Prerequisite: permission of instructor. Registration and credit by arrangement. Student must submit a written project proposal to an instructor in Design Communication for approval before registration is accepted.

458 Special Project in Motion Film Either

term. Variable credit. Prerequisite: permission of the instructor. Staff.
Registration and credit by arrangement. Student must submit a written project proposal to an instructor in design communication for approval before registration will be accepted.

459 Thesis Project in Design Communication

Either term. Credit six hours. Prerequisite: design communication majors only.

Nonsequence Course—Media Environments

559 Special Projects in Design Communication Either term. Variable credit hours. Registration and credit by arrangement. Prerequisite: student must submit a written project proposal to an instructor in design communication for approval before registration is accepted.

Architectural Science and Technology

Sequence Courses

261 (703) Introduction to Environmental Science Fall term. Credit two hours. Spring term. T. Eyerman and 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 (704) Introduction to Social Sciences in Design Spring term. Credit two hours. Lecture and discussion. R. MacDougall.
An introduction to concepts and methods in the social sciences for the student in architecture. Attention will be focused on how approaches from anthropology, environmental psychology, and sociology can be utilized in the study and design of the built environment. A major aim of the course is to help the student develop the critical capabilities necessary for evaluating social science literature that is either aimed at an architectural audience or that can be construed as relevant to work in the profession.

360 (605) Building Technology, Materials, and Methods Lecture and workshop. Fall term. Credit three hours. Prerequisites: Architecture 261–262. E. Dluhosch.
Properties of materials, their application to the design of wood, steel and concrete structures. Evaluation of construction methods. Cost factors.

361 (606) Environmental Technology Workshop I Spring term. Credit two hours. Must be preceded or accompanied by Architecture 362. R. Crump.
The acoustical consultant's, the electrical engineer's, and illumination consultant's tasks in relation to the architect's work. Acoustical and lighting design studies utilizing full-scale mock-ups and specific building type studies. Cost factors.

362 (706) Environmental Controls I Spring term. Credit three hours. Prerequisite: Architecture 360. 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. Good and bad examples.

461 (607) Environmental Technology Workshop II Fall term. Credit two hours. Must be preceded or accompanied by Architecture 462. R. Crump.
The mechanical engineer's task and its relation to the architectural design process. Mechanical equipment and its selection, potential developments. Heating 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.

462 (707) Environmental Controls II Fall term. Credit two hours. Prerequisite: Architecture 262. R. W. Crump.
Basic properties and principles of air movement and temperature. Criteria for health, comfort, efficiency. Water use and return as an ecological factor.

464 (608) Technological Integration in Design Lecture. Spring term. Credit two hours. Prerequisite: Architecture 262. E. Dluhosch.
Application of design methodology to the integration of structure, environmental control devices, and construction.

Nonsequence Courses

561–562 (741–742) Special Problems in Architectural Science Throughout the year. Registration and credit by arrangement. Elective. Staff.

662 (640) Environmental Control Systems Spring term. Credit three hours. Prerequisites: Architecture 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.

666 (736) Human Factors in Architecture Spring term. Credit three hours. Open to upperclass and graduate students and to students in related design fields by permission of the instructor. A. Kira.
Introduction to "Human Factors," or "Ergonomics," as it relates to problems of architectural design, detailing, and specification. Normal and special population groups, applications of anthropometric data, activity space requirements, sensory mechanisms, controls and hardware. Emphasis on architectural applications from the viewpoint of user requirements. Lectures, papers, sketch problems.

667–668 (731–732) Architecture in its Cultural Context Seminar. Fall term, Theory; spring term, Method and Problem Solving. Credit three hours. Prerequisite: permission of the instructor. R. D. MacDougall.

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 formulated in the 'little community.' Examples from Asia and the United States.

671 Introduction to Industrialized Building

Fall term. Credit three hours. Permission of instructor. Mr. Dluhosch.

Definition of terms and brief historical survey of evolution of industrialization of the building industry. The influence of natural and man-made resources on the evolution of industrialized building. Survey of state-of-the-art in terms of existing building systems and possible future trends.

672 Industrialized Building

Spring term. Three credit hours. Mr. Dluhosch. Architecture 671 or permission of the instructor.

The study of 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, hardware, and evaluation criteria as part of large series building systems programs. The impact of building industrialization on architectural practice and design.

Graduate Courses

665 (771) Visual Perception and Architecture

Fall term. Credit three hours. Open primarily to graduate students. Prerequisite: permission of the instructor. J. Gibson, R. Crump, E. Messick.

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 towards a group discussion, problem-solving format between architects and perception-oriented psychologists.

761-762 (781-782) Architectural Science Laboratory

Either term. Credit four to six hours. Open to graduate students only. Projects, exercises, and research in the architectural sciences.

763-764 (791-792) Thesis or Research in Architectural Science

Either term. Credit as arranged. Open to graduate students only.

The Profession of Architecture

Sequence Course

480 (808) The Practice of Architecture

Spring term. Credit two hours. A seminar for fourth-year students. T. J. Eyerman.

Devoted to discussion of the organization of the profession of architecture, professional ethics, client relations, and the position of the architect within society. A summary of all the diverse aspects represented within the actual practice of architecture.

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 (309) Color, Form, and Space

Either term. Credit four hours. A study of traditional and contemporary ways of drawing and painting. An analysis of color theory and pictorial space.

610 (398) Seminar in Art Criticism

Either term. Credit two hours a term first year. Credit four hours for third term, when theme is written. May be repeated for credit. Three terms required of Master of Fine Arts candidates. Open to graduate students and B.F.A. candidates in their final semester.

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

Studio Courses in Painting

121-122 (301-302) Introductory Painting

Throughout the year. Credit three hours a term. An introduction to the problems of artistic expression through the study of pictorial composition; proportioning, spacing, and the designing of shapes as applied to abstract and representational design. Students will draw as well as paint.

221-222 (303-304) Second-Year Painting—Materials and Methods

Throughout the year. Credit three hours a term. Prerequisite: Art 121 or 122 or permission of the instructor. Study of traditional and contemporary media.

321 (305) Third-Year Painting

Fall term. Credit four hours. Prerequisite: nine to twelve studio hours depending on major. Continued study of the principles of painting, the selection and expressive use of materials and media. Group discussions and individual criticism.

322 (306) Third-Year Painting

Spring term. Credit four hours. Prerequisite: Art 321. Continued study of the principles of painting,

the selection and expressive use of materials and media. Group discussions and individual criticism.

421 (307) Fourth-Year Painting Fall term. Credit four hours. Prerequisite: Art 322. 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 (308) Senior Thesis in Painting Spring term. Credit four hours. Prerequisite: Art 421. Advanced painting project to demonstrate creative ability and technical proficiency.

720 (390) Graduate Painting Either term. Credit as assigned. May be repeated for credit. For Master of Fine Arts students in painting. 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 Graphic Arts

130 (350) Relief Printing Either term. Credit three hours. Prerequisite: three credit introductory courses or permission of instructor. Study and practice of methods of printing from the raised surface using wood, linoleum, and plastics. Design and production of the art poster employing the relief print in combination with type.

131 (351) Intaglio Printing Either term. Credit three hours. Prerequisite: Three credit introductory course or permission of instructor. Study and practice of methods of printing from below the surface. Emphasis will be on the dry-point, hard and soft ground etching, and aquatint.

132 (353) Introductory Silk-Screen Printing Either term. Credit three hours. 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 others of the more commonly used procedures of serigraphy.

230 (352) Advanced Intaglio Printing Either term. Credit three hours. Prerequisite: Art 131. 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 (354) Plate Lithography Spring term. Credit three hours. Prerequisite: Art 355 or permission of instructor. 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 (355) Stone Lithography Fall term. Credit three hours. Prerequisite: Art 130, 131, or 132.

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

330 (356) Advanced Silk-Screen Printing Either term. Credit three hours. Prerequisite: Art 132.

Students who have successfully completed Introductory Silk-Screen Printing will be allowed to enroll in this course which encourages experimentation with the diverse methods and materials available today. Included will be photographic stencils, three-dimensional printing; and printing on metal, plastic, and textiles.

331 (357) Advanced Printmaking Fall term. Credit four hours. Prerequisite: six hours of graphic art courses.

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

332 (358) Advanced Printmaking Spring term. Credit four hours. Prerequisite: six hours of graphic art courses.

Continuation and expansion of fall term Advanced Printmaking.

431 (359) Senior Printmaking Fall term. Credit four hours. Prerequisite: four courses in printmaking.

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 (360) Senior Thesis in Printmaking Spring term. Credit four hours. Prerequisite: four courses in printmaking. Advanced printmaking project to demonstrate creative ability and technical proficiency.

731-732, 831-832 (392) Graduate Printmaking Either term. Credit as assigned. May be repeated for credit. For Masters of Fine Arts students in graphic arts. Prerequisite: permission of instructor.

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; discussion sessions of work in progress are held.

Studio Courses in Sculpture

141-142 (331-332) Introductory Sculpture Throughout the year. Credit three hours a term. 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 (333-334) Second-Year Sculpture Throughout the year. Credit three hours a term. Prerequisite: Art 141, 142, or permission of the instructor.

The study of more complex problems in design and the interrelation for expressive purposes of design and the materials of sculpture, wood, stone, metals, and some plastic materials.

341 (335) Third-Year Sculpture Fall term. Credit four hours. Prerequisite: Art 242. Continued study of the principles of sculpture, the selection and expressive use of materials and media. Group discussions and individual criticism.

342 (336) Third-Year Sculpture Spring term. Credit four hours. Prerequisite: Art 341. Continuation and expansion of Art 341.

441 (337) Fourth-Year Sculpture Fall term. Credit four hours. Prerequisite: Art 342. 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 (338) Senior Thesis in Sculpture Spring term. Credit four hours. Prerequisite: Art 441. Advanced sculpture project to demonstrate creative ability and technical proficiency.

840 (393) Graduate Sculpture Either term. Credit as assigned. May be repeated for credit. For Master of Fine Arts students in sculpture. 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

161-162 Introductory Photography Throughout the year. Credit three hours a term. A basic course in the techniques of still photography. Instruction will be given in the use of the camera and the darkroom. Emphasis will be placed on using the camera as an adjunct to the student's creative vocabulary rather than as a separate creative end. Students are required to provide their own cameras. A course fee will be charged.

261-262 Second-Year Photography Throughout the year. Credit three hours a term. Prerequisites: Art 161 and Art 162 or permission of the instructor.

A further investigation of photography and processes introduced in the first year as well as exploration of the manipulative aspects of the silver process.

361-362 Third-Year Photography Throughout the year. Credit four hours a term. For photography majors and other qualified students by permission of the instructor. Continued study of the principles of photography and the pursuit of specialized areas. Group discussions and individual criticism.

461-462 Fourth-Year Photography Throughout the year. Credit four hours a term. For photography majors and other qualified students by permission of the instructor. Further study of the art of photography, individual projects leading to a thesis exhibition in the spring semester.

Studio Courses in Drawing

151-152 (341-342) First-Year Drawing Throughout the year. Credit three hours a term. A basic drawing course in the study of the human figure. Studio work provides experiments in visual concentration (memory drawings) and coordination of hand and eye (contour drawings) as well as the opportunity, in long poses, to combine line and tone in drawings where the relation between anatomical and artistic proportion is studied and design elements are stressed. Contemporary and historical examples of figure drawing are analyzed in discussions.

251-252 (343-344) Second-Year Drawing Throughout the year. Credit three hours a term. Prerequisite: Art 151, 152, or permission of the instructor.

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. Students may paint as well as draw.

Graduate Thesis

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

Special Studio Courses

270 (381) Special Studio Either term. Credit as assigned. May be repeated for credit. For transfer students and others whose standing in the professional sequence is to be determined. May be in painting, sculpture, or graphic arts.

370 (401) Studio Concentration Either term. Credit as assigned. May be repeated for credit. Permission of the instructor is required. For B.F.A. degree candidates who wish a greater concentration in drawing, painting, sculpture, or graphics in the upperclass years.

Policy Planning and Regional Analysis

Most courses in the Department of Policy Planning and Regional Analysis are open to students in any college of the University who have fulfilled the prerequisites and who have the consent of the instructor.

410 (410) Introduction to Urban and Regional Theory Fall term. Credit four hours. W. W. Goldsmith.

An eclectic course borrowing theories from economics, sociology, and geography to explain the existence, functioning, and growth of cities. Discussion of why, how, and where people agglomerate, and an attempt to apply theories to currently perceived urban problems. Current issues concerning the urban and regional environment will be reviewed.

419 (419) Informal Study in Urban and Regional Theory Either term. Credit as assigned.

710 (510) Introduction to Urban and Regional Theory Fall term. Credit four hours. 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.

719 (519) Informal Study in Urban and Regional Theory Either term. Credit as assigned.

813 (613) Research Seminar in Urban and Regional Social Structure and Policy Analysis Spring term. Credit three hours. Permission of the instructor is required. P. Clavel. An advanced research seminar designed to discuss and investigate some of the implications of urban and regional social structure on the initiation, formulation, and outcome of public policy. Students will undertake their own exploratory research projects on this subject.

814 (614) Urban Economics I Fall term. Credit two to four hours. Prerequisite: 510, or Economics 311-312 or equivalent. T. Vietorisz. 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

intervals. Topics include: organization of economic activity in space; economics of transport and industrial location; regional interactions and growth policies; urban transport and commuting problems; intrametropolitan industrial location trends; labor problems and migration; economics of the construction industry; urban infrastructure; the economics of housing and urban renewal; the economics of urban services including education, health, police, fire, waste removal, and general government; the costs of social morbidity and the social defense and welfare establishment; the economics of pollution and environmental controls; and the problems of urban finance. These topics will be presented in the light of a central concern with the political economy of metropolitan development and planning. Existing structures and institutions will be appraised from the point of view of their overall social rationality. The impact of planning decisions on economic performance and the distribution of income and political power will be analyzed. Special attention will be paid throughout to problems of race, poverty, the dual economy, and the urban ghetto.

815 (615) Urban Economics II Spring term. Credit two to four hours. Prerequisite: 814. T. Vietorisz.

819 (619) Informal Study in Urban and Regional Theory Either term. Credit as assigned.

[914 (714) Metropolitan Land Use: Economic Analysis Fall term. Credit three hours. Prerequisites: 510, 815, 733, and/or permission of the instructor.

The housing market, land-use competition, 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. Not offered 1974-75.]

915 (715) Location Theory Fall term. Credit three hours. Prerequisites: 510, 733, and Economics 311-312, or equivalent. W. Isard, F. J. Cesario.

Traditional Weberian location doctrine will be covered. Transport orientation, labor orientation, agglomeration, and urban rent theory will be examined. Interregional trade and market and supply area analysis will be treated. Particular attention will be paid to Loschian and Christaller systems of urban places. Dynamic aspects of location and urban theory will be explored, with particular emphasis on changing location and spatial distribution patterns.

916 (716) Advanced Seminar in Urban and Regional Theory I Fall term. Credit two hours. Prerequisite: 510. 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 understanding of intraregional and intraurban distribution of population and economic activity will be reviewed.

917 (717) Advanced Seminar in Urban and Regional Theory II Spring term. Credit two hours. Prerequisite: 916. B. G. Jones. A continuation of Planning 916 concentrating on recent developments.

919 (719) Informal Study in Urban and Regional Theory Either term. Credit as assigned.

Planning Theory and Policy Analysis

420 (420) Policy Planning and Collective Choice Fall term. Credit four hours. D. F. Williams.

An examination of the problems and prospects of strategic choice, planning and action in contexts in which the allocation and redistribution processes are subject to the direct constraints of collective choice and public policy. There will be a fairly heavy emphasis on the selection of appropriate forms and styles of planning, and the operationalization of conceptual schemes. Both theory-based and model-based frameworks for planning and policy development will be formulated, evaluated, and subjected to actual and simulated reality tests.

425 (425) Theories and Strategies of Social Change Spring term. Credit three hours. C. Hershey.

Broadly concerned with social change on the theoretical and strategic, structural and behavioral, and micro and macro levels. The principal thrust will be to evaluate the possibilities for major social, cultural, and political changes within an emergent postindustrial society. The first part of the course will consist of an exploration of long-range structural trends in American society, including the articulation of several alternative futures. Focus will be on some salient aspects of the contemporary American political and social context to explore the philosophical and strategic limits of liberalism. In the last part of the course we will turn our attention to a critical evaluation of several current strategies for social change such as social experimentation, social movements, political protest, citizen participation, advocacy, professional protest, new working class theory, and countercultural communities.

429 (429) Informal Study in Planning Theory and Policy Analysis Either term. Credit as assigned.

720 (520) Policy Planning and Collective Choice Fall term. Credit four hours. D. F. Williams.

An examination of the problems and prospects of strategic choice, planning, and action in contexts in which the allocation and redistribution processes are subject to the direct constraints of collective choice and public policy. There will be a fairly heavy emphasis on the selection of appropriate forms and styles of planning, and the operationalization of conceptual schemes. Both theory-based and model-based frameworks for planning and policy development will be formulated, evaluated, and subjected to actual and simulated reality tests.

721 (521) Planning Theory Spring term. Credit three hours. Prerequisites: 730 and 740. 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 organizational context stressing the impact of alternative organizational models on social decision processes.

729 (529) Informal Study in Planning Theory and Policy Analysis Either term. Credit as assigned.

820 (620) Planning and Organizational Theory Fall term. Credit four hours. Prerequisite: second-year standing. P. Clavel.

A seminar examining organizational and administrative models relevant to plan formulation and implementation. The themes of hierarchy, control, specialization, representation, professionalization, and organizational development are dealt with in the context of planning theory and social system change. Applications are made to such programs as community action, regional development, urban renewal, and land-use control.

821 (621) Politics of the Planning Process Spring term. Credit four hours. Prerequisites: 510 and 721. P. Clavel.

Theories of the planning process are compared with concepts of political process and political change. Points of tension, overlap, and complementarity are examined in the context of city and regional planning and development agencies, intergovernmental relations, the regulatory process, neighborhood and sub-regional development movements, the national planning agencies. Alternative models for the study of such institutions and processes will be assessed for their usefulness as guides to planners and researchers.

822 (622) Techniques of Planning Implementation and Control Fall term. Credit three hours. Prerequisites: 731 and 733. C. Riordan.

The purpose is to examine one subset of new development in interrelated activities. Particular attention will be given to a discussion of the two most well-known versions of the network-based management control system—CPM (Critical Path Method) and PERT (Program Evaluation and Review Techniques). In addition, special attention will be focused upon the use of digital computer simulation as a potentially powerful extension of these systems.

823 Regional Development Administration

Spring term. Credit four hours. 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.

824 (624) Organizational Change and Public Service Delivery Systems

Fall term. Credit three hours. Prerequisite: 721. C. Hershey. An examination of the operation of the urban political system and policy-making process with particular emphasis on the service outcomes of local public bureaucracies in the education, health, welfare, manpower, police, and environmental protection fields. Community organization, citizen participation, new careers, decentralization, and community control will be analyzed from the perspective of organizational change.

829 (629) Informal Study in Planning Theory and Policy Analysis

Either term. Credit as assigned.

920 (720) Seminar in Planning Theory

Fall term. Credit two hours. 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.

929 (729) Informal Study in Planning Theory and Policy Analysis

Either term. Credit as assigned.

Methods for Planning Analysis

430 (430) Mathematical Concepts for Planning

Fall term. Credit one, two or three hours. Prerequisite: permission of the instructor. 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 hour each. Students may register for any or all of these topics.

431 (431) Statistical Analysis for Planning

Spring term. Credit three hours. Prerequisites:

430 or equivalent and permission of the instructor.

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.

433 (433) Planning Analysis

Spring term. Credit four hours. B. G. Jones. Development of techniques for measuring population distributions and migrations, location of economic activity, and the development of spatial models.

436 (436) Introduction to Computers in Planning

Fall term. Credit three hours. S. Saltzman. An introduction to the use of computers in urban problem solving and planning process.

439 (439) Informal Study in Planning Analysis

Either term. Credit as assigned.

730 (530) Mathematical Concepts for Planning

Fall term. Credit one, two, or three hours. Prerequisite: permission of the instructor. 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 hour each. Students may register for any or all of these topics. Mathematics 201, Mathematics for the Social Sciences, is an acceptable substitute for this course.

731 (531) Statistical Analysis for Planning

Spring term. Credit three hours. Prerequisites: 730 or equivalent and permission of the instructor.

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 (533) Planning Analysis

Spring term. Credit four hours. Prerequisite: 731. B. G. Jones. City planning applications of general analytical techniques of social science, population, economic, and spatial models.

736 (536) Introduction to Computers in Planning

Fall term. Credit three hours. S. Saltzman. An introduction to the use of computers in the problem-solving and planning processes. Students will run programs on the Cornell computer using PL/1 or another appropriate programming language. Brief introduction to computer systems and the use of library routines. Advantages and limitations of using computers will be considered.

739 (539) Informal Study in Planning Analysis
Either term. Credit as assigned.

830 Quantitative Techniques for Policy Analysis Spring term. Credit four hours.
D. Lewis.

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

832 Simulation in Planning and Policy Analysis Fall term. Credit three hours. Prerequisites: 731 and 736 or equivalent.
S. Saltzman.

The design and use of simulation models in planning and policy analysis. Methods and techniques for alternative strategies such as discrete stochastic simulation, econometric simulation, and urban dynamics, will be introduced and evaluated. Applications of these techniques in design, land use, regional development, social policy, will be considered. Students are expected to run their own programs on the Cornell computer.

839 (639) Informal Study in Planning Analysis
Either term. Credit as assigned.

930 (730) Seminar in Methods for Planning and Policy Analysis Fall term. Credit two hours. Prerequisites: permission of the 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. Specific topics will be selected at the first meeting of the semester.

932 (732) Techniques of Regional Accounting Fall term. Credit three hours. Prerequisites: 733 and Economics 312 or equivalent.

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 are emphasized as well as methods of estimating flows between regions such as balance of payment accounts.

933 (733) Methods of Regional Analysis Spring term. Credit three hours. W. Isard, F. J. Cesario.

Advanced applications of interregional and regional input-output and linear programming techniques to development problems. Applications of spatial interaction and growth (intertemporal) models to the analysis of urban

and multiregional systems, with particular reference to environmental quality management.

939 (739) Informal Study in Planning Analysis
Either term. Credit as assigned.

Planning Institutions, Programs, and Practice

440 (440) Introduction to Urban Planning Theory and Practice Three credit hours.
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, and their usefulness and applications to planning activities and urban problems will be highlighted. The course will strive to place our concerns with these problems within the context of the process of urban growth and development.

441 (441) Field Studies in Urban Policy Planning Spring term. Credit three hours.
Staff.

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

442 (442) Internship in Urban Studies and Policy Planning Summer term. Credit three to six hours. Staff.

740 (540) Introduction to Planning Institutions Fall term. Credit three hours. B. G. Jones.

A survey of contemporary organizational forms and political forces facilitating and inhibiting the development of planning at the city, state, and regional level. The development of planning practice in the areas of urban land use, regional economic development, health and welfare, and other services. The focus is on subnational planning in the United States, but the national context and other nations are dealt with where appropriate.

741 (541) Planning Practice Spring term. Credit three hours. B. Swift.

Application of planning principles and techniques to community situations including working with town and county governments and planning officials to analyze and evaluate community conditions, problems, goals, priorities, resources, and activities. Development of comparative frameworks for policy analysis.

742 (542) Internship in Planning and Policy Analysis Summer term. Credit three to six hours. Prerequisite: second-year standing.
Staff.

840 (640) Field Problem in Planning Methods

Fall term. Credit three hours. Prerequisite: second-year standing. Staff.

The student is offered the opportunity to apply theories and techniques of analysis and planning to real problem situations. Some sections will have the opportunity of working with low-income groups and developing an understanding of how planners can serve such a clientele. Much of the work will be carried out in cities and towns convenient to Ithaca. Other sections will work on plans and programs related to the efforts of official planning agencies. While the course series has been developed primarily for graduate students in other departments, any nondepartmental student who may wish to enroll should contact the faculty members in charge.

841 (641) Field Problem in Planning Methods

Spring term. Credit three hours. Prerequisite: second-year standing. Staff.

The follow-up of work begun in PPRA 840 to provide continuous planning services to client groups. PPRA 840 is not prerequisite.

842 Seminar on Nonmetropolitan Planning

Fall term. Credit three hours. B. Swift. Limited to fifteen students.

A generalist view of planning in nonmetropolitan areas including the following topics: politics of planning in nonmetropolitan areas; the failure of planning in nonmetropolitan areas; case studies in—jetport siting, vacation housing, health systems, and land-use policies; organization for multigovernmental management of the environment including examples such as Adirondack Park, Finger Lakes, Tug Hill, Catskills; planning strategies in nonmetropolitan areas; measuring the impact of development on nonmetropolitan areas.

844 (644) Design and Conservation (Architecture 545)

Fall term. Credit two hours.

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 (645) Documentation for Preservation Planning (Architecture 546)

Spring term.

Credit two hours. S. W. Jacobs, staff, and visiting lecturers.

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

849 (649) Informal Study in Planning Practice

Either term. Credit as assigned.

949 (749) Informal Study in Planning Practice

Either term. Credit as assigned.

Urban and Environmental Systems Planning

452 (452) Introduction to Environmental Health Policy

Fall term. Credit three hours.

C. Riordan.

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

457 (457) The Public Economy of Urban Areas

Spring term. Credit three hours.

D. F. Williams.

An examination of the structure, function, and impact of the public sector of metropolitan area economies. The framework, theories, and models examined in the course will be specifically related to aspects of the positive and normative rationale behind planning, redistribution and collective choice in the urban public sector.

751 (551) Planning Information Systems

Spring term. Credit three hours. Prerequisite: 736 or equivalent. S. Saltzman.

Will consider the design and use of computer-based information systems for planning and policy analysis. Conventional data processing and more advanced large-scale data base systems of interest to planners will be considered. Technical aspects in the design and structure of such information systems will be introduced along with a variety of applications. Students will be expected to run their own programs on the Cornell computer. Offered in alternate years.

852 (652) Environmental Health Planning

Fall term. Credit two hours. Prerequisite:

second-year standing.

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 (653) Planning and Evaluation of Environmental Health Programs and Projects

Spring term. Credit three hours. Prerequisite:

second-year standing.

The major focus is an examination of the use of quantitative methods and economic analysis as aids to social decision making with regard to action in the area of environmental health. The purpose is to expose the student who already possesses a methodological competence to the application of these methods in the study of the particular problems of environmental health. Topics to be covered include rational, social decision making and environmental health; the economics of environmental quality management; investment models for the size and location of regional systems of waste treatment, water treatment, and solid-waste-

disposal facilities; and selected mathematical and statistical models used to describe, explain, or identify selected environmental health problems.

[854 (654) Systems Analysis in Urban Policy Planning] Fall term. Credit three hours. Prerequisite: some prior work in quantitative methods and policy planning or permission of the instructor. S. Saltzman, D. F. Williams. An examination of the existing and potential uses of systems analysis in policy planning issues. The advantages and limitations of the uses of systems analysis methodology in public policy planning will be explored. Special emphasis will be given to policy aspects of urban problems. Applications of systems analysis to policy questions will be examined. These may include issues in housing, education, health, social services, among others. Not offered 1974-75.]

859 (659) Informal Study in Urban Systems Planning Either term. Credit as assigned.

959 (759) Informal Study in Environmental Health Planning Either term. Credit as assigned.

Regional Economics and Development Planning

460 (460) Regional Economic Development Fall term. Credit four hours. 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 implementations.

469 Informal Study in Development Planning Either term. Credit as assigned.

860 (660) Introduction to Regional Development Planning Fall term. Credit four hours. Prerequisite: second-year standing. W. W. Goldsmith.

Focus will be on problems of and theories about development of lagging, underdeveloped, or poor regions of industrial nations. Readings will survey various theoretical works upon which regional development planning is, or ought to be, based. The latter parts of the course will deal with the difficult transition from theory to planning recommendations and policy implementation. Brief case studies will be used for illustration.

862 Seminar on Science and Technology Policy in Developing Nations Fall term. Credit two hours. 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 will include: alternative choices of technology and the associated impacts,

the role of multinational corporations, government policy-making institutions, manpower development and utilization strategies, and policy instruments.

863 (663) Regional Planning and Development in Developing Countries Spring term. Credit four hours. Prerequisite: second-year standing. W. W. Goldsmith.

Selected theories and development problems from PPRA 860 will be elaborated, deepened, and applied. Several extensive case studies of development planning will be analyzed and evaluated with those theories and with criteria suggested by them. 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.

869 (669) Informal Study in Comparative Planning Either term. Credit as assigned.

963 (763) Planning Techniques for Developing Regions and Small Nations Spring term. Credit four hours. 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, e.g., manufacturing, agriculture, health, education and services, infrastructure, urbanization, exports. The problem will be approached with as much realism as possible in an academic setting, with concentration on a particular region. The final product will be a set of plans. Course requirements include minimal general reading, extensive research on a topic of interest, an interim written and verbal report on the research, and a written final report, including proposals, to be summarized in a verbal presentation.

969 (769) Informal Study in Regional Planning Either term. Credit as assigned.

Social Planning, Health Systems, and Housing

470 (470) Introduction to Social Policy Fall term. Credit three hours. Prerequisites: two introductory social science courses. C. Hershey. Intended as an introduction to fundamental issues of social policy analysis. Alternative approaches to social policy analysis will be outlined and an analytical framework to manpower, social service, education, and income maintenance policies will be developed and applied. Social policy issues will be viewed within the context of both traditional and emergent theories of inequality. Particular em-

phasis will be placed on the limitations of contemporary welfare-state social programs in reducing inequality.

770 (570) Introduction to Social Policy Fall term. Credit three hours. C. Hershey.
See 470 for description.

773 (573) Urban Social Planning Spring term. Credit four hours. D. F. Williams.
A seminar in the theory, process, and methodology of social planning in complex urban systems. The analysis of social planning functions will not be restricted to those areas of concentration that have normally been regarded as the purview of the city planning profession. In examining social planning concepts and the behavior of individuals and agencies in different planning contexts, particular attention will be focused on the microstructural and macrostructural impact and ramifications of certain types of nonobvious social planning.

779 (579) Informal Study in Housing Plans and Programs Either term. Credit as assigned.

871 (671) Seminar in Social Policy Research and Analysis Spring term. Credit three hours.
Prerequisite: 770. 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.

876 (676) Urban Housing Fall term. Credit four hours. D. F. Williams.
A seminar in housing analysis and policy development with specific emphasis on the problems and prospects of the urban housing sector. The course will interface the economic, social, and institutional forces underlying housing demand and supply with real-world problem-solving and exercises in housing data analysis and policy formulation.

877 Health Systems Planning Spring term. Credit three hours. B. Swift.
This seminar is intended to increase understanding of issues, institutions, politics, economics, and social elements involved with planning and administration of health programs. Special emphasis will be placed on planning techniques and methodologies. Visiting practitioners in the field will be invited to make certain presentations. Students are expected to make one presentation and participate in a group project that uses systems techniques for health resource distribution.

879 (679) Informal Studies in Social Planning Either term. Credit as assigned.

970 (770) Colloquium in Social Policy Theory and Practice Fall term. Credit three hours.
Prerequisites: second-year standing and permission of the instructor. Mr. Hershey.
A graduate and faculty level seminar in social policy planning. Each year a major area or issue in social policy will be explored from many perspectives: theoretical, empirical, political, professional, ethical, and moral. Discussion papers and presentations will be sought from faculty, students, and campus visitors.

979 (779) Informal Study in Health Systems Planning Either term. Credit as assigned.

Planning Research

490 (490) Undergraduate Honors Research Either term. Credit as assigned.

898 (698) Thesis Research Fall term. Credit as assigned.

899 (699) Thesis Research Spring term. Credit as assigned.

990 (790) Planning Research Seminar Fall and spring terms. Credit one hour. Registration limited to advanced doctoral candidates. Staff. Presentation and discussion of current departmental research.

999 (799) Dissertation in Urban and Regional Planning Either term. Credit as assigned.
Advanced independent research by candidates for the Ph.D. degree.

Urban Planning and Development

Most courses in the Department of Urban Planning and Development are open to students in any college of the University who have fulfilled the prerequisites and who have the consent of the instructor.

Historical Development of Urban Areas

[400 Historical Development of the World's Cities I] Fall term. Credit four hours.
M. Hugo-Brunet.
Historical methods and research techniques, case studies and aesthetic evaluation, the urban revolution, classical societies, medieval urbanism, the Renaissance and the baroque in Europe, colonization and North America.
Not offered 1974-75.]

[401 Historical Development of the World's Cities II] Spring term. Credit three hours. Prerequisite: permission of the instructor.
M. Hugo-Brunet.

The social, philanthropic, and planning movements from the eighteenth century to World War II; Industrial Revolution and technological change; reform; public health, housing, model industrialists; research techniques; planning pioneers and theorists; garden and lineal cities, high- and low-density solutions; new town theories. Not offered 1974–75.]

[403 Architecture and Planning in the Orient (Architecture 345)] Fall term. Credit four hours. Prerequisite: permission of the instructor. M. Hugo-Brunet.

The evolution of urbanization and architecture in India, China, Cambodia, Japan, and Thailand. Not offered 1974–75.]

[404 Methods of Archival Research (Architecture 542)] Spring term. Credit three hours. 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. Not offered 1974–75.]

[405 History of Colonial Planning] Fall term. Credit four hours. Prerequisite: permission of the instructor. M. Hugo-Brunet.

Colonial city planning and civic design in Africa, America, Asia, and Australia. Not offered 1974–75.]

[406 Introduction to the History of Landscape Architecture and Design] Alternate spring terms. Credit four hours. Prerequisite: permission of the instructor. M. Hugo-Brunet. Classical landscape in the Mediterranean and the Middle East; the Islamic Byzantine tradition; medieval cityscape and the agrarian system; the Renaissance; landscape of gardens in Persia, India, China, Thailand, and Japan. The Victorians; landscape in North America; colonial landscape, the twentieth century; horticulture and techniques; landscape in contemporary planning and architecture. Not offered 1974–75.]

504 Seminar in the History of American City Planning Spring term. Credit three hours. Prerequisite: UPD 400 or permission of the instructor. J. W. Reps.

602 Seminar in American Urban History Spring term. Credit three hours. Prerequisite: permission of the 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, intellectual and social responses to the city.

809 Informal Study in the Historical Development of Urban Areas Either term. Credit as assigned. Staff.

Urban Planning Principles, Theory, and Process

110 Introduction to Urban Planning Spring term. Credit one hour. May not be taken for credit by those who have taken UPD 510. Staff. A concise survey of urban planning and development for students seeking an introduction to the field. Consists of lectures given by various members of the staff and visitors.

[415 Community Planning for Ethnic Minorities—Mainland Puerto Ricans] Fall term. Credit three hours. Staff.

A seminar, lecture, and reading course that will deal with the characteristics of the Puerto Rican community living in mainland cities. Background to contemporary issues; migration patterns and a statistical profile; mainlanders and islanders; Puerto Rican leadership, organizations, and community development projects. Not offered 1974–75.]

510 Introduction to Concepts and Principles of Urban Planning and Development Fall term. Credit four hours. Upperclass undergraduates admitted by permission of the instructors. J. W. Reps, I. R. Stewart.

An examination of city plans and city planning in the United States from the period of colonization to the present time. Following a survey of the history of American planning, the course reviews the major problems of city development and the solutions advanced to improve urban conditions. While major emphasis is placed on issues involving physical development, the course also introduces the student to related social, political, economic, and legal matters with which modern urban planning is concerned. Lectures, seminars, reading, and research papers.

512 Urban Economic Analysis Fall term. Credit four hours. M. Romanos.

The spatial arrangement of urban functions, value as a determinant of land use, measurement methods, urban structures and forms, public interest and controls, urban renewal and redevelopment, social and economic costs and benefits, location of residential and industrial areas and retail centers. In addition, topics will include interregional location theory and review of various techniques of selecting optimum locations, the effects of new plants upon regional development, and economic problems of declining open regions. Knowledge of mathematics and modern quantitative methods is not a precondition for admission, but ability to master them during the course is assumed.

513 Introduction to Human Ecology Fall term. Credit four hours. H. Hammerman.
An examination of the processes and forms of man's adaptation of and to the physical environment. Since the community is the generalized form of this adjustment, the major focus of the course will be on urban society. The concept of an ecosystem will be rigorously examined from the perspectives of biological ecology, cultural anthropology, and urban sociology. The three perspectives will provide increasingly complex examples of the role of organization in the adaption of activity to territory. Imbalanced ecological relationships and the organizational impact of this imbalance is first considered through an examination of agricultural methods, then by examining energy production and waste disposal. A brief overview of regional interactions between cities provides an introduction to the complexities of applying biological models to sociological reality. This is dealt with in greater depth by examining invasion, succession, and competition within metropolitan areas. The readings will include literature representative of the current "ecological crisis" and students will be asked to apply the understanding they have gained from the course to propose solutions to specific planning-related problems. Lectures, discussions, readings, field trips, and research papers.

[515 Community Development Processes and Programs Fall term. Credit three hours. Staff.
Processes of development of community groups and their urban neighborhoods will be examined. The focus will be on the policies and development strategies that are selected and the effectiveness of programs. Of particular interest will be the role that urban minority groups play in the planning and implementation of programs aimed at upgrading the quality of their life and environment. Attention will be given to federal and local programs designed specifically for use by community groups within a larger metropolitan setting. Fieldwork with existing community groups will be an integral part of the course. Not offered 1974-75.]

612 The Urban Development Process Spring term. Credit two hours. Prerequisite: UPD 510 or permission of the 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. Visitors representing these fields of activity will discuss their roles and functions in the urban development process, identify limits on their powers of decision, and indicate how their actions affect others. Assigned readings, seminars, and field trips.

614 Neighborhood Theory Spring term. Credit three hours. H. Hammerman.
Examination of the concept of neighborhood in urban society. While some theoretical orientation placing neighborhoods in the context of the larger urban society will be reviewed, the major portion of the course will deal with empirical investigations of neighborhood satisfaction, cohesion, and organization. The impact of physical design and natural landscape on these three topics will be considered in depth. Review of neighborhood-oriented aspects of the "war on poverty," public housing, and urban renewal. The class will design and execute one piece of research (generally of a laboratory nature) exploring these topics.

[711 Seminar in Ecological Research Fall term. Credit three hours. Open only to advanced graduate students. H. Hammerman.
Introduction to the instructor's on-going investigation of neighborhood groups involved in combating land development in a midwestern city. After consideration of the sociological literature in neighborhood satisfaction, neighborhood interaction, and community organization, the students will take on specific research assignments using the compiled data. Not offered 1974-75.]

819 Informal Study in Urban Planning Principles, Theory, and Process Either term. Credit as assigned. Staff.

Methods and Techniques of Planning Analysis

520 Introduction to Quantitative Techniques in Urban Planning Fall term. Credit four hours. S. Czamanski.

Basic coverage of urban planning applications of population and migration studies, regional economic description methods, regional social accounting including income and product, balance of payments, money flows, inter-industry and wealth accounts, theories and methods of forecasting urban growth, land use, and transportation models. Knowledge of mathematics is not a precondition for admission but the ability to master some during the course is assumed.

522 Methods and Techniques of Urban Land-Use Planning Fall term. Credit three hours. S. Stein.

Surveys, analyses, and plan-making techniques for use in guiding physical expansion and renewal of urban areas; location requirements, space needs, and interrelationships of various classes of land use with special emphasis on residential, commercial, and industrial activities and community facilities; standards and survey methods for determining housing conditions and quality of the residential environment.

524 Workshop in Heuristic Gaming Techniques Spring term. Credit three hours. H. Hammerman.

Simulation gaming has gained a prominent place in planning education. Students will be introduced to a large variety of urban and social simulation games. They will be taught to administer such games and will be given the opportunity to create modifications of existing games and to build their own.

525 Data Interpretation and Presentation in Urban Planning Fall term. Credit three hours. H. Hammerman.

This course concentrates on the use of numerical analysis to make cogent arguments in planning reports. Focusing on the process of report writing itself, the course will discuss sources of planning data and demonstrate ways of using simple statistical procedures to draw inferences from the available data in a way useful for making planning decisions. Methods of graphic and tabular presentation will be emphasized.

[721 Seminar in Regional Social Accounting

Fall term. Credit three hours. S. Czamanski. Advanced seminar in methods of construction and regional application of social accounting. Topics covered include income and product accounts, balance of payments, money flows, and wealth accounting. Extensive references are made to methods used in various countries and to recent regional case studies. Not offered 1974-75.]

821 Seminar in Regional Development Models

Fall term. Credit three hours. Prerequisite: UPD 721 or 822, or equivalent, or permission of the instructor. S. Czamanski. Elements of a model, calibrating and simulation. Treatment of capital accumulation, existing resources, stability, disembodied and embodied technical progress. Vintage models, problems of capital valuation and capacity. Labor and migrations, balanced and unbalanced growth. The Harrod-Domar model, the two gaps, shift analysis. Some two- and multisector models.

822 Seminar in Regional Interindustry Analysis and Programming Spring term.

Credit three hours. S. Czamanski. Advanced treatment of regional industrial structure, methods of construction and applications of input-output, linear programming, integer and nonlinear programming, elements of game theory.

824 Econometric Methods in Regional Planning Spring term. Credit three hours. Continuation of UPD 821. S. Czamanski.

Dynamic elements in regional models, treatment of time, depreciation, replacement, and gestation lags. Linear and nonlinear systems. Elements of regional growth, friction of space,

factor mobility, externalities and allocation of resources, growth poles, industrial complex analysis. Methods of estimating regional models, identification, recursiveness, indirect methods. Some recent regional models.

829 Informal Study in Methods and Techniques of Planning Analysis Either term. Credit as assigned. Staff.

Planning and Development Controls and Implementation

131 Controls and the Planner and Architect

Fall term. Credit three hours. B. Kelly. A broad survey of the constraints upon the architect, planner, and urban designer placed directly by public codes and regulations, and sources of funds, and indirectly by producers, distributors, labor organizations, public agencies, and consumer groups. The aim is to give an understanding of the objectives and methods of the various controls and to suggest steps for coordination, simplification, and rationalization in order to encourage design advances while guarding public safety and welfare.

432 Transportation and the Urban Environment (Architecture 613) Spring term. Credit two hours. S. Stein, P. Cohen (architecture), A. Meyburg (engineering).

A weekly seminar dealing primarily with the problems in United States urban transportation. Minimally technical, the material investigated will include: historic, current, and future modes; aesthetic and environmental conditions; linkage with intercity systems; mass transit versus the private car; the pedestrian; etc. The objectives are to examine broadly transportation within the urban context from an aesthetic, operational, and political viewpoint; to establish dialogues between our different disciplines—architecture, engineering, and planning—and develop an awareness of the problems seen through the eyes of different professionals; to examine the interrelationship of various transportation means and suggest the optimum balance and its advantages. The seminar is offered to upperclass and graduate students and will have sufficient flexibility to permit specific investigations by individual students. Courses, more technically oriented, are available through the Department of Environmental Engineering. There will be no examinations but a term paper, based upon a class presentation, will be required.

434 The Impact and Control of Technological Change (Cosponsored by Science, Technology, and Society.) Spring term. Credit four hours. Visiting speakers and sections. D. Nelkin. Examination of social, environmental, and economic implications of technological change in the United States in the context of present

policies and strategies of control. Several specific cases will be considered in detail followed by a broader investigation of the problems of a modern technological society. Alternative political-economic solutions will be explored. Interdisciplinary, with weekly guest speakers. Students will participate in a research project to develop a case study.

530 Urban and Regional Transportation Planning Fall term. Credit three hours.

M. Romanos.

An extensive examination of the transportation planning process and its interrelationship with comprehensive urban and regional planning. The main targets of the course will be: to communicate the large and increasingly systematic knowledge about travel, land use, and transportation networks; to perceive the capabilities of the existing comprehensive transportation planning processes in determining optimum transportation plans; to analyze the methods and procedures used in planning and evaluating alternative transportation systems; and, to examine the implications of the data and transportation planning processes on the theory and practice of metropolitan and regional planning.

531 Suburbanization and New Communities

Fall term. Credit three hours. Prerequisite: permission of the instructor. I. R. Stewart. Beginning with an investigation of metropolitan growth patterns and the use of regional open space in shaping the form of urban development, the seminar concentrates on the major issues involved in suburban development and role of new communities in accommodating expected future population. Historical and contemporary examples of new towns programs in the United States and abroad are examined, and current and proposed state and federal legislation is reviewed. Seminars, assigned reading, research papers.

532 Socioeconomic Impacts of Transportation Investments on Urban Development

Spring term. Credit three hours. M. Romanos. This course is concerned with the impact of transport investment upon human communities. The topics will range from an examination of macroscalar investment decisions of national transportation policies to microscalar evaluation of socioeconomic impact of individual facilities at the community level. Precisely, the main areas covered will include: national transportation policies and their effects upon economic and social development, regional transportation decisions and models of analysis and prediction of their effects on regional development, metropolitan areas modal investment decisions and their effects on urban morphology, travel patterns and travel behavior as functions of urban form, and, community transportation facilities and their interaction

with the social and economic fabric of urban and rural areas at the community and neighborhood levels.

631 Urban Land Policy and Programs Fall term. Credit three hours. Prerequisite: UPD 632 or permission of the instructor. J. Reps. Consideration of major problems of urban land control and management and possible solutions. Subjects for discussion include taxation as a method of land-use planning, compensation and betterment, large-scale public land acquisition, subsidies and incentives, and acquisition of development rights or easements. Several public planning systems of other countries will be studied, contrasted with the United States, and evaluated.

632 Legal Aspects of Planning Spring term. Credit three hours. Prerequisite: UPD 510 or permission of the instructor. B. Kelly. Legal aspects of preparing and administering zoning ordinances, subdivision regulations, housing codes, official map regulations, and related subjects.

839 Informal Study in Planning and Development Controls and Implementation Either term. Credit as assigned. Staff.

Physical and Aesthetic Aspects of the Urban Environment

540 Introduction to Environmental Planning and Design Fall term. Credit four hours. For graduate planning students. All other students must obtain permission of the instructor. K. Grey.

An introduction to the basic concepts and issues of environmental planning and design. Topics covered will include the structure of space and function and the interrelations between them within the context of a range of designed and undesigned environments. Basic techniques of representation (graphic and non-graphic), analysis, and modeling will be reviewed and an understanding of the design process developed. No previous training in design is required.

541 Planning Design Spring term. Credit four hours. Prerequisite: UPD 540 or background in design. K. Grey, S. Stein. An exploration of typical urban planning problems. Projects will include studies of residential, commercial, industrial, recreational, and other urban land-use activities. Classwork will be in a studio setting. Field surveys, program development, design solutions, implementation programs, report preparation and presentation techniques will be emphasized.

[542 Advanced Planning Design Fall term. Credit four hours. K. Grey, S. Stein. Continuation of the exploration of physical

planning problems found in urban settings, building on the work begun in 541 Planning Design Studio. Increasingly more complex problems will be undertaken to develop greater design skills. Not offered 1974-75.]

Housing, Renewal, and Development

550 Seminar in Housing and Urban Development Fall term. Credit three hours. 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 include both theory and case study analysis of recent American experience in these fields.

551 Social Facilities for Large-Scale Housing Developments Spring term. Credit three hours. Prerequisite: permission of the instructor. B. Kelly.

Analysis of the special problems in urban design and the provision of community facilities resulting from the current encouragement of industrial methods, scale, and speed in housing. Attention will be concentrated on the social requirements encountered in large-scale developments, and the administrative procedures by which these requirements may be met. Experience in European countries, where government agencies directly administer such developments, will be cited.

650 Urban Politics and Planning Spring term. Credit three hours. 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.

859 Informal Study in Housing, Renewal, and Development Either term. Credit as assigned. Staff.

Institutional and Public Facilities Planning

561 Institutional Planning Facilities Spring term. Credit three hours. Prerequisite: permission of the instructor. K. C. Parsons and visitors.

A seminar in programming and area planning of facilities for institutions including universities, medical centers, and churches. Administrative organization, space-use studies, program development, location and function analysis, enrollment projection, and institutional systems. Application of city planning techniques to institutional planning.

869 Informal Study in Institutional and Public Facilities Planning Either term. Credit as assigned. Staff.

Urban Planning Fieldwork and Practice

Fieldwork in urban planning and development problems may be taken upon completion of 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 also be approved in advance.

570 Comprehensive Planning Workshop

Either term. Credit four hours. Prerequisite: UPD 510. S. Stein and staff.

Research and analysis in an urban area leading to the preparation of comprehensive and functional area plans and effectuation programs; lectures, field trips, and individual and group reports.

571 Housing and Urban Renewal Workshop

Spring term. Credit four hours. Prerequisite: UPD 550. S. Stein.

Surveys and analyses of housing and urban renewal problems in specific communities and urban areas. Preparation of plans based upon existing public legislation and funding mechanisms, and the development of new programs for solution of current housing and renewal problems.

572 Community Facilities in Large-Scale Developments

Spring term. Credit four hours. Prerequisite: UPD 551. B. Kelly. Fieldwork section for UPD 551.

[573 Community Organization Workshop]

Either term. Credit four hours. Prerequisite: permission of the instructor. H. Hammerman. A practical course designed for students who intend to work with community groups. It will present two theoretical approaches to community organization and the practical implications of each to the professional committed to intervention. Will largely be a workshop to teach the detailed methods of working with community groups including process recording, planning interventions, working with groups split by factions, professional use of self and the use of resources outside the community. Ethical problems inherent in this kind of work will be extensively discussed. The students will engage in several group observations and play relevant simulation games. Not offered 1974-75.]

574 Program Planning for Minority Groups

Either term. Credit four hours. Prerequisite:

permission of the instructor. S. Stein or staff. Will familiarize students with the practical problems of organization, planning, programming, and development of an urban minority community action group. Students will be offered an opportunity to apply planning skills to help such a group define and meet the needs of its people. An additional objective is to provide the opportunity for students to learn more about a specific minority group, and to begin to understand the cultural, social, and other characteristics of such a population.

575 Historic Area Preservation Fall term. Credit four hours. Prerequisite: permission of the instructor. S. Stein. Preparation of surveys, analyses, plans, and programs for preservation of historic areas of small or large communities.

[576 Urban Communications Workshop] Spring term. Credit four hours. Prerequisite: permission of the instructor. S. Stein or staff. Methods and techniques for developing community information networks for the presentation and understanding of urban planning and development problems, policies, and programs. Special attention will be given to the use of the television media and newspapers in cooperation with local facilities. Not offered 1974-75.]

579 Special Problems in Fieldwork Either term or summer. Credit four to six hours. Staff. Arrangements for enrollment and credit shall be made with the agreement of a faculty member and the approval of the entire urban planning and development faculty.

770 Internship Program in Urban Planning and Development Summer term. Credit three hours. Open to graduate students in planning and others by permission. I. Stewart, staff, and visiting lecturers.

Summer internship in the New York metropolitan area in public or private planning, housing, urban renewal, and development agencies. Positions also available in various functional agencies dealing with transportation, recreation, water resources, etc. Occasional openings with citizen groups and private consulting firms. Full-time work at current salaries supplemented with evening lectures and discussions two evenings a week. In addition, there are several field trips in the New York area and to other east coast cities. (Instruction period for the course in the New York program is limited to July and August.)

772 Internship Program at the Newark Urban Institute Fall term, spring term, or summer. Credit variable by decision of the department faculty. Open to graduate students in planning and others by permission. S. Stein, staff, and visiting lecturers.

Involvement in the planning, policy formulation, and administration of a large American city. The program will expose students to the philosophies and techniques of managing public programs in urban communities. The course work will be in residence in the city of Newark. Students will be assigned as full-time staff members in various city departments or agencies where they will have direct responsibility for defining a project, identifying problems, preparing alternative solutions, and planning new and innovative programs and policies. Supervision will be provided primarily by members of the staff of the city of Newark. In addition, students will participate in academic courses offered on site in Newark by faculty members from the consortium of universities cooperating in the Institute program.

879 Informal Study in Urban Planning Fieldwork and Practice Either term. Credit as assigned. Staff.

Landscape Planning and Design

481 Contemporary Issues in Landscape Architecture Fall term. Credit one hour. J. Gentili, staff, and visitors.

Current issues in landscape architecture will be addressed, including the role of the landscape architect in contemporary society. Recent technological, methodological, and legislative developments will be evaluated in terms of their effects on the role of the landscape architect.

581 Landscape Planning and Design Workshop I Fall term. Credit six hours. J. Gentili, staff, and visitors.

A project-oriented course designed to integrate various disciplinary and professional skills in designing environmental modifications that optimize relationships with ecological systems. Various elements of the land modification process will be addressed, including suitability impact analysis, planning, design, and management. Intended to heighten student awareness of ecological systems factors in planning and design; to develop skills in the practical analysis and synthesis of data and in the verbal and visual communication of alternatives to a client group.

582 Landscape Planning and Design Workshop II Spring term. Credit six hours. J. Gentili, staff, and visitors.

681 Landscape Planning and Design Workshop III Fall term. Credit six hours. J. Gentili, staff, and visitors.

583 Urban Landscape Planning and Design Fall term. Credit four hours. Staff. Planning and design of urban open spaces at various scales, including vest pocket parks,

playgrounds, squares, recreational parks, and park systems. Design based upon appropriate research.

584 Landscape Recreation Planning and Design Spring term. Credit four hours. Staff. Planning and design of general and specialized recreation facilities for state and regional service areas. Design based upon appropriate research.

682 Social Factors in Landscape Design Spring term. Credit four hours. J. Gentili. 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 term. Credit three hours. J. Gentili. Analysis of federal and state environmental legislation as it applies to land use. 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 Thesis Research and Preparation Either term. Credit six hours. Staff.

889 Informal Study in Landscape Planning and Design Either term. Credit as assigned. Staff.

Urban Planning and Development Research

490 Undergraduate Honors Research Either term. Credit as assigned. Staff.

790 Special Projects in Urban Planning and Development Either term. Credit variable to maximum of six hours. Staff.

890 Planning Research Seminar Fall and spring terms. Credit one hour. Staff.

898 Thesis in the History of Urban Development Either term. Credit variable to maximum of ten hours. Staff.

899 Thesis in Urban Planning and Development Either term. Credit six hours. Staff.

998 Dissertation in the History of Urban Development Either term. Credit variable to maximum of ten hours. Staff.

999 Dissertation in Urban Planning and Development Either term. Credit as assigned. Staff.

Cornell University

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W. Donald Cooke, Vice President for Research
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Neal R. Stamp, University Counsel and
Secretary of the Corporation

College Administration

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of the College
Henry W. Richardson, B.Arch., M.Arch., M.R.P.,
Assistant to the Dean for Minority Student
Affairs
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Howard E. Bullock, Clerk of the Works
M. Sophie Newhart, Registrar
Geraldine Patterson, College Bookkeeper
Margaret Webster, Slide Curator

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Jonathan King	Geraldine Knight Scott
Robert S. Kitchen	Erik A. Svenson

Faculty

Architecture

Stuart M. Barnette, B.S. in Arch., Professor of
Architecture, Emeritus
Hubert E. Baxter, B.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 R. Burton, B.Arch., M.F.A., Lecturer in
Architecture
Thomas H. Canfield, B.S. in Arch., Professor of
Architecture
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 Cummey, B.A., M.A., Ph.D., Assistant
Professor of Architecture
Michael D. Dennis, B.Arch., Adjunct Assistant
Professor of Architecture
Eric Dluhosch, B.Arch., M.Arch., Assistant
Professor of Architecture
Joseph Gentili, B.A., M.L.A., Assistant Professor
of Architecture
Donald P. Greenberg, B.C.E., Ph.D., Associate
Professor of Architecture
Keith H. Grey, B.Arch., L.Arch., M.Arch.,
Assistant Professor of Architecture
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
Klaus Herdeg, B.Arch., M.Arch., Associate
Professor of Architecture
Lee H. Hodgden, B.S.Arch.Engr., 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
Wojciech G. Lesnikowski, M.A., M.U. in
Arch., Associate Professor of Architecture
Robert D. MacDougall, B.Arch., Ph.D., Assistant
Professor of Architecture

Archie Mackenzie, B.Arch., Assistant Professor of Architecture
 R. Eugene Messick, B.Prod.Design, Assistant Professor of Architecture
 Christian Otto, B.A., M.A., Ph.D., Assistant Professor of Architecture
 Charles W. Pearman, B.Arch., Professor of Architecture; Associate Dean of the College of Architecture, Art and Planning
 Andrzej Pinno, B.F.A., M.Arch., Visiting Associate Professor of Architecture
 Henry W. Richardson, B.Arch., M.Arch., M.R.P., Assistant Professor of Architecture
 Colin Rowe, B.Arch., M.A., Professor of Architecture
 Francis W. Saul, B.S., M.S., P.E., Associate Professor of Architecture
 Werner Seligmann, B.Arch., Associate Professor of Design
 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
 D. Mattias 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

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 Zevi Blum, B.Arch., Assistant Professor
 John E. Bosson, Jr., M.F.A., Assistant Professor 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
 Friedel Dzubas, Visiting Critic in Art
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 Edward G. Thompson, B.F.A., M.F.A., Assistant Professor of Art
 Phyllis Thompson, B.F.A., M.F.A., Assistant Professor of Art

Policy Planning and Regional Analysis

Barclay Jones, B.A., B.Arch., M.R.P., Ph.D., Chairman; Professor of City and Regional Planning; Associate Director for Training

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 Francis J. Cesario, Ph.D., Visiting Assistant Professor of Regional Science and Planning
 Pierre Clavel, A.B., M.R.P., Ph.D., Associate Professor of City and Regional Planning; Assistant Professor of Rural Sociology
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 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
 David B. Lewis, B.S., M.S., Ph.D., Assistant Professor of City and Regional Planning
 Kermit C. Parsons, B.Arch., M.R.P., Professor of City and Regional Planning; Dean of the College of Architecture, Art and Planning
 Sidney Saltzman, B.S., M.S., Ph.D., Professor of Planning
 Bert Swift, B.A., M.P.A., Ph.D., Assistant Professor of City and Regional Planning; Assistant Professor of Agriculture Extension
 Thomas Vitorisz, S.M., Ph.D., Visiting 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

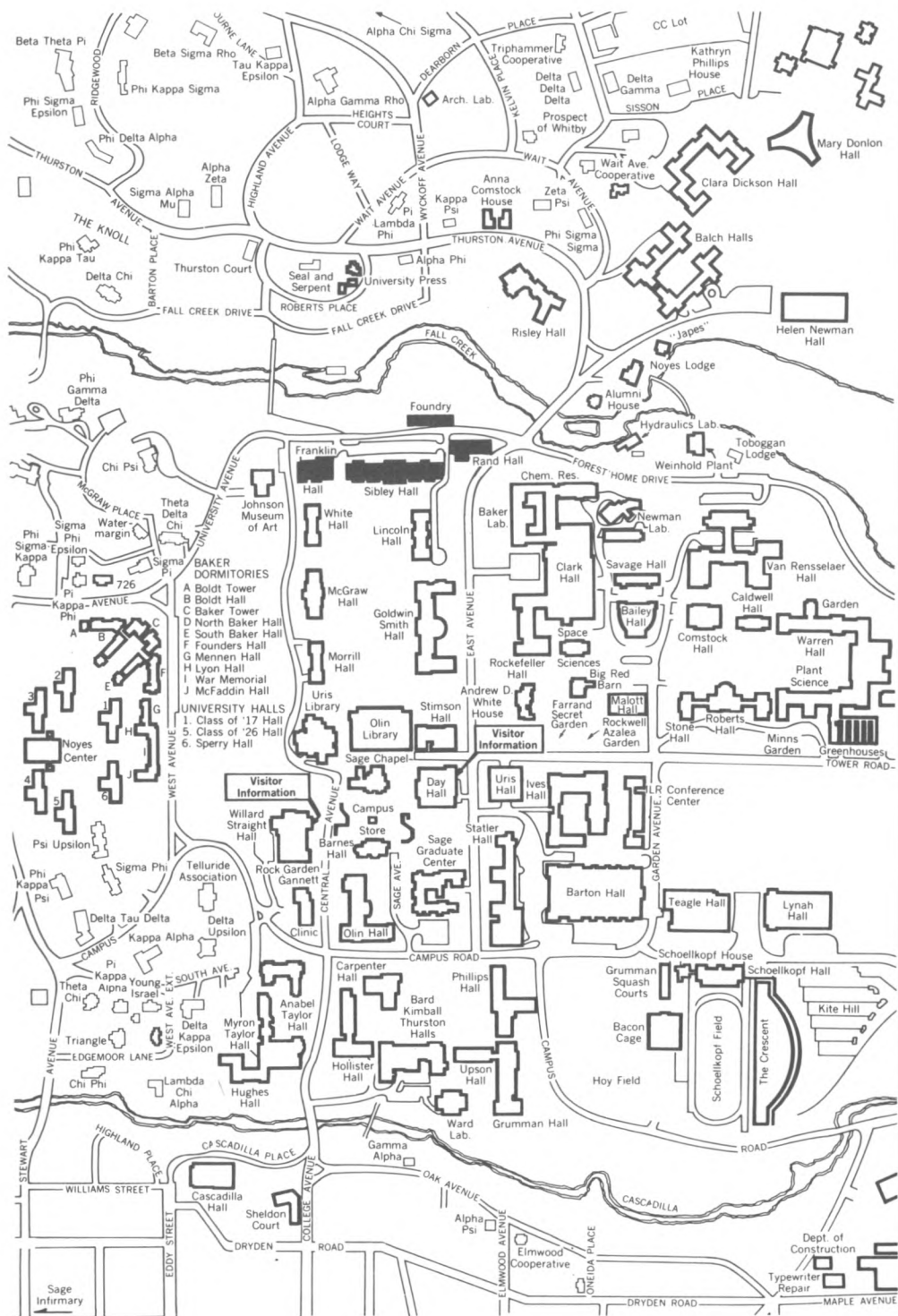
Urban Planning and Development

Stuart W. Stein, B.Arch., M.C.P., Chairman; Professor of Urban Planning and Design
 Stanislaw Czamanski, Lic. es Sc. Comm., Ph.D., Professor of City and Regional Planning
 Joseph Gentili, B.A., M.L.A., Assistant Professor of Landscape Architecture
 Keith H. Grey, B.Arch., M.U.D., Assistant Professor of Architecture
 Howard H. Hammerman, B.A., M.S.W., (Ph.D. pending), Instructor in Urban Planning and Development
 Michael Hugo-Brunt, B.Arch., M.C.D., M.Arch., Associate Professor of City and Regional Planning
 Burnham Kelly, A.B., M.C.P., J.D., Professor of City and Regional Planning
 Thomas W. Mackesey, B.Arch., M.C.P., Professor of Regional Planning, Emeritus
 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 W. Reys, A.B., M.R.P., Professor of City and Regional Planning
 Michael C. Romanos, Dipl.Arch.Eng., M.S.Planning, (Ph.D. pending), Assistant Professor in Urban Planning and Development
 Ian R. Stewart, B.A., M.R.P., Ph.D., Assistant Professor of City and Regional Planning
 Oliver C. Winston, B.A., B.S. in Arch., Lecturer in City and Regional Planning

Elected Members of the Faculty

Estimated Enrollment,
Fall 1974

Marvin I. Adelman, B.S., M.S., Associate Professor in Landscape Architecture	Total Enrollment	637
Joseph A. Carreiro, B.S. in Ed., Professor, Chairman, Design and Environmental Analysis	Undergraduates	460
Irving Lazar, B.A., M.A., Ph.D., Chairman and Professor, Community Service Education	Architecture	370
Martie W. Young, A.B., M.A., Ph.D., Professor, History of Art	Art	90
	Men	310
	Women	150
	Graduates	177
	Architecture	40
	Art	12
	Planning	120
	Landscape Architecture	15
	Men	135
	Women	42



Cornell University

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Field of Education (Graduate)
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Engineering at Cornell
Graduate Study in Engineering and Applied
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New York State School of Industrial and Labor
Relations
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(New York City)
Cornell University—New York Hospital
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New York State Veterinary College

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

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(The writer should include a zip code.)