Columbia University

Graduate School of Architecture and Planning

Bulletin 1975/1976

Directory

POST OFFICE ADDRESS: 405 Avery Hall, Columbia University, New York, N.Y. 10027

TELEPHONE: (Area Code 212) 280–3504

Address inquiries as follows:

ADMISSION • GENERAL INFORMATION • FINANCIAL AID APPLICATIONS • BULLETINS
Office of Architecture Admissions, 400 Avery Hall. Telephone 280–3510

CERTIFICATIONS TO GOVERNMENT AGENCIES
Office of the Registrar—Student Aid Certification, 204 Kent Hall. Telephone 280–3242

EMPLOYMENT (PART TIME)
Student Employment Office, 206 East Hall. Telephone 280–2391
Office of the Dean, 405 Avery Hall. Telephone 280–3504

FOREIGN STUDENTS' ADVISORY SERVICE
Office of the Foreign Student Adviser, 106 East Hall. Telephone 280–3591

HEALTH SERVICE
Columbia University Health Service, St. Luke's Hospital, 1091 Amsterdam Avenue (between 113th and 114th Streets), New York, N.Y. 10025. Telephone 870–6566

HOUSING ON CAMPUS
For men and married graduate students: Residence Halls Office, 125 Livingston Hall. Telephone 280–2775
For women: Johnson Hall Office, 411 West 116th Street, New York, N.Y. 10027. Telephone 280–4494

HOUSING OFF CAMPUS
International House, 500 Riverside Drive, New York, N.Y. 10027. Telephone 666–7600
Registry of Off-Campus Accommodations, McBain Hall, 562 West 113th Street, New York, N.Y. 10025. Telephone 280–2773

PAYMENT OF FEES
Office of the Bursar, 210 Kent Hall. Telephone 280–3728

REGISTRATION • WITHDRAWAL NOTICES
Office of the Registrar, 208 Philosophy Hall. Telephone 280–3931

TRANSCRIPTS OF RECORDS
Office of the Registrar, 201 Philosophy Hall. Telephone 280–3231

COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

GRADUATE SCHOOL OF ARCHITECTURE AND PLANNING

1975/1976

CONTENTS

THE GRADUATE SCHOOL OF ARCHITECTURE AND PLANNING

Philosophy

The Graduate School of Architecture and Planning comprises three distinctive but cooperating divisions: Architecture, Architectural Technology, and Urban Planning. The educational disciplines concentrated within each of these divisions deal in different ways with one general problem area: man and his environment. The presence of the three areas of study within a single school makes possible a better understanding of the forces entering into the creation of environment and the interdependency of these forces.

In each division, regardless of the degree program offered, it is the intention to provide the student with the information and strategies to enable him, as a professional, to deal responsibly with the problems that confront man in his environment. All of these problems are approached from points of view that take into account their theoretical bases as well as the actual constraints involved in problem solving in the real world. A major concomitant of this attitude is the implicit mandate that no planning, architectural, or technological problem be undertaken unless a major component of its solution provides the community, in its narrowest as well as in its broadest sense, with results permanently useful and beneficial to all.

The School has inaugurated a realistic and comprehensive set of programs in order to help the student to overcome the restrictions imposed by a narrow conception of his professional role, thereby encouraging him, as a graduate, to use his unique talents to bring about positive structural change within our society.

Goals

The following are the general goals of the School and the specific educational aims and activities by which they are implemented. It must be emphasized that these activities are not discrete; they interact and reinforce one another. The curriculum is of course the vehicle that concretely expresses and realizes these objectives.

1. In order to provide the atmosphere and opportunity for the intellectual growth and development of all students and faculty, the School offers sequential courses, which correspond to student needs and capabilities, and staffs these offerings with instructors who are committed to the general goals of the School and are capable of rigorous and nondoctrinaire academic leadership.

2. In order to develop new knowledge that will materially add to the vitality both of the profession and of society as a whole, the School promotes basic research in the fields of architecture and environmental design and planning.

3. In order that the School may function as an integral and contributing part of the intellectual community of the University, programs and curricula are formulated that symbiotically relate to other activities in the University—emphasizing the traditionally interdisciplinary nature of the fields of architecture and environmental design and planning.

4. In order to serve broadly defined social purposes, the program of the School focuses on contemporary problems relating to urban and rural man-made and natural environments, toward the solution of which the School utilizes resources outside the University and engages in the dissemination of socially useful information.

History

A program in architecture was first established at Columbia College in 1881, as an adjunct to the School of Mines. William R. Ware, a disciple of the first American student at the French *Ecole des Beaux-Arts,* was the director of the new four-year curriculum leading to a degree of Bachelor of Philosophy.

The first class consisted of two students and met in a former asylum. In 1902 the School of Architecture finally realized complete independence as an entity in the University organization, and in 1912, with an enrollment of 140, the School moved into its new quarters, Avery Hall, designed by McKim, Mead, and White.

In 1922 William A. Boring became the first dean of the Faculty of Architecture. He foresaw the need for a department of town planning to provide instruction in defining the economic necessities of the community and the safety, health, and other requirements of the individual, and in the devising of plans to satisfy these needs. In this he anticipated the initial offering in 1935 of courses in town planning at the School of Architecture. In 1973, in recognition of the growing importance of the urban planning program in the curriculum and in accord with the decision of the School to offer only graduate degrees, the name of the School was changed to the Graduate School of Architecture and Planning.

The first instance of the School's direct involvement in community service occurred in 1917. When St. Luke's Hospital in New York City proposed to erect an additional building adjacent to its existing facilities, to serve as a war hospital, the School of Architecture at Columbia was requested by the hospital authorities to aid in determining the feasibility of proceeding with the project. The School submitted a group of studies, in the form of eight-day problems, of such excellence that it was designated as architect of the project. This tradition of education and public service continues to this day as the students and faculty of this school continue to participate in a wide range of architecture, planning, and technology programs for the benefit of the community of which it is a part.

Facilities and Resources for Study

THE SCHOOL

The School, located in its own building, Avery Hall, has design studios, classrooms, a lounge, exhibition galleries, a completely equipped workshop, audio-visual facilities, and a photography laboratory.

The School and the Avery Architectural Library in Avery Hall are now undergoing a four-million-dollar expansion and modernization program. Construction commenced in 1974.

AVERY LIBRARY

The resources of the world's leading architectural library, the Avery Memorial Library, are available to the students of the School. Founded by Samuel Putnam Avery in 1890 as a research collection of the important books on architecture and the related fields, it has since grown into what can be called the national library of the profession. It is ranked by scholars from all over the world as the outstanding international research center on the history of architecture. Its holdings consist of over one hundred thousand books and periodicals on architecture, urban planning, archaeology, the decorative arts, and a broad variety of related background material. The contents range from the first published book on architecture, L. B. Alberti's *De Re Aedificatoria* (1485), to a unique collection of books on the contemporary architectural movement. In addition, the library has over twenty thousand original architectural drawings, collections of prints, and rare photographic material. Avery Library also contains the most extensive and up-to-date periodical catalogue in the field of architecture.

WARE MEMORIAL LIBRARY

The Ware Memorial Library, adjacent to the comprehensive studios, is designed as a circulating library for the everyday use of the students. It contains more than two thousand books and the major professional periodicals from the United States and Europe.

CENTER FOR COMPUTING ACTIVITIES

The Columbia University Center for Computing Activities, between Uris and Havemeyer Halls, has available advanced digital computing equipment (at present, principally an IBM System/360 Model 75 and a System/360 Model 91) and related auxiliary equipment for use in academic research projects and in other educational activities requiring computing. Professional programmers are available at the Center to advise and guide persons who use the equipment. Short, noncredit courses are offered by the staff of the Center for qualified students and faculty members.

THE UNIVERSITY

To the resources of the city and the School are added the resources of a great university and its numerous divisions and departments, including the School of Engineering and Applied Science, the School of Public Health, and Teachers College. The special and unique advantages of Avery Library are enhanced by the availability of the other libraries of the University.

WILLIAM KINNE FELLOWS TRAVELING FELLOWSHIPS

The School is the beneficiary of a considerable bequest in honor of William Kinne Fellows that has as its purpose the enrichment of the student's education through

travel. A number of fellowships for the study of architecture, including planning and other specialized aspects of architecture, are awarded annually to graduating students. Applications from members of the graduating class will be considered for postgraduate travel and for travel during the summer preceding the final year of study. Specific requirements and guidelines will be announced during the academic year.

Programs and Degrees

DIVISION OF ARCHITECTURE

Master of Architecture Degree

Master of Science Degree in Architecture and Urban Design

Master of Science Degree in Health Services Planning and Design

Master of Science Degree in Historic Preservation

DIVISION OF ARCHITECTURAL TECHNOLOGY

Master of Science Degree in Architectural Technology

DIVISION OF URBAN PLANNING

Master of Science Degree in Urban Planning

THROUGH THE GRADUATE SCHOOL OF ARTS AND SCIENCES

Doctor of Philosophy Degree

JOINT DEGREE PROGRAMS

Master of Architecture Degree—Master of Science Degree in Urban Planning

Master of Science Degree in Architectural Technology—Master of Science Degree in Civil Engineering (in conjunction with the School of Engineering and Applied Science)

Master of Science Degree in Urban Planning—Master of Business Administration Degree (in conjunction with the Graduate School of Business)

Master of Science Degree in Urban Planning—Juris Doctor Degree (in conjunction with the School of Law)

Master of Science Degree in Urban Planning—Master of Public Health Degree (in conjunction with the School of Public Health)

Master of Science Degree in Urban Planning—Master of Science in Social Work (in conjunction with the School of Social Work)

FACULTY OF ARCHITECTURE AND PLANNING

William J. McGill, Ph.D., L.H.D., LL.D. *President of the University*

Wm. Theodore de Bary, Ph.D., L.H.D., D.Litt. *Executive Vice President for Academic Affairs and Provost of the University*

James S. Young, Ph.D. *Deputy Vice President for Academic Affairs*

James Stewart Polshek, B.Arch. *Dean of the Faculty of Architecture and Planning*

Harold K. Bell. *Professor of Urban Planning*

B.B.A., College of the City of New York, 1947. Founding president, Module Communities, Inc., a H.U.D. "Operation Breakthrough" award winner.

J. Max Bond, Jr. *Associate Professor of Architecture*

B.A., Harvard, 1955; M.Arch., 1958. Fulbright Fellow, France, 1958–1959. Member, American Institute of Architects. Registered architect.

Elaine Dowe Carter. *Adjunct Associate Professor of Urban Planning; Assistant Dean for Urban Development*

B.A., Howard, 1952; M.A., Boston, 1962. Member, American Society for Training and Development; American Sociological Association; National Association of Community Development; Organization Development Network.

Victor F. Christ-Janer. *Adjunct Professor of Architecture*

B.F.A., Yale, 1942; B.Arch., 1947; D.F.A. (hon.), Lake Erie, 1967. Danforth Lecturer. Member, American Institute of Architects. Registered architect. N.C.A.R.B. certificate.

George R. Collins. *Professor of Art History*

B.A., Princeton, 1939; M.F.A., 1942.

David G. De Long. *Assistant Professor of Architecture*

B.Arch., Kansas, 1962; M.Arch., Pennsylvania, 1963. Fulbright Scholar, 1967–1968. Member, Society of Architectural Historians. Registered architect.

Stanton Eckstut. *Associate Professor of Architecture*

B.Arch.Eng., Pennsylvania State, 1965; B.Arch., Pennsylvania, 1968. Principle Urban Designer, City of New York. Registered architect. N.C.A.R.B. certificate.

James Marston Fitch. *Professor of Architecture*

Alabama, 1926; Tulane, 1928. Director, American Society of Architectural Historians; Municipal Art Society; Victorian Society of America. Member, National Committee, International Commission of Monuments and Sites; Advisory Council on Historic Preservation. Associate member, American Institute of Architects.

Kenneth Frampton. *Associate Professor of Architecture*

Dipl.Arch., Dipl.Trop., Architectural Association (London), 1956. A.R.I.B.A., 1957. Fellow, The Institute for Architecture and Urban Studies, New York. AIA/ACSA Teachers' Seminar Planning Committee, 1969–1970. Member, Conference of Architects for the Study of the Environment; Society of Architectural Historians. Loeb Fellow in Advanced Environmental Studies, 1973.

Romaldo Giurgola. *Ware Professor of Architecture*

Architect, Rome, 1948; M.S., Columbia, 1951. Member, American Institute of Architects; Italian Order of Architects. Registered architect. N.C.A.R.B. certificate.

Sigurd Grava. *Professor of Urban Planning*

B.C.E., College of the City of New York, 1955; M.S., Columbia, 1957; Ph.D., 1965. William Kinne Fellows Traveling Fellow, 1958. Member, American Institute of Planners; American Society of Civil Engineers. Licensed professional planner.

Albert O. Halse. *Professor of Architecture*

B.Arch., New York University, 1940; M.A., 1944; Ed.D., 1952. Member, American Institute of Architects; American Institute of Interior Designers. Registered architect.

Cyril M. Harris. *Professor of Architecture and Electrical Engineering; Chairman, Division of Architectural Technology*

B.A., California (Los Angeles), 1938; M.A., 1940; Ph.D., Massachusetts Institute of Technology, 1945. Fellow, Acoustical Society of America; Institute of Electrical and Electronic Engineers. Honorary member, Audio Engineering Society. Director, the Acoustics Laboratory.

Klaus Herdeg. *Associate Professor of Architecture*

B.Arch., Cornell, 1963; M.Arch., Harvard, 1964. Member, Swiss Society of Architects and Engineers. Wheelwright Fellow, Harvard, 1974–1975. Registered architect.

Ghislaine Hermanuz. *Assistant Professor of Architecture*

Dipl.Arch., Polytechnic Institute of the University of Lausanne, 1967; M.S., Columbia, 1970. Member, Société d'Architectes et d'Ingénieurs; Société des Ingénieurs Civils de France. Registered architect, Switzerland.

Ada Karmi-Melamede. *Adjunct Professor of Architecture*

B.A. in Arch., Technion-Israel Institute of Technology, 1961.

Robert Kolodny. *Assistant Professor of Urban Planning*

B.A., Antioch, 1962; M.C.P., Pennsylvania, 1967, Ph.D., Columbia, 1974. Sears Roebuck Fellow, 1965–1967. Member, American Institute of Planners; American Society of Planning Officials; National Association of Housing and Rehabilitation Officials.

Alexander Kouzmanoff. *Professor of Architecture; Chairman, Division of Architecture*

B.S., Illinois, 1939; M.S., 1949. Member, American Institute of Architects. Registered architect. N.C.A.R.B. certificate.

R. Yin-Wang Kwok. *Assistant Professor of Urban Planning*

Dipl.Arch., Polytechnic (London), 1963; Dipl.Trop., Architectural Association (London), 1967; M.S., Columbia, 1969; M.S., 1969; Ph.D., 1973. William Kinne Fellows Traveling Fellow, 1969. A.R.I.B.A.

John M. McCormick. *Adjunct Professor of Architecture*

B.S., Villanova, 1956; M.S., Columbia, 1957; Eng. Sc.D., 1961. Member, American Society of Civil Engineers; Sigma Xi. Registered professional engineer.

George J. Mann. *Associate Professor of Architecture and Planning; Director, Health Services Planning and Design Program*

B.Arch., Columbia, 1961; M.S., 1962. Member, National AIA Committee on Architecture for Health; president (1970). Member, Committee on Health Environment. Personal Member, American Association for Hospital Planning.

Peter Marcuse. *Professor of Urban Planning; Chairman, Division of Urban Planning*

B.A., Harvard, 1948; J.D., Yale, 1952; M.A., Columbia, 1963; M.U.S., Yale, 1968; Ph.D., California (Berkeley), 1972. Member, Connecticut Bar Association; National Housing Conference; National Association of Housing and Re-Development Officials.

Michael Mostoller. *Associate Professor of Architecture*

B.S., Rensselaer Polytechnic Institute, 1960; B.Arch., 1964; M.Arch., Harvard, 1969. Registered architect. N.C.A.R.B. certificate.

Adolf K. Placzek. *Adjunct Professor of Architecture*

Vienna, 1931–1938; B.S., Columbia, 1942.

Richard A. Plunz. *Associate Professor of Architecture*

B.S., Rensselaer Polytechnic Institute, 1965; B.Arch., 1966; M.Arch., 1967.

Jan Hird Pokorny. *Professor of Architecture*

Engineer-Architect, Polytechnical University (Prague), 1938; M.S., Columbia, 1941. Fellow, American Institute of Architects. Member, National Institute of Architectural Education. Commissioner, Art Commission of the City of New York. Registered architect. N.C.A.R.B. certificate.

James Stewart Polshek. *Professor of Architecture; Dean of the Faculty of Architecture and Planning*

B.Arch., Yale, 1955; B.S., Case Western Reserve, 1973. Fulbright Fellow, 1956. Fellow, American Institute of Architects. Registered architect. N.C.A.R.B. certificate.

Vernon Ben Robinson. *Adjunct Professor of Urban Planning*

B.A., Morgan State, 1957; M.S.W., Wisconsin, 1962. National Urban Fellow.

Theodor K. Rohdenburg. *Professor of Architecture*

B.Arch., Columbia, 1937. Member, American Institute of Architects; Association of Collegiate Schools of Architecture; American Arbitration Association. Registered architect.

Loes Schiller. *Assistant Dean for Admissions, Financial Aid, and Student Affairs*

Dipl.S.W., Sociale Akademie (The Hague), 1953.

Robert A. M. Stern. *Assistant Professor of Architecture; Representative for Columbia College*

B.A., Columbia, 1960; M.Arch., Yale, 1965. Member, American Institute of Architects. Registered architect.

Charles W. Thurston. *Professor of Architecture*

B.S., Union (Schenectady), 1943; M.S., Columbia, 1950; Ph.D., 1958. Member, American Society of Civil Engineers; American Concrete Institute; American Society for Engineering Education; Society for Experimental Stress Analysis; Sigma Xi. Registered professional engineer.

Danforth W. Toan. *Adjunct Professor of Architecture*

B.A., Dartmouth, 1940; B.Arch., Columbia, 1949. Member, American Institute of Architects. Registered architect. N.C.A.R.B. certificate.

Other Officers of Instruction

Ursula L. Berens. *Lecturer in Architecture*

B.A., Wellesley, 1951; M.Arch., Yale, 1956. Registered architect.

Horst Berger. *Adjunct Professor of Architecture*

Dipl.Ing., Technische Hochschule Stuttgart (Germany), 1954. Member, American Concrete Institute. Registered engineer.

Ellen Perry Berkeley. *Adjunct Associate Professor of Architecture*

B.A., Smith, 1952. Harvard Graduate School of Design, 1952–1955. Loeb Fellow in Advanced Environmental Studies, 1973. Former senior editor of *Architectural Forum;* currently on editorial staff of *Architecture Plus.*

Christine Boyer. *Adjunct Assistant Professor of Urban Planning*

B.A., Goucher, 1961; M.S., Pennsylvania, 1964; M.C.P., Massachusetts Institute of Technology, 1968; Ph.D., 1972.

Roberto G. Brambilla. *Senior Research Associate, Center for Advanced Research in Urban and Environmental Affairs*

Laurea in Arch., Polytechnic Institute of Milan, 1963; M.Arch. in U.D., Harvard, 1970. Guggenheim Fellow, 1974. Registered architect, Italy.

Joseph T. Butler. *Adjunct Associate Professor of Architecture*

B.S., Maryland, 1954; M.A., Ohio, 1955; M.A., Delaware, 1957. Winterthur Fellow. Member, National Arts Club; Victorian Society in America; Furniture History Society; Irish Georgian Society; American Collectors.

Robert A. Chapman. *Adjunct Professor of Architecture*
B.M., M.A., Oxford, 1943; M.Arch., Harvard, 1950. Member, American Institute of Architects. Associate member, American Association of Hospital Consultants. Registered architect.

Francois Confino. *Lecturer in Architecture*
Dipl.Arch., Swiss Federal Institute of Technology (Zurich), 1970.

Alexander Cooper. *Adjunct Professor of Architecture; Director, Urban Design Program*
B.A., Yale, 1958; M.Arch., 1962. Commissioner, New York City Planning Commission.

Paul Davidoff. *Adjunct Professor of Urban Planning*
B.A., Allegheny, 1952; M.C.P., Pennsylvania, 1956; LL.B., 1961.

Daniel C. Dunham. *Lecturer in Urban Planning*
B.S., Wisconsin, 1950; M.Arch., Harvard, 1959. Fulbright Scholar, School of Tropical Architecture, London, 1960.

Norman I. Fainstein. *Associate Professor of Sociology*
B.S., Massachusetts Institute of Technology, 1966; Ph.D., 1971. Research Associate, Bureau of Applied Social Research.

Susan Fainstein. *Adjunct Associate Professor of Urban Planning*
B.A., Radcliffe, 1960; M.A., Boston, 1962; Ph.D., Massachusetts Institute of Technology, 1971. Research Associate, Bureau of Applied Social Research.

William G. Foulks. *Lecturer in Architecture*
B.Arch., Michigan, 1968; M.A., Columbia, 1972.

David H. Geiger. *Adjunct Professor of Architecture*
B.S., Drexel Institute of Technology, 1958; M.S., Wisconsin, 1960; Ph.D., Columbia, 1967. William Kinne Fellows Traveling Fellow, 1967. Member, American Concrete Institute; American Society of Civil Engineers. Chairman, Air Kinetics Committee, B.R.I., National Academy of Sciences. Registered engineer.

Peter Gisolfi. *Adjunct Assistant Professor of Architecture*
B.A., Yale, 1966; M.Arch., 1970; M.L.A., Pennsylvania, 1973. Registered architect.

Frank P. Grad. *Professor of Law*
B.A., Brooklyn, 1947; LL.B., Columbia, 1949.

Frances Halsband. *Lecturer in Architecture*
B.A., Swarthmore, 1965; B.Arch., Columbia, 1968.

Morrison H. Heckscher. *Lecturer in Architecture*
B.A., Wesleyan, 1962; M.A., Delaware, 1964. Director, Society of Architectural Historians; President, New York Chapter. Curator, American Wing, Metropolitan Museum of Art. Member, American Institute of Architects. Registered architect.

Robert M. Heller. *Adjunct Associate Professor of Architecture*
B.A., Columbia, 1963; LL.B., 1966; Kent Scholar. Member, New York Bar; Association of the Bar, City of New York. Formerly, Assistant to the Mayor of New York City for Housing, City Planning, Model Cities, and Transportation.

John A. James. *Adjunct Assistant Professor of Architecture*
B.S., City College, 1960; M.Arch., Harvard, 1971.

Edgar Kaufmann, Jr. *Adjunct Professor of Art History and Architecture*
D.F.A., Allegheny, 1963. Apprenticed to Frank Lloyd Wright, 1934–1935. Director, Department of Industrial Design, Museum of Modern Art. Honorary member, American Institute of Architects. Vice-President, International Council of Societies of Industrial Design.

Frank S. Kristof. *Adjunct Professor of Urban Planning*
B.B.A., College of the City of New York, 1942; M.S., Columbia, 1947; Ph.D., 1952.

Matthys P. Levy. *Adjunct Professor of Architecture*

B.C.E., College of the City of New York, 1951; M.S., Columbia, 1956; C.E., 1962. Fellow, American Society of Civil Engineers. Member, Architectural League. Registered engineer.

Joseph M. Lubart. *Associate Clinical Professor of Psychiatry*

B.A., Columbia, 1938; M.A., Pennsylvania, 1939; M.D., New York Medical College, 1943; Certificate in Psychoanalytic Medicine, Columbia University Psychoanalytic Clinic for Training and Research, 1953. Member, American Psychoanalytic Association; Association for Psychoanalytic Medicine; Fellow, American Psychiatric Association; Diplomate, American Board of Psychiatry and Neurology.

Robert McNulty. *Adjunct Associate Professor of Architecture*

B.S., California (Berkeley), 1962; J.D., 1965; Loeb Fellow, Harvard University Graduate School of Design, 1973–1974.

Theodore Maggos. *Adjunct Assistant Professor of Architecture*

B.Arch., Western Reserve, 1964.

Paul Marantz. *Adjunct Associate Professor of Architecture*

B.A., Oberlin, 1960.

Robert E. Meadows. *Lecturer in Architecture*

B.S.Arch., Cincinnati, 1967; M.S., Columbia, 1968.

William Meyer. *Adjunct Assistant Professor of Architecture*

B.Arch., Minnesota, 1967; M.Arch., Massachusetts Institute of Technology, 1968; M.S., 1974.

Kellis E. Parker. *Associate Professor of Law*

B.A., North Carolina, 1964; J.D., Howard, 1968.

Charles E. Peterson. *Adjunct Professor of Architecture*

B.A., Minnesota, 1928. Fellow, American Institute of Architects. Past president, Association for Preservation Technology (Canadian-American); Society of Architectural Historians. Member, U.S. ICOMOS Committee; U.S. International Centre Standing Committee. Registered architect.

T. Merrill Prentice, Jr. *Adjunct Associate Professor of Architecture*

B.A., Yale, 1953; M.Arch., 1960. President, Municipal Art Society of New York.

Theodore H. M. Prudon. *Senior Research Associate in Architecture*

M.A., Delft University of Technology, 1969; M.S., Columbia, 1972. William Kinne Fellows Traveling Fellow, 1972. Member, Dutch Society of Architects.

J. Woodson Rainey, Jr. *Adjunct Assistant Professor of Architecture*

B.F.A., Utah, 1964; B.Arch., 1966. Alpha Rho Chi Medal, 1966. Burch Birdett Long Rendering Prize, 1971.

Chester Rapkin. *Adjunct Professor of Urban Planning*

B.S., College of the City of New York, 1939; Ph.D., Columbia, 1953. Member, American Institute of Planners. Commissioner, New York City Planning Commission.

Eugene Raskin. *Adjunct Professor of Architecture*

B.A., Columbia, 1930; B.Arch., 1932. Fellow, Institute of Arts and Archaeology, Paris, 1932. Langley Fellow, American Institute of Architects, 1951. Member, Author's League of America; American Institute of Architects. Registered architect.

George Raustiala. *Lecturer in Architecture*

B.Arch., Cooper Union, 1972.

James V. Righter. *Lecturer in Architecture*

B.A., Harvard, 1960; M.Arch., Yale, 1970.

Ovadia A. Salama. *Adjunct Associate Professor of Urban Planning*

B.S., Paris, 1960; M.S., Ecole Nationale des Ponts et Chaussées (Paris), 1963; M.A., Pennsylvania, 1969; Ph.D., 1971. Member, Regional Science Association.

Mario G. Salvadori. *Special Lecturer; James Renwick Professor Emeritus of Civil Engineering and Architecture*

D.C.E., Rome, 1930; D.Math., 1933; Libero Docente in Theory of Structures, 1937. Fellow, American Society of Civil Engineers; American Society of Mechanical Engineers; New York Academy of Sciences. Member, American Concrete Institute; International Association of Shell Structures; International Association of Bridge and Structural Engineering. Registered professional engineer.

Frank Emile Sanchis. *Lecturer in Architecture*

B.Arch., Pratt Institute, 1967; M.S., Columbia, 1969. Member, American Institute of Architects; National Trust for Historical Preservation; Society of Architectural Historians; Victorian Society in America, New York Chapter. Registered architect. N.C.A.R.B. certificate.

S. J. Schulman. *Adjunct Professor of Urban Planning*

B.C.E., Cooper Union, 1949; M.S., Columbia, 1954. William Kinne Fellows Traveling Fellow, 1954. Member, American Institute of Planners. Registered engineer.

Jon Michael Schwarting. *Adjunct Assistant Professor of Architecture*

B.Arch., Cornell, 1966; M.Arch., 1968. Prix de Rome, 1968–1970. Registered architect. N.C.A.R.B. certificate.

William Todd Springer. *Adjunct Assistant Professor of Architecture*

B.Arch., Cornell, 1960; M.S., Columbia, 1962. Attended Hochschule für Gestaltung (Ulm), 1963. Registered architect.

Charles Sullivan. *Adjunct Assistant Professor of Architecture*

B.A., Dartmouth, 1964; M.C.P., Harvard, 1970.

Douglas D. Telfer. *Adjunct Associate Professor of Architecture*

Dipl.Arch. Distinction, Dunelm (U.K.), 1961. M.S., Columbia, 1962. A.R.I.B.A.; R.I.B.A. Design Prize, 1961. Campus Architect, Columbia University.

Alexander Tzonis. *Adjunct Assistant Professor of Architecture*

Dipl.Arch.Ing., National Technical University of Athens, 1961; M.Arch., Yale, 1963. Fellow, Royal Society of Arts.

Georges Vernez. *Adjunct Assistant Professor of Urban Planning*

B.S., Polytechnic Institute of the University of Lausanne, 1962; M.S., Texas (Austin), 1963; M.C.R.P., California (Berkeley), 1968; Ph.D., 1970.

Steven Winter. *Adjunct Associate Professor of Architecture*

B.Arch., Sydney (Australia), 1966; M.S., Columbia, 1968. William Kinne Fellows Traveling Fellow, 1968. Affiliate, Royal Australian Institute of Architects. Member, Architectural Association, London; Architectural League. Registered architect, State of N.S.W. (Australia). Registered architect, New York.

Timothy Wood. *Adjunct Assistant Professor of Architecture*

B.Arch., Cornell, 1966; M.F.A., Princeton, 1969. Registered architect. N.C.A.R.B. certificate.

John L. Young. *Lecturer in Architecture*

B.A., Rice, 1962; B.Arch., 1963; M.S., Columbia, 1969. Registered architect.

Jeffrey Zupan. *Adjunct Assistant Professor of Urban Planning*

B.E., City College, 1963; M.S., Polytechnic Institute of Brooklyn, 1967. Associate member, American Society of Civil Engineering. Registered professional engineer.

Nasrine Faghih. *Adjunct Assistant Professor of Architecture*

D.Arch., Venice; M.E.D., Yale.

Administrative Officers

James Stewart Polshek. *Dean of the Faculty of Architecture and Planning; Special Adviser to the President of the University for Physical Development and Planning; Acting Director, Center for Advanced Research in Urban and Environmental Affairs*

Loes Schiller. *Assistant Dean for Admissions, Financial Aid, and Student Affairs*

Elaine Dowe Carter. *Assistant Dean for Urban Development*

Kathleen Selz. *Associate Director, Center for Advanced Research in Urban and Environmental Affairs*

Alexander Kouzmanoff. *Chairman of the Division of Architecture*

Cyril M. Harris. *Chairman of the Division of Architectural Technology*

Peter Marcuse. *Chairman of the Division of Urban Planning*

Edward Merkle. *Associate Registrar*

Jane H. Bobbe. *Administrative Assistant*

Rebecca Fogel. *Admissions Assistant and Student Records Officer*

Ruth Ann James. *Executive Secretary to the Dean*

Katie Killary. *Architecture Division Secretary*

Marga Walter. *Planning Division Secretary*

Ida Soler. *Receptionist*

Joseph Oddo. *Shop Technician*

AVERY LIBRARY

Adolf K. Placzek. *Avery Librarian*

Eleanor M. Thompson. *Reference Librarian*

Herbert Mitchell. *Rare Book Curator*

Joanne Simonds. *Reference Librarian*

Carol Falcione. *City Planning and Housing Librarian*

Emeriti and Retired Officers

Leopold Arnaud. *Ware Professor Emeritus of Architecture; Dean Emeritus of the Faculty of Architecture*

Ernest M. Fisher. *Professor Emeritus of Urban Land Economics*

Percival Goodman. *Professor Emeritus of Architecture*

Charles J. Rieger. *Professor of Architecture, Retired*

Mario G. Salvadori. *James Renwick Professor Emeritus of Civil Engineering and Architecture*

Kenneth A. Smith. *Professor Emeritus of Architecture; Dean Emeritus of the Faculty of Architecture*

James Grote Van Derpool. *Professor Emeritus of Architecture*

DIVISION OF ARCHITECTURE

CHAIRMAN: Mr. Alexander Kouzmanoff

The curriculums of the Master of Architecture and the various Master of Science programs in the Division of Architecture are based on a foundation consisting of the three primary matrices—the perceptual, the cultural, and the constructual. Some of the ultimate values and goals and relevant procedures implicit in them are set forth below. These broad frames of reference are interdependent. Interacting continually, they redefine specific areas of inquiry. This is necessary if inquiry is to be responsive to the shifting needs of an evolving society. While each is important, however, the *perceptual* must remain the central matrix. It is the core of the curriculums and the area of major concentration. The constructual and cultural matrices serve to modify and to reinforce it.

THE CONSTRUCTUAL MATRIX

—to understand the physical complexities and constraints as well as the functional interdependencies and opportunities that determine so many aspects of our lives and to create and maintain conditions that promote survival and satisfy the need for security.

—to understand science and mathematics sufficiently to be able to explain and direct the use of various pertinent technologies in a responsible manner, including their orderly integration into the fabric of the physical environment.

THE PERCEPTUAL MATRIX

—to positively affect and influence intellectual and physical growth by the creation of physical situations that satisfy the need for amenity, harmony, and beauty.

—to give order to the individual and collective elements that comprise the man-made environment by

(a) discovering the relationships between disparate natural and man-made phenomena; by
(b) formulating these relationships into particular areas of inquiry in a communicable and verifiable manner; and by
(c) communicating these findings to others in a way that encourages interdisciplinary syntheses based on an understanding of the underlying principles that govern our physical world.

THE CULTURAL MATRIX

—to comprehend and rationalize the chaotic aspects of existence so that these can be constructively integrated into the fabric of our lives by the creation of conditions that satisfy social and psychological needs.

—to broaden our perception of the social, political, and economic world by

(a) intensifying our sensitivity to the specific needs and cultural imperatives of the diverse groups that are increasingly involved in environmental decision making, and expanding our understanding of the ways in which these groups perceive and integrate environmental stimuli; and by

(b) developing an understanding of the internal dynamics and external consequences of policy and decision making in the bureaucracies and technocracies that have the responsibility for the generation and implementation of socially effective changes in the physical environment.

Master of Architecture Degree

The Three-Year M.Arch. Curriculum

THE COMPREHENSIVE STUDIO

Each of the six terms is organized around a Comprehensive Studio. The first four studios are concerned with various human activity systems and the building typologies appropriate to them. Terms five and six are organized into workshops dealing with specific issues and emphasizing research as well as advanced design problem solving.

In term six the student may be permitted to engage in work under the joint supervision of the studio staff and the staff of one of the M.S. programs in the Division of Architecture (see below). Such permission does not guarantee later admission to the M.S. program but does allow the student to do preliminary work in the field of specialization in which he intends to pursue an advanced degree.

The strategies to be followed and the topics to be dealt with in the Comprehensive Studios are determined by the faculty and staff whose interests lie within the Constructual, Perceptual, or Cultural areas of inquiry. Much information traditionally conveyed via lectures and seminars will be studio integrated, except for abstract principles and other material inappropriate to the studio format.

The Five-Year M.Arch. Curriculum - Work/Study

Many qualified applicants for the M.Arch. degree do not have available the tuition and time required to attend full time. A WORK/STUDY option has been initiated offering such students the opportunity to undertake graduate work while maintaining employment during most of the program. This option has been integrated with the full-time program by jointly scheduling the design studios and most courses.

The full-time program leading to the M.Arch. degree normally requires three years of study and includes 108 points of academic credit. Students in the Work/Study Program will be able to complete the same requirements in five years as follows: one year of full-time study followed by four years of part-time study. Thus the first year's work is common for all students in the M.Arch. program, and all entering students are subject to the same entrance requirements, application deadlines, etc. After the first year of full-time study has been completed successfully, students may elect to complete their remaining studies under the Work/Study option.

JOINT DEGREE PROGRAM IN ARCHITECTURE AND URBAN PLANNING

See page 33 for further information.

SUMMARY OF THE MASTER OF ARCHITECTURE PROGRAM

For a graphic description of the program see the chart on pages 18–19.

MASTER OF ARCHITECTURE DEGREE
108 points required for the degree

		YEAR 1				YEAR 2				YEAR 3			
		term 1		term 2		term 1		term 2		term 1		term 2	
REQUIRED COURSEWORK	DESIGN	Comprehensive studio I A4001	8 pts	Comprehensive studio II A4002	8 pts	Comprehensive studio III A4003	8 pts	Comprehensive studio IV A4004	8 pts	Comprehensive studio V A4005	8 pts	Comprehensive studio VI A4006	8 pts
		Graphics I A4500	2 pts										
	TECHNOLOGY	The building of buildings A4110	2 pts	Statics & strength of structures A4111	3 pts	Wood & steel A4123	2 pts	Concrete A4125	2 pts				
		Construction technology I A4220	2 pts	Construction technology II A4221	2 pts	Construction technology III A4222	2 pts			Lighting and buildings A4637	2 pts		
				Environmental control systems I A4610	2 pts	Environmental control systems II A4611	2 pts			Architectural acoustics A4628	2 pts		
	HISTORY/ THEORY/ CRITICISM	Principles of architectural design A4400	3 pts	Origins of design attitudes in urbanisme A4410	3 pts	Comparative critical analysis of built form A4420	3 pts						
	HISTORY/ THEORY/ CRITICISM	Vernacular architecture A4360	2 pts	Origins of modern architecture A4354	3 pts	Frank Lloyd Wright A4355	3 pts	Stylistic currents in American architecture A6731	2 pts	Irrationality & architecture I A4475	2 pts	Irrationality & architecture II A4476	2 pts
		American architecture: 1600-1914 A6730	3 pts	Models of 20th-century architecture A4421	2 pts	Modern architecture: the 20th century Art Hist W4660	3 pts	Visionary tradition of modern architecture & planning Art Hist G4667	3 pts	History seminar: Renaissance architecture I A4357	2 pts	History seminar: Renaissance architecture II A4358	2 pts

RECOMMENDED ELECTIVES*

TECHNOLOGY	Applied mathematics A3009 2 pts	Urban geography Geog W4041 3 pts	Intro/review industrial building systems A4649 2 pts	Analysis & design of industrial building systems A4650 2 pts
	Environmental planning A4652 3 pts	Economic analysis of housing technologies A4623 2 pts	Economic infrastructure of buildings as an activity A4624 3 pts	Construction management & cost control A4246 2 pts
	Environmental bases for regional studies Geog W4000 3 pts	Adaptive architecture A4653 3 pts	The constraints of structural systems A6136 2 pts	Construction & systems A4239 1 pt
SOCIAL SCIENCE/ PLANNING	Introduction to environmental & health problems A6803 3 pts	Introduction to urban planning PI A4003 3 pts		Public intervention in the urban social system PI A4122 3 pts
	The city as a physical system PI A4112 3 pts	Public intervention in the urban physical system PI A4120 3 pts		
	Applications of urban planning in historic preservation A6767 2 pts		Urban transportation planning PI A4404 3 pts	Housing: the economic & social elements PI A4304 3 pts
PRACTICE/ SKILLS			Architectural presentation I A4524 2 pts	Architectural presentation II A4525 2 pts
		Computers in architecture A4530 2 pts		
		Graphics II A4501 2 pts	Media & the built environment A4523 2 pts	

Architectural consequences of structural decisions A6134 3 pts	Noise control in buildings A4629 1 pt	
	Structures review A4154 1 pt	
Science and technology in America Hist W4650 3 pts	Experimental structures A4134 2 pts	
Planning & the natural environment PI A4704 3 pts		
Introduction to health facilities planning & design A6810 3 pts	Health facilities planning & design A6811 3 pts	
Ideologies & environment production A4470 3 pts		
Architectural practice & legal aspects of of construction A4560 2 pts	Critical/descriptive writing for architects & planners A4550 2 pts	
Development & finance A4538 3 pts	Advanced development & finance A4539 3 pts	
Environmental impact statements Arch-Law W6010 1 pt		

*Although shown under specific years, elective courses may be taken in any autumn or spring term in which they are offered.

Master of Science Degree in Architecture and Urban Design

DIRECTOR: Mr. Alexander Cooper

OBJECTIVES OF THE PROGRAM

It is the intention of the urban design program to:

(a) postulate and achieve a consensus definition of "urban design" as distinguished from architecture and from urban planning;

(b) develop and elaborate a consistent set of guidelines and principles for the practice of urban design; and

(c) train a core of urban design professionals for both the public and private sectors.

DEFINITION OF URBAN DESIGN

Urban design is accountable beyond the normal scope of architectural practice: urban design problems do not necessarily involve buildings; urban design methodology is substantively different from architectural process; and urban design products are typically expressed in legislative or regulatory forms. These factors indicate that the educational experience must be expressly adapted to the practice of urban design.

Urban design, as we define it, is the manipulation of those physical elements of the built environment that most directly affect the public interest, that is, the interest of those who are neither specific clients nor intended users of the project.

According to this definition, urban design is both broader and narrower than conventional usage indicates. It is broader in that it responds to the public impact of buildings and other physical developments, whatever their size or scale, and in that it encompasses all relevant strategies to influence that impact. It is narrower in that it does not concern itself even with the largest-scale development if its impact extends only to its own developers and their clients and business relations.

Urban design, then, must connect events—that is, budgetary, legislative, political, and physical events—that take place over a period of time. The correct structuring of these elements requires a grasp of issues and procedures not normally associated with physical design.

The fundamental orientation of urban design is to serve the public interest. The goal of urban design is to distribute benefits as widely as possible, rather than to serve the narrowly conceived interest of a single-purpose client.

ROLE OF THE URBAN DESIGNER

The fundamental role of an urban designer is to provide a solution of an urban design problem that accommodates a variety of single-purpose, vested interests and

also provides benefits beyond such interests. To achieve this, urban designers must understand that generally they are not the implementers: they do not design buildings; they do not maintain facilities; and they do not share in development profits. But they must be sensitive to each of these concerns. They must be sensitive as well to the increasing role of government in shaping development to the public interest. Either by regulation (National Environmental Policy Act) or by incentive (capital and mortgage financing), government has become critical to the success or failure of almost any large scale proposal. For this reason these new areas of concern will be emphasized in the urban design curriculum.

Note: the scheduling of the urban design program allows no opportunity for students to undertake part-time employment.

The program is summarized in the chart below.

M.S. DEGREE IN ARCHITECTURE AND URBAN DESIGN
36 points required for the degree

REQUIRED COURSEWORK

	AUTUMN		SPRING	
DESIGN	Urban design studio I		Urban design studio II	
	A6850	5 pts	A6851	5 pts
	Urban design seminar		Urban design seminar	
	A6890	1 pt	A6891	1 pt
PROCESS	Development & finance		Advanced development & finance	
	A4538	3 pts	A4539	3 pts
	Planning law & administration		Implications of politics for urban design	
	Pl A6702	3 pts	A6863	3 pts
	Urban policy & management			
	Corp Rel B8450	3 pts		
SUPPORT	Urban design infrastructure I		Urban design infrastructure II	
	A6860	3 pts	A6861	3 pts
			Introduction to urban planning	
			Pl A4003	3 pts

Master of Science Degree in Health Services Planning and Design

DIRECTOR: Mr. George J. Mann

The objectives of this program are to educate and prepare those who will be policy advisers and decision makers so that they may improve the natural and built environment as it relates to health. Emphasis is placed on achieving an understanding of health problems in the developing as well as in the developed countries.

The program offers a one-year multidisciplinary course directed to the study of the programming, planning, and design of health facilities within the broader context of urban and regional planning.

The autumn term is introductory and analytical. The spring term is devoted to in-depth basic and applied research on an individual or team basis. Students are encouraged to take electives.

The resources of the region are utilized for field trips, seminars, and research.

The program is open to graduate architects and students in other disciplines related to health planning. A total of 34 points is required for the degree (see chart on page 24).

SEMINARS

Each year a number of great lecturers conduct seminars at the Graduate School of Architecture and Planning or at their own offices or the institutions with which they are affiliated. They include the following:

A. Kent Ballard. *American Association for Comprehensive Health Planning*
Lowell Eliezer Bellin. *School of Public Health, Columbia University*
Marvin Bostin. *E. D. Rosenfeld Associates*
Roy E. Brown. *Mount Sinai School of Medicine*
John H. Bryant. *School of Public Health, Columbia University*
Carlos Davila. *Pan American Health Organization, W.H.O.*
James Falick. *Caudill, Towlett, and Scott*
Neil Fogel. *E. D. Rosenfeld Associates*
Gordon A. Friesen. *Gordon A. Friesen, International*
Robert Galen. *College of Physicians and Surgeons, Columbia University*
Raymond S. Gambino. *College of Physicians and Surgeons, Columbia University*
Eli Ginzberg. *Graduate School of Business, Columbia University*
Seth Goldsmith. *School of Public Health, Columbia University*
Jose Gonzales. *American Hospital Association, International Hospital Federation*
Robert Hyde Jacobs. *Craig, Zeidler, Strong, Architects*
Alfred Kahn. *School of Social Work, Columbia University*
K. K. Kanagaratnam. *International Bank for Reconstruction and Development*
Kenzo Kiikuni. *Institute of Hospital Administration, Tokyo*
Thomas J. Kupper. *New York City Health and Hospital Corporation*

Harold J. Olson. *Skidmore, Owings, & Merrill, Architects*
Peter Rogatz. *Blue Cross of Greater New York*
Eugene D. Rosenfeld. *E. D. Rosenfeld Associates*
Paul Selbst. *School of Public Health, Columbia University*
Granville H. Sewell. *School of Public Health, Columbia University*
John Sheoris. *Smith, Hinchman, and Grylls*
Joseph Sprague. *American Hospital Association*
William B. Walsh. *Project Hope*
Eberhard Zeidler. *Craig, Zeidler, Strong, Architects*

M.S. DEGREE IN HEALTH SERVICES PLANNING AND DESIGN

34 points required for the degree

		AUTUMN	SPRING
REQUIRED COURSEWORK	INTRODUCTION	Introduction to environmental & health problems A6803 3 pts	
	DESIGN/ PLANNING		Introduction to urban planning Pl A4003 3 pts
		Introduction to health facilities planning & design A6810 3 pts	Health facilities planning & design A6811 3 pts
	RESEARCH	Environmental & health planning research formulation A6830 1 pt	Environmental & health planning research A6831 8 pts
RECOMMENDED ELECTIVES	TECHNOLOGY		Industrialized building systems A4650 3 pts
		Architectural consequences of structural decisions A6134 3 pts	Computers in architecture A4530 2 pts
		Environmental planning A4652 3 pts	
	HEALTH	Perspectives in the history & philosophy of public health Public Health P6000 2 pts	Perspectives in the history & philosophy of public health in America Public Health P6001 2 pts
		Medical background Public Health P6002 1 pt	Systems analysis in health planning I Public Health P6511 3 pts
		Imperatives of health administration I Public Health P6500 3 pts	Imperatives of health administration II Public Health P6501 3 pts
	PLANNING	The city as a physical system Pl A4112 3 pts	Public intervention in the urban physical system Pl A4120 3 pts
		Systems concepts in urban planning Pl A6220 3 pts	Physical planning problems in less-developed countries Pl A4610 2 pts
	SOCIOCULTURAL		Critical/descriptive writing for architects & planners A4550 2 pts
		Environmental bases for regional & ecological studies Geography W4000 3 pts	Origins of design attitudes in modern *urbanisme* A4410 3 pts
			Environmental impact statements Arch-Law W6010 1 pt

Master of Science Degree in Historic Preservation

DIRECTOR: Mr. James Marston Fitch

The program in historic preservation of the Columbia University Graduate School of Architecture and Planning is uniquely structured to serve a new and still-evolving field of professional activity. This field is characterized by its complexity, its breadth, and its rapid growth. It includes projects as broad as the rehabilitation of entire historic districts and as specific as the installation of historic rooms in existing museums. It covers such disparate activities as the interpretation of historic sites, the making of computerized regional surveys of scenically or architecturally significant monuments as an aid to highway and hydraulic construction, the adaptation of old structures to new uses, and the insertion of new structures into existing neighborhoods.

A growing general interest in the retrieval and recycling of the built environment has resulted in the creation of an assortment of new agencies and institutions—public or private in character; national, state-wide, or municipal in scope. Similarly, the development of this new field has created a requirement for the cooperation of many kinds of specialist—architect, landscape architect, and urban designer; art and social historian and archaeologist; legal expert in preservation and in environmental law; urban real estate expert and economist. Different and new combinations of specialists are required. To work together efficiently, these specialists need to possess common concepts of their task, a common language for describing it, and common methods and technologies for dealing with it.

The Columbia program is designed to fill precisely this need. Cross-disciplinary in structure, it is the only program in the United States (and one of the few in the world) that accepts students whose undergraduate degrees are in any of the above-named disciplines. Its curriculum—developed over the last ten years—engages them in a three- to four-term program of courses, lectures, field trips, and internships. The curriculum is itself synoptic; it is thus the reverse of the standard graduate curriculum, which aims to move the student steadily into deeper, but increasingly narrow, specialization. Insofar as possible, this program aims to recreate real-life situations in which the highest levels of theory and practice are brought together. The underlying belief is that a generalized orientation, such as this, that gives consideration to the field as a whole is indispensable to optimal performance in a professional career.

As might be expected of a program within a school of architecture, this program is "artifact-centered"; that is, its central concern is the wise and civilized management of the actual physical environment as a mix of old and new, natural and man-made, monumental and vernacular. This task involves the integration of many skills and kinds of expertise; hence our emphasis upon developing inclusive and broad parameters for judgment and decision-making.

The program of study has four main components:

Course work: includes academic studies specially structured for this program: design work in the studios; advanced historical research; and electives taken within the School as well as in the Department of Art History and Archaeology and in the Department of History.

The Seminar: is aimed at giving the student a synoptic overview of both the theoretical and practical problems of the field; some forty distinguished lecturers participate each year (see list below).

Field trips: are an integral part of the study program and enable the student to visit a wide range of institutions, projects, and sites throughout the eastern United States.

Internships: during both the academic year and the summer vacation period, students do historic research and prepare surveys and measured drawings of actual sites.

Scholarships available to students in this program include the George B. Weitzmann Fellowship in advanced historical research; the Quester's Award for distinguished undergraduate work in architecture; the Dora Brahms Memorial Award for outstanding work in the decorative arts; and two universal research stipends in conservation technology.

LECTURES

Each year a number of lectures are commissioned on various specialized aspects of the preservation of the artistic and historic patrimony. Among the distinguished scholars who regularly deliver such lectures are the following:

Rita Androsko. *Smithsonian Institution*
Penelope Batchelor. *National Park Service*
George O. Bird. *Henry Ford Museum*
Helen D. Bullock. *National Trust*
Richard C. Candee. *Old Sturbridge Village*
David Chase. *Smithsonian Institution—Dumbarton Oaks*
Abbott Cummings. *Society for the Preservation of New England Antiquities*
James M. Deetz. *Plimoth Plantation*
Eric DeLony. *Historic American Engineering Record*
Elspeth Dusenberry. *New York University Institute of Fine Arts*
Samuel Edgerton, Jr. *Boston University*
Bernard Feilden. *York Minster and St. Paul's, Norwich, England*
Albert Fein. *Long Island University*
Henry A. Glassie III. *University of Indiana*
Henry A. Judd. *National Park Service*
Bunji Kuyabashi. *Technical University of Tokyo*
Seymour Lewin. *New York University*
Chester H. Liebs. *Vermont State Board of Historic Sites*
Harley J. McKee. *Syracuse University*
Lawrence Majewski. *Institute of Fine Arts*
James C. Massey. *National Trust*
William Massey. *National Trust*
John Milner. *Chads Ford*

Tomas Morasovic. *Institute of Town Planning, Split, Yugoslavia*
Virginia Partridge. *New York Historical Association*
Morgan Phillips. *Society for Preservation of New England Antiques*
John Poppeliers. *National Park Service*
Henry Hope Reed. *New York City Department of Parks*
L. S. Russell. *Royal Ontario Museum*
Norman Souder. *National Park Service*
Stanley South. *University of South Carolina*
John Stevens. *Old Bethpage Village, Inc.*
Meredith H. Sykes. *Department of Northwestern Development and Indian Affairs, Canada*
Robert M. Vogel. *Smithsonian Institution*
John G. Waite, Jr. *New York State Historic Trust*
George Wrenn III. *Society for the Preservation of New England Antiquities*
Anne St. Clair Wright. *Historic Annapolis, Inc.*

M.S. DEGREE IN HISTORIC PRESERVATION
54 points plus 3-month internship required for the degree

	AUTUMN I		SPRING I		AUTUMN II	
HISTORY	American architecture: 1600–1914		Stylistic currents in American architecture		Language & literature of classical architecture	
	A6730	3 pts	A6731	2 pts	A6734	2 pts
	History of architecture I		History of architecture II		Decorative arts: American	
	C3301*	2 pts	C3302*	2 pts	A6733	2 pts
					Research problems	
					A8790§	2 pts
THEORY	Seminar in restoration		Seminar in restoration			
	A6740	3 pts	A6741	3 pts		
	Application of urban planning		Law, development, & historic preservation			
	A6767†	2 pts	A6765†	3 pts		
SKILLS	Retrieval & recycling the historic environment I		Retrieval & recycling the historic environment II		Retrieval & recycling III (A6751) or Thesis (A8794)	
	A6749	3 pts	A6750‡	5 pts		5 pts‡
	Introduction to analysis		Design studio I		Design studio II	
	A4510‡	2 pts	A6700§	5 pts	A6701§	5 pts
			Descriptive analysis I		Descriptive analysis II	
			A6754	2 pts	A6755	2 pts
TECHNOLOGY			Basic principles of traditional construction		Architectural conservation	
			A4210‡	2 pts	A6762†	2 pts
					Historic building technology	
					A6760	3 pts
					Museological problems	
					A6752†	2 pts

* Can be waived by examination.
† Required: two out of four courses (A6767, A6765, A6762, A6752).
The courses listed in this chart are required
‡ Required for students without B.Arch. or M.Arch. degrees.
§ Required for students with B.Arch. or M.Arch. degrees.
vailable to students at autumn registration.

DIVISION OF ARCHITECTURAL TECHNOLOGY

CHAIRMAN: Mr. Cyril M. Harris

The Division of Architectural Technology was established to train architects and engineers in those specialties which are essential to improve buildings and building processes. By acquiring training in the latest technologies of building construction and environmental control in buildings, graduate architects increase their ability to communicate with their engineering consultants; by expanding their knowledge of the technical and human problems involved in the construction of buildings, graduate engineers become more effective consultants to architects, owners, and contractors. Team efforts are thereby reinforced.

The Division accepts students with first degrees in either architecture or engineering (or, exceptionally, others whose practice has been in related fields), and arranges graduate programs in technology to fit individual interests and needs. In shaping their programs in consultation with their advisers, students are expected to choose a portion of their course work in an identifiable area of study such as systems building and building construction, environmental control systems in buildings, or construction project management. Students with degrees in civil engineering are able to pursue advanced courses in structural analysis and design. Representative courses emphasizing the integration of mechanical and electrical systems into building processes are available, as are courses in acoustics and illumination, effect on ecological systems of energy generation and consumption, public health delivery systems, and others, together with digital computer applications to many of these studies. A master's thesis, normally written in the area of concentration, is a requirement for the degree of Master of Science in architectural technology. Research courses are available for the study of special problems, and academic courses and experimental laboratories in other divisions within the University are open to students in the program.

Master of Science Degree in Architectural Technology

Most of the courses shown in the table on pages 30–31 are open to all students in the program. Some courses, however, because of their technical content or mathematical sophistication, may be taken only after proper preparation; prerequisites should be checked carefully. In addition to the thesis, all programs should include the following courses (unless they duplicate previous work): introductory courses in law and accounting; a course requiring use of computers; a course in systems building; a course emphasizing the interrelationship of structure and design. In ad-

dition to the listed courses, many of the offerings of other divisions of the University are available, with approval, for one, or possibly two, elective choices in each program, and the appropriate bulletins should be consulted.

JOINT DEGREE PROGRAM IN ARCHITECTURAL TECHNOLOGY AND CIVIL ENGINEERING

To more fully utilize the facilities and resources of the University and to provide opportunities for students to pursue studies in related fields, the Graduate School of Architecture and Planning, in conjunction with other schools and faculties, has established several joint degree programs. Each program leads to the award of two professional degrees.

One such program, offered by the Graduate School of Architecture and Planning in conjunction with the School of Engineering and Applied Science, leads to the award of the degrees of Master of Science in civil engineering and Master of Science in architectural technology. A student must enroll for 60 points of credit, which may be earned in four terms in residence—two terms in the School of Engineering and Applied Science and two terms in the Graduate School of Architecture and Planning. For students in the joint program, the thesis requirement of the Division of Architectural Technology is waived.

Students who wish to enter this program must apply to each of the participating schools and be admitted to both. They should consult the respective school admissions offices for further information.

M.S. DEGREE IN ARCHITECTURAL TECHNOLOGY
34 points required for the degree

	AUTUMN		SPRING	
STRUCTURES	Architectural consequences of structural decisions A6134† 3 pts	Advanced structural analysis I CE E4023 3 pts	Experimental structures A4134 2 pts	Theory of plates & shells Engr Mech E4214 3 pts
	Soil mechanics & foundations CE E4241 3 pts	Reinforced concrete structures CE E4232 3 pts	Foundation engineering I CE E4244 3 pts	Theory of vibrations Engr Mech E4215 3 pts
MECHANICALS	Architectural acoustics A4628 2 pts	Lighting and buildings A4637 2 pts	Noise control in buildings A4629 1 pt	
COMPUTERS	Computer application to urban planning Pl A4210 3 pts	Digital computers: engineering applications Computer Sci E4811*‡ 3 pts	Computers in architecture A4530 2 pts	Computer-aided engineering graphics Graphics E1205* 3 pts
QUANTITATIVE METHODS	Ordinary differential equations I Engr Math E3200 3 pts	Partial differential equations Engr Math E4200* 3 pts	Numerical methods Engr Math E4300 3 pts	
PRACTICE/ SKILLS		Economic infrastructure of building as an activity A4624 3 pts		Economic analysis of housing technologies A4623 2 pts
	Accounting for lawyers L6201 2 pts		Legal aspects of business I Bus Law B6150*‡ 3 pts	
FINANCE	Development & finance A4538* 3 pts	Business in a changing economy Business B6005* 3 pts	Advanced development & finance A4539 3 pts	
CONSTRUCTION/ SYSTEMS	Systems building A4649† 2 pts	Systems analysis for capital projects CE E4028 3 pts	Industrialized building systems A4650 3 pts	Introduction to methods of operations research OR E4000 3 pts
	Historical building technology: 1600–1860 A6760 3 pts			Construction management & cost control A4246 2 pts

PLANNING	Urban transportation planning		The city as a physical system		Introduction to urban planning		Public intervention in the urban physical system	
	PI A4404	3 pts	PI A4112	3 pts	PI A4003	3 pts	PI A4120	3 pts
ENVIRONMENTAL STUDIES	Environmental bases for regional & ecological studies		Seminar in energy & power		Urban geography		Seminar in energy & power	
	Geography W4000	3 pts	Engr E4005	1½ pts	Geography W4041	3 pts	Engr E4006	1½ pts
	Environmental control systems I		Environmental control systems II		Noise pollution: measurement & control		Environmental impact statements	
	A4610	2 pts	A4611	2 pts	EE E4452	3 pts	Arch-Law W6010	1 pt
THESIS/ RESEARCH/ EXPERIENCE	Thesis		Research				Research	
	A6690* †	3 pts	A6900	2 or 3 pts			A6901	2 or 3 pts

* Offered in both autumn and spring.
† Required course.
‡ Normally required course.

ELECTIVE CONCENTRATIONS

To achieve a degree of specialization in an area of technology, it is suggested that 10 to 12 points of elective courses be selected from one of the following groups.

Systems building and building construction

Architecture A4246	2 pts	Architecture A4624	3 pts
Architecture A4538	3 pts	Architecture A4650	3 pts
Architecture A4623	2 pts		

Construction project management

Architecture A4538	3 pts	C.E. E4028	3 pts
Architecture A4539	3 pts	O.R. E4000	3 pts
Architecture A4624	3 pts		

Environmental control systems

Architecture A4610	2 pts	Arch-Law W6010	1 pt
Architecture A4611	2 pts	E.E. E4552	3 pts
Architecture A4629	1 pt	Engr. E4005	1½ pts
Architecture A4637	2 pts	Engr. E4006	1½ pts

Structural analysis and design*

C.E. E4023	3 pts	C.E. E4244	3 pts
C.E. E4232	3 pts	Engr. Mech. E4214	3 pts
C.E. E4241	3 pts	Engr. Mech. E4215	3 pts

* Normally only for students with first degrees in engineering.

DIVISION OF URBAN PLANNING

CHAIRMAN: Mr. Peter Marcuse

PHILOSOPHY

The primary purpose of the Urban Planning Division is the education of students so that they may, with confidence of purpose and with concern for the values of democracy and of social justice, contribute their professional knowledge and human understanding to the improvement of the quality of life in our urban society. Coursework, fieldwork, community service, and research are seen as means to this end. The Division is seen as an institution whose purpose is to facilitate the joint efforts of students, faculty, and staff to achieve this end.

No educational community can function intelligently and effectively without regard for the individual dignity and welfare of its members. Thus, democratic governance, economic security, fair treatment, and mutual respect among students, staff, and faculty must serve as the operational cornerstone of this School.

Any functioning community, however, must also share a minimum number of basic values and goals. While the School encourages a diversity of approaches, nonconformity to established belief, and freedom to challenge and explore, underlying its activities is a shared concern for social justice and a more rational ordering of life. Specifically, at the center of its concern is the desire to alleviate the acute social problems caused by inequitable income distribution; racial, ethnic, and sex discrimination; ineffective democracy; restraints on individual growth and freedom; and pollution of the physical environment. Development of the necessary relationships with constituencies appropriate to the implementation of this goal is a vital part of the School's program in urban planning.

Planners are professionally concerned to inform and facilitate decision-making processes directly affecting the general welfare. Planning has two aspects—private planning, serving a variety of groups and interests; and public planning, guiding the formulation of public policy in many physical, social, and economic areas. This program is concerned primarily with the education of planners whose efforts, whether in private or public planning, will be directed toward the solution of the problems outlined above.

Urban planning is in this view both a technical and a political process. The planner must be three things—a servant, putting his skills at the service of the appropriate constituency; a technical expert, utilizing his competence to show the implications of existing alternatives; and a visionary and leader, dramatizing the possibilities implicit in new directions.

GOALS

The educational goals of the Division are directly related to this philosophy—to provide understanding of the theory and underlying economic, social, political, and

physical processes of urban society and of the possibilities and limits imposed on the planner; to teach professional skills—methodological and quantitative techniques—so that the planner's technical role can be effectively performed; and to provide a context for the application of understanding and skills to current urban problems, so that what is learned in theory can be tested in practice, and thus serve to enrich theory.

FOCUS

Given its broad policy-oriented concern, the focus of the program will necessarily be on the problems and potentials of the great urban regions of the world. The location of the School in the heart of the largest and densest metropolitan area in the United States is particularly opportune. New York City confronts the planner with difficult and ineludible challenges, but also with a variety of resources with which to meet them. International activities concentrated in the City, including those at United Nations headquarters, provide further resources and foci for the School's programs.

As part of Columbia University, the School maintains a standard of excellence appropriate to a major university. The breadth and quality of its offerings also go far beyond that which its size might otherwise dictate, since it is able to draw upon the resources of the Graduate School of Arts and Sciences and of the other professional schools and educational and research facilities of the University.

JOINT DEGREE PROGRAMS

To more fully utilize the facilities and resources of the University and to provide opportunities for students to pursue studies in related fields, the Graduate School of Architecture and Planning, in conjunction with other schools and faculties, has established several joint degree programs. Each program leads to the award of two professional degrees. Students who wish to enter one of the programs described below must apply to each of the participating schools and be admitted to both. They should consult the respective school admissions offices for further information. In the case of the joint program offered in two divisions within the Graduate School of Architecture and Planning, students should consult the Admissions Office of the School.

URBAN PLANNING AND ARCHITECTURE

The Graduate School of Architecture and Planning offers a joint program leading to the degree of Master of Architecture and the degree of Master of Science in urban planning. A student must enroll for 130 points of credit, which may be earned in eight terms in residence in the Graduate School of Architecture and Planning.

URBAN PLANNING AND BUSINESS

The Graduate School of Business and the Graduate School of Architecture and Planning offer a joint program leading to the degree of Master of Business Administration and the degree of Master of Science in urban planning. A student must

enroll for 90 points of credit, which may be earned in six terms in residence—three terms in the Graduate School of Business and three terms in the Graduate School of Architecture and Planning.

URBAN PLANNING AND LAW

The School of Law and the Graduate School of Architecture and Planning offer a joint program leading to the degree of Juris Doctor and the degree of Master of Science in urban planning. A student must enroll for 120 points of credit, which may be earned in eight terms in residence—six terms in the School of Law and two terms in the Graduate School of Architecture and Planning.

URBAN PLANNING AND PUBLIC HEALTH

The School of Public Health and the Graduate School of Architecture and Planning offer a joint program leading to the degree of Master of Public Health and the degree of Master of Science in urban planning. A student must enroll for 80 points of credit, which may be earned in five terms in residence—two terms in the School of Public Health and three terms in the Graduate School of Architecture and Planning.

URBAN PLANNING AND SOCIAL WORK

The School of Social Work and the Graduate School of Architecture and Planning offer a joint program leading to the degrees of Master of Science in social work and Master of Science in urban planning. A student must enroll for 90 points of credit, which may be earned in six terms in residence—three terms in the School of Social Work and three terms in the Graduate School of Architecture and Planning.

SUPPLEMENTAL PROGRAMS

Under a traveling fellowship program available to students of the Graduate School of Architecture and Planning, a limited number of planning students are annually eligible to take part in study programs abroad. In order to expand their skills, students are also encouraged to accept employment in planning offices during their summer vacations or to take appropriate courses offered by the Division of Urban Planning as described in the bulletin of the Summer Session. Community consultation is an integral part of the curriculum, and several such projects are continuously in operation.

Master of Science Degree in Urban Planning

The M.S. degree in urban planning requires two years of full-time study; no part-time students are accepted. Students are ordinarily admitted in the autumn term. This degree program is open to students with degrees in the arts or the sciences.

While students receive broad training in the field of planning as a whole—from problem exploration and design to implementation—they are also given the opportunity to specialize, and are expected to do so.

Students are required to take 60 points of course work to earn the M.S. degree in urban planning. The curriculum is closely structured but permits as many as thirteen out of approximately twenty courses to be of the student's own selection. Required courses include:

Planning A6001—Introduction to the planning profession, to be taken in the first term.

The six theory courses, *Planning A4112, A4114, A4116, A4118, A4120,* and *A4122,* except insofar as individual courses are waived because of the student's prior training. Three of the theory courses are to be taken during the first term and three during the second.

The two courses in analytic methods, *Planning A4206* and *A4208,* except insofar as they are waived, to be taken in the first and second terms.

Note: Students who majored in social sciences can expect to receive, on the average, two waivers of courses within the theory and analytic methods categories.

The two planning studio (field project) courses, *Planning A6911* and *A6912,* to be taken in the third and fourth terms.

The two planning theory and thesis seminars, *Planning A6917-A6918* and *A6919-A6920,* to be taken in the third and fourth terms. These are designed to coordinate individual student efforts and to facilitate the mutual enrichment of theoretical aspects of individual theses and studio-field projects.

Three sectoral courses, to be chosen by the student within a single area of specialization (sector). For an appropriately qualified student, urban design may be substituted for one of the sectors as the area of specialization.

SUMMARY OF THE PROGRAM

For a graphic description of the program see the chart on pages 36–37.

Doctor of Philosophy Degree

A Ph.D. degree candidate specializing in urban planning may have a background in economics, architecture, engineering, sociology, anthropology, law, or other disciplines relevant to urban planning. Normally, before matriculating for the doctoral program, the candidate will have earned a master's degree in urban planning or in one of these related fields. The subject of the doctoral dissertation may include historical and critical studies in urban and regional planning. Research for the dissertation must be original and contribute significantly to literature in the field. It must be of a publishable nature. For admission and degree requirements, see pages 67 and 71–72.

M.S. DEGREE IN URBAN PLANNING
60 points required for the degree

		AUTUMN						SPRING					
REQUIRED COURSEWORK	INTRODUCTION	Introduction to the planning profession PI A6001* 3 pts											
	THEORY	The city as a physical system PI A4112 3 pts		The city as a political system PI A4114 3 pts		The city as a social system PI A4118 3 pts		The city as an economic system PI A4116 3 pts		Public intervention in the urban physical system PI A4120 3 pts		Public intervention in the urban social system PI A4122 3 pts	
	ANALYTIC METHODS	Analytic methods I PI A4206 3 pts						Analytic methods II PI A4208 3 pts					
	RESEARCH/ PRACTICE	Planning studio– field practice PI A6911† 3 pts		Thesis seminar PI A6917† 1 pt		Planning theory seminar PI A6919† 2 pts		Planning studio– field practice PI A6912† 3 pts		Thesis seminar PI A6918† 2 pts		Planning theory seminar PI A6920† 1 pt	
	ANALYTIC METHODS	Introduction to computer applications PI A4210 2 pts		Systems concepts in urban planning PI A6220 3 pts		Advanced quantitative methods PI A6272 3 pts		Techniques of program evaluation PI A6217 3 pts		Regional science & economic methods PI A6274 2 pts			
	RESEARCH/ PRACTICE	Advanced research I PI A6925 2 or 3 pts						Advanced research II PI A6926 2 or 3 pts					
	SECTORS HOUSING	Seminar in housing policy PI A6344 3 pts		Housing & community development Law-Planning W6141 2 pts				Housing: the economic & social elements PI A4304 3 pts		Seminar on residential renewal in the inner city PI A6341 3 pts		Urban development controls Law-Planning W6299 3 pts	

RECOMMENDED COURSEWORK

TRANSPORTATION	Urban transportation planning PI A4404 3 pts								Transportation issues seminar PI A6434 3 pts			
SOCIAL POLICY	Analysis of policy formation PI A4502 3 pts		Advocacy planning PI A4506 3 pts						Social issues & citizen participation PI A4504 3 pts		The planner as a manager of change PI A4508 3 pts	
LESS DEVELOPED COUNTRIES (LDC)	General issues in planning & development PI A4602 3 pts		Preliminary planning research in LDC PI A4604 3 pts		Introduction to planning problems in LDC PI A4610 2 pts		National development issues in LDC PI A4612 3 pts		Urban-rural planning & housing development in China PI A4614 3 pts		Housing & urban development in LDC PI A4616 3 pts	Seminar on transportation & regional development in LDC PI A4618 2 pts
ENVIRONMENT	Planning & the natural environment PI A4704 3 pts								Techniques of environmental planning PI A4707 3 pts			
HEALTH	Introduction to environmental & health problems A6803 3 pts		Introduction to health facilities planning & design A6810 3 pts						Health facilities planning & design A6811 3 pts			
ELECTIVES	The Urban Development Corporation PI A4054 3 pts		Municipal budgeting PI A4056 3 pts		Planning law & administration PI A6052 3 pts				Economic, social, & political context of planning PI A4005 3 pts		New towns seminar PI A4052 3 pts	State & national land-use planning PI A6054 3 pts

* To be taken in the first term.
† To be taken in the third and fourth terms.

THE CENTER FOR ADVANCED RESEARCH IN URBAN AND ENVIRONMENTAL AFFAIRS

A center for research of the Graduate School of Architecture and Planning has been established in order to help fulfill two of the primary goals of the School:

(a) that the School serve broadly defined social purposes; and

(b) that it seek to develop new knowledge that will materially add to the vitality of the profession and the viability of society.

It is implicit in the above that the activities sponsored by the center shall provide academic and fiscal reinforcement to the three Divisions of the Graduate School of Architecture and Planning.

Encouragement is extended to new proposals which incorporate specific community interventions that can be implemented, monitored, and evaluated in a realistic rather than a "laboratory" context. These proposals may be generated from within the Graduate School of Architecture and Planning or from within any of the other schools or combinations of schools in the University. Proposals from professionals not affiliated with the University may also be considered.

COURSES OF INSTRUCTION

The University reserves the right to withdraw or modify the courses of instruction or to change the instructors at any time.

Students may not drop or change courses without official approval.

NUMBERING OF COURSES

Each course number consists of a capital letter followed by four digits and the term designation:

The capital letter indicates the University division for whose students the course is primarily offered: A, Architecture; B, Business; C, Columbia College; E, Engineering & Applied Science; F, General Studies; G, Graduate School of Arts and Sciences; L, Law; P, Public Health; R, School of the Arts; W, Inter-Faculty.

The first digit indicates the level of the course, as follows:

0 Course which cannot be credited toward any degree
1 Undergraduate course
3 Undergraduate course, advanced
4 Undergraduate and graduate course
6 Graduate course
8 Graduate course, advanced
9 Graduate research courses or seminar

An *x* following the course number indicates that the course meets in the autumn term; a *y* indicates the spring term.

Two consecutive numbers which are joined with a hyphen indicate a course which runs through both terms (e.g., *Architecture A3121x-A3122y*). The first half is prerequisite to the second half unless the course description says otherwise.

POINTS OF COURSE CREDIT

The number of points of credit a course carries *per term* is given in boldface type on the right margin of the course entry. The value of a course in points of credit is calculated at the rate of one point for three hours' work each week in each term. The number of points is not determined by the number of class meetings a week, but by the number of hours of work required. For most courses it is assumed that the student will spend at least two hours in preparation for one hour of lecture, recitation, or seminar.

WHEN AND WHERE CLASSES MEET

The days, hours, and room assignments for all courses given in the School of Architecture are posted in Avery Hall at the time of registration. Other University divisions on the Morningside campus publish this information in a separate bulletin, which is distributed at registration.

Architecture and Architectural Technology

UNDERGRADUATE

Architecture A3009x. Applied mathematics. **2 pts**

Mr. McCormick.

A survey of mathematics necessary to the analyses of structures and mechanical systems by modern methods. Included are elements of algebra, trigonometry, analytic geometry, differential calculus, integral calculus. Illustrative examples and student exercises taken from the field of architectural practice.

DESIGN

Architecture A4001x. Comprehensive studio I. **8 pts**

DIRECTOR: Mr. Herdeg.

Messrs. Herdeg, James, Prentice, and Schwarting.

Introduction into such fundamental issues of architectural design as (1) the reconciliation of social, formal, and technological demands; (2) the interdependence of concept and percept; (3) the character and value of an architectural idea; and (4) the kinds and degrees of spatial order. These and other issues explored through a series of two- and three-dimensional limited-objective problems, culminating in the design of a small parti-wall building. Complementary training in basic skills such as graphic presentation and model making.

The aim of this first studio course—reinforced by the course in principles of architectural design—is to develop the student's intellectual and visual confidence in recognizing and working with some fundamental design issues and the manual confidence and skill necessary to communicate his ideas effectively.

Architecture A4002y. Comprehensive studio II. **8 pts**

DIRECTOR: Mr. Herdeg.

Messrs. Herdeg, James, Prentice, and Schwarting.

Addresses itself to the problem of a simple architectural totality, e.g., a small school. Concern is with a complete building program, within a specific context, the scale and complexity of which involves a relatively limited range of structural and technological components.

After students undertake comparative studies of buildings of similar type and scale, these studies are subjected to critical evaluation. The studio then addresses itself to a specific design program aimed at organizing a set of programmatic requirements into a conceptual whole, with an emphasis on understanding (1) the role of a program and a given site in the design of a building, and (2) the articulation of a personal working method for arriving at a proposal.

The problem is also used to introduce the student to the basic principles of such technological systems as structure, construction methods, and climate control.

Architecture A4003x. Comprehensive studio III. **8 pts**

DIRECTOR: Mr. Mostoller.

Messrs. Bond, Mostoller, Stern, and Wood; Ms. Karmi-Melamede.

Concerned with an introduction to the nature of building typologies as they may be determined by particular cultural and socioeconomic systems such as health, education, culture, recreation, and production.

After students undertake comparative case studies of existing buildings of a type and scale similar to that to be designed, these studies are subjected to critical evaluation. The studio then addresses itself to a specific design program with the aim of organizing a set of programmatic elements into a conceptual whole. Emphasis is on the critical nature of design as an activity. The study of climate control techniques and the application of mechanical services is integrated into the studio. The principles governing these techniques and services are introduced through lectures and seminars, and the selection of appropriate systems is demonstrated through case studies.

Architecture A4004y. Comprehensive studio IV. **8 pts**

DIRECTOR: Mr. Mostoller.

Messrs. Bond, Mostoller, and Stern; Ms. Hermanuz.

Concentrates on the nature of housing as a total system. The process of study is broken down as far as possible into sequential sections. These study sections are supported by specialized study seminars.

Section I: housing typologies—an investigation of housing types, scales, and densities. *Section II:* the influence of site selection and programming in relation to several selected housing types. *Section III:* an actual housing design involving a number of different programs and sites, one of which is selected and developed by the student.

The emphasis in Section II is on the impact of zoning laws on built form and on the political forces that underlie their regulations. Section I also concerns itself with a critical analysis of current housing technology and economy, including prefabricated housing, HVAC innovations, structural systems, and management concepts. In Sections I and II, considerable attention is devoted to the design of open space and the provision of services, including parking, recreation, etc., in relation to housing.

Architecture A4005x. Comprehensive studio V. **8 pts**

Messrs. Frampton, Giurgola, Kouzmanoff, Plunz, and Polshek; Ms. Hermanuz.

In the final year, the aim is to establish a situation in which students and staff are able to work together as teams on interrelated typological issues. In so far as possible, the students and staff jointly preselect the topics on which they are to concentrate. At the termination of this studio, students are advised as to whether they should continue into the final design studio or should carry out more specialized design-related research of their own choosing.

Students may, with the permission both of the studio staff and of the director of the appropriate Master of Science program, concentrate their research in one of the following areas:

1. Urban design
2. Health services planning and design
3. Historic preservation

In his chosen area the student undertakes a specific design problem or research project under the guidance of both the studio staff and the staff of the appropriate M.S. degree program.

Architecture A4006y. Comprehensive studio VI. **8 pts**

Messrs. Frampton, Kouzmanoff, and Plunz; Mses. Hermanuz and Karmi-Melamede.

Individual thesis or research.

TECHNOLOGY

Architecture A4110x. The building of buildings: a survey of structural principles.

Mr. Salvadori. **2 pts**

An introduction to the basic concepts of structural action by means of models, slides, and films. Both elementary and refined concepts qualitatively considered without the use of mathematical tools. Special consideration to modern structural materials and to both classical and contemporary structural systems.

Architecture A4111y. Statics and strength of structures. **3 pts**

Mr. Levy.

Prerequisite: *Architecture A3009* or the passing of an equivalency examination.

The introduction of statics through the determination of reactions and internal forces of statically determinate beams, cables, three-hinged arches, trusses, and framed domes. Both graphical and analytical techniques are considered. Properties of areas. Axial, bending, and torsional stresses.

Architecture A4123x. Wood and steel. **2 pts**

Mr. McCormick.

Application of the principles of structural analysis and design to modern timber and steel construction. Case studies. Use of handbooks and codes.

Architecture A4125y. Concrete. **2 pts**

Mr. McCormick.

Application of the principles of structural analysis and design to modern reinforced concrete construction. Case studies. Use of handbook and codes.

Architecture A4134y. Experimental structures. **2 pts**

Messrs. Berger, Geiger, Levy, and Thurston, and others.

Review of tensile structures, air structures, domes, cable roofs, and space trusses.

Architecture A4154y. Structures review. **1 pt**

Mr. Thurston.

A structural design review.

Architecture A6134x. Architectural consequences of structural decisions. **3 pts**

Mr. Salvadori.

Prerequisite: a knowledge of elementary steel, concrete, and wood structures.
Basic concepts of structural behavior applied to the solution of practical problems with the specific purpose of determining the influence of structural decisions on architecture. Optimalization of structure considered as a component of the architectural system. Considerations of economy, functionality, and practicality of construction in the search for proper architectural solutions. Large-span and high-rise structures as well as structures for modular buildings. Additional knowledge of advanced structures introduced when required for the solution of the problem at hand.

Architecture A4210y. Basic principles of traditional construction. **2 pts**

Mr. Rohdenburg.

For students in the historic preservation program.
Designed to give the nonarchitecture student an introduction to the structural principles and building materials employed in traditional American structures of wood and masonry. Seminars supplemented by required reading and graphic exercises.

Architecture A4220x. Construction technology I. **2 pts**

Instructor to be announced.

Discussion of the history of construction methods with regard to material and resource availability, state of technique, tools, transportation, and regional environmental conditions, followed by an introduction to generic construction concepts.

Architecture A4221y. Construction technology II. **2 pts**

Messrs. Pokorny and Rohdenburg.

Prerequisite: *Architecture A4220.*
Introduction to architectural construction. Survey of materials, building components, and construction methods. Interrelation of technological choices and design. Lecture material integrated with the design work in the Comprehensive Studio as appropriate.

Architecture A4222x. Construction technology III. **2 pts**

Messrs. Pokorny and Rohdenburg.

Prerequisite: *Architecture A4221.*
A continuation of *Architecture A4221.* Analysis and design of construction assemblies. Evaluation of options and introduction to the administration of building.

Architecture A4239y. Construction and systems. **1 pt**

Mr. Pokorny.

For students wishing to enter architectural practice as early as possible.
Students study the material independently and review it with the instructor in six seminar meetings.

Architecture A4246y. Construction management and cost control. **2 pts**

Mr. Pokorny.

An introduction for the advanced student to the latest techniques of construction management and cost control during all phases of the building process. Fast track scheduling, data banks, estimating techniques, value engineering, progress controls, computer utilization, record keeping, and labor problems. Construction management experts from the private building sector as well as from public agencies (UDC, SUNY, GSA, etc.) participate, to provide an understanding of the challenges of the "real world," namely, cost, time, and quality.

Architecture A4610y. Environmental control systems I. **2 pts**

Instructor to be announced.

Heating and cooling theory; analysis of system typologies with respect to energy conservation, input criteria, and cost effectiveness (life cycle and first cost); discussion of elements of various systems, including points of origin, generating equipment, distribution devices, delivery mechanisms, and control systems.

Architecture A4611x. Environmental control systems II. **2 pts**

Instructor to be announced.

Discussion of heating and cooling systems relative to building typologies; case studies of buildings are used to describe system integration and space requirements. Analysis of architect-engineer con-

sultant relationships. Introduction to water supply and sanitary and storm sewage systems and discussion of electrical, fire protection, and vertical transportation systems.

Architecture A4623y. Critical economic analysis of current housing technologies.

Mr. Bell. **2 pts**

Examination of the politics and economics of current (traditional and new) technologies, including economic comparisons of different structural systems: single family, low and high rise. Case study methods used to determine the economic alternatives realistically available to the developer and architect for deciding which systems, technology, or combinations of technologies would be most likely to produce a financially feasable building venture.

Architecture A4624x. Economic infrastructure of building as an activity. 3 pts

Mr. Bell.

Case study method. Examination of various land-development and building ventures including single-family housing, condominium and cooperative developments, planned-unit communities, new towns, and new towns-in-towns. "Go-ahead" decision making. Basic approaches to successful building.

Architecture A4628x. Architectural acoustics. 2 pts

Mr. Harris.

Physical properties of sound. Reflection, absorption, and diffraction of sound waves. Sound absorptive materials and constructions. Principles of room acoustics; room resonance, diffusion of sound; the decay of sound in a room. Designing for optimum reverberation time. Acoustical defects in rooms and auditoriums and how to avoid them. The acoustical design of rooms, lecture halls, auditoriums, studios, and open-air theatres. Noise transmission in buildings.

Architecture A4629y. Noise control in buildings. 1 pt

Mr. Harris.

Noise measurements. Noise sources in mechanical systems. Noise control methods in HVAC systems (vibration isolation, vibration damping, traps, plenums, duct lining, selection of air terminal devices). Noise control in electrical systems and in piping systems. Control of airborne noise in buildings (walls, slabs, double-wall construction, doors and windows, enclosures, use of sound absorptive materials). Control of solidborne noise in buildings (discontinuous construction, box-within-a-box, resilient floor coverings, impact noise measurements). Checking and rating completed systems in a building (rating schemes, dbA, NC curves, loudness).

Architecture A4637x. Lighting and buildings. 2 pts

Mr. Marantz.

Light as a controllable material. Developing brightness relationships in internal spaces; appraisal of alternatives. Daylight and electric light as a single system. Evaluation of light sources for distribution, color, and cost. Design methodology, experiments, and case studies.

Architecture A4649x. Introduction to and review of industrialized building systems.

Mr. Meyer. **2 pts**

Historical development of the preassembled, precoordinated, machine-produced building technologies in Europe and the United States; systematic approaches to solving building problems; analysis of state-of-the-art industrialized building systems and subsystems for low- and high-rise housing, schools, hospitals, offices, and laboratories; future trends in industrialized building technology. Small-scale building-subsystem design problems are assigned; no other examinations or papers are required.

Architecture A4650y. Analysis and design of industrialized building systems.

Mr. Meyer. **3 pts**

Prerequisite: *Architecture A4610* and *A4649*, or the instructor's permission.
Principles and uses of performance specifications; prefabrication approaches and techniques; transportation and on-site assembly technology; connections for prefabricated components; approaches to coordination of prefabricated structural and mechanical subsystems; dimensional problems and techniques; strategies for building-system procurement; cost-estimating and activity-scheduling techniques for using industrialized building systems. Some class time each week is devoted to discussion and review of the class assignment, which involves the design of a comprehensive industrialized building system for a selected building type. No other examinations or papers are required.

Architecture A4652x. Environmental planning. **3 pts**

Mr. Gisolfi.

The effects of the natural environment on large- and small-scale land planning decisions. Practical applications emphasized through class projects using published data on climate, geology, hydrology, soils, vegetation, etc.

Architecture A4653y. Adaptive architecture. **3 pts**

Mr. Gisolfi.

Methods of examining architectural and site planning problems (including urban settings) in order to arrive at solutions which have minimal impact on the environment while taking maximum advantage of natural conditions.

Architecture A6136x. The constraints of structural systems. **2 pts**

Mr. Geiger.

Structural systems discussed as a function of scale, materials, construction techniques, environmental constraints, and energy consumption for material production and erection. Systems discussed include micro-systems, such as partition and floor units, as well as macro-systems that have the potential of encapsulating cities.

Architecture A6690x or y. Thesis. **3 pts**

Mr. Harris.

Required of students in the master's program in architectural technology.
The thesis is directed to the solution of an architectural problem through use of a technology of major interest to the student. It should be under the sponsorship of an adviser, who may be from any Faculty of the University.

HISTORY

Architecture A4354y. Origins of modern architecture. **3 pts**

Mr. Kaufmann.

Prerequisite: the instructor's permission.
From rococo and rationalism through the arts and crafts movement.

Architecture A4355x. Frank Lloyd Wright: the development of his architectural design. **3 pts**

Mr. Kaufmann.

Prerequisite: the instructor's permission.
Frank Lloyd Wright's practice over seven decades; critical examination of key buildings; Wright's responses to the architecture of other practitioners. Lectures, with student participation through brief weekly reports leading to class discussions. A written final examination essay or a prearranged research paper required.

Architecture A4357x. History seminar: Renaissance architecture I. **2 pts**

Mr. Giurgola.

An introduction to the architecture of the Renaissance through the study of intentions, results, methodologies, and form. Man-made environment and building complexes studied from the point of view of process and in relation to the present. The Italian experience from the thirteenth to the early fifteenth century.

Architecture A4358y. History seminar: Renaissance architecture II. **2 pts**

Mr. Giurgola.

A continuation of *Architecture A4357*.
Realization of Renaissance architecture in Europe and in the New World. Consequences of methodology in later architectural works.

Architecture A4360x. Vernacular architecture. **2 pts**

Mr. Kemeny.

A discussion of indigenous architecture and the ways in which architecture helps to reveal the human condition.

THEORY

Architecture A4400x. Principles of architectural design. **3 pts**

Mr. Schwarting.

The investigation and analysis of buildings within and without their cultural context. Emphasis on those design principles which are true for differing cultures and building purposes because they derive their meaning from basic biological and psychological traits as well as from inherent, and thus stable, formal characteristics. Examples of architecture from nonindustrial societies as well as from pre-industrial and industrial Europe and America. Lectures and discussions. Intended as a corollary to Comprehensive Studio I.

Architecture A4410y. Origins of design attitudes in modern *urbanisme*, 1750–1930. **3 pts**

Mr. Plunz.

Seminar on selected topics concerning the perceptions of contemporary architects and planners as these relate to urban form; an analysis of the relationship of design vocabulary to the conditioning of the designer's approach caused by social factors. Case studies emphasize the rise of deterministic thinking and the development of formal vocabularies of functionalism; intentional communities, growth, change, mobility, and social stratification as important form determinants; problems of applied fantasy and abstraction; and the phenomenon of scientific thinking and its resultant aesthetic.

Architecture A4420x. Comparative critical analysis of built form. **3 pts**

Mr. Frampton.

Comparative critical team analysis used as a device for revealing both explicit and implicit intent in the design of built form, the analytical process predicated on typological categories in which buildings of the same type are compared as embodiments and expressions of differing conceptions of nature, use, production, and value. Apart from their typological arrangement, buildings are usually ordered so as to also reveal a particular historical development. The aim of the course is three fold: (1) to reveal through analysis the capacity of built form to carry meaning; (2) to sensitize the student designer to subtle significances in spatial sequence, adjacency, detailing, etc., and (3) to see design as cultural discourse. Analytical materials to be drawn from either the nineteenth or the twentieth century.

Architecture A4421y. Models of twentieth-century architecture: architecture and industrialized society. **2 pts**

Mr. Frampton.

Theoretical and practical development of twentieth-century design. Emphasis on the efforts of successive thinkers, reformers, and designers to come to terms with industralization and its overwhelming consequences. Taking the Renaissance as a point of departure, the course moves to the period 1850–1970 to encompass the industrial crisis in the mid-nineteenth century and the twentieth-century reaction.

Architecture A4470x. Ideologies and the production of environment. **3 pts**

Ms. Hermanuz.

Relationships between specific design elements and ideological concerns; criteria for political, cultural, social, and economic analysis of the built environment. Case studies analyzing societal structuring of environments, Third World developments, and socialist approaches to design and planning. Effort to establish a design process consistent with Black values and priorities. Seminar format.

Architecture A4475x-A4476y. Irrationality and architecture I and II. **2 pts**

Mr. Christ-Janer.

An attempt at an understanding of the failure of tectonics to support the base of architectural theory. A view of the collapsing methodologies in architectural practice and a look at the reconstructions of old systems. A reappraisal, with emphasis upon the mystical poetic traditions as seen from the vantage point of post-Freudian psychology, "inistential" philosophy, and comparative religion: a concern with the mythic as primal-level ontological experience.

PRACTICE AND SKILLS

Architecture A4500x-A4501y. Graphics I and II. **2 pts**

Messrs. Rainey and Springer.

Studio work in a two- and three-dimensional graphics vocabulary with special attention to the in-

dividual student's particular skills. Emphasis on conceptual/perceptual techniques in measured and free-hand drawing. Complements the design work in Comprehensive Studios I and II. Intended also to generate a high level of graphic ability.

Architecture A4510x. Introduction to architectural recording and analysis. 2 pts

Mr. James.

Examination of existing architectural examples in terms of their physical, historical, and cultural contexts; their anatomy, both perceptual and conceptual, and their meanings. Development of skills in the observation of architecture ("seeing" what is there); the recording (graphic representation) of the perceptual phenomena; and the analysis of these phenomena to discover the underlying concepts, and the architectural design principles and means employed to express these concepts.

Architecture A4511x. Graphic preparation. 1 pt

Mr. Halse.

A basic introduction to the use of drafting instruments and techniques to provide knowledge and practice in recording buildings by scale drawing.

Architecture A4520y. Interaction of color. 2 pts

Ms. Berens.

Based on Joseph Albers' "Interaction of Color," exercises designed to explore color relationships in order to increase understanding and awareness of color as it is actually perceived.

Architecture A4523x. Media and the built environment. 2 pts

Mr. Confino.

The implications of filmmaking and video-taping as tools for architects and planners; the new concepts of information exchange (instant communications, environmental networks, simulated realities, etc.) and their impact on the built environment and its related professions. Students participate in production of a video-tape or a short film.

Architecture A4524x-A4525y or A4524y-A4525x. Architectural presentation. 2 pts

Mr. Halse.

Architectural visual presentation in various media, with relation to the design of both interior and exterior subjects. Exploration of graphic techniques. Analysis of color, line, and value as elements of visual communication. A personal approach in a logical fashion is emphasized. The student is encouraged to experiment.

Architecture A4530y. Computers in architecture. 2 pts

Mr. Thurston.

Introduction to FORTRAN IV computer programming and to computer utilization in architecture. Recent developments in computer graphics. Both the potentials and limitations of computer usage in the profession are explored.

Architecture A4538x. Development and finance. 3 pts

Mr. Bell.

An introduction to economic decision making with regard to income-producing properties, through case study examinations of the effects of feasibility studies, political restraints, pioneering, financing, methods of leverage, taxation, and investment return. Successful and unsuccessful suburban and urban multifamily housing, shopping center, and office building projects.

Architecture A4539y. Advanced development and finance. 3 pts

Mr. Bell.

Prerequisite: *Architecture A4538.*

A continuation of the analysis of sophisticated "deal making." An examination of the economics and feasibility of condominium conversions, hotel and motel operations, medical and specialized buildings, land acquisition, and restoration and rehabilitation. The general contractor; estimating and bidding. Pitfalls in leasing and management. Selected on-the-scene, in-depth economic evaluations of multifamily housing, shopping center, and office building complexes in the metropolitan area.

Architecture A4550y. Critical/descriptive writing for architects and planners. 2 pts

Ms. Berkeley.

Students experiment with different kinds of writing—"objective," descriptive, humorous, critical, analytical—on subjects of concern to architects and planners. In most cases, the specific subjects are chosen by the students. Discussion centers on the writing *process:* how to define the readership, how to organize thoughts and notes, etc. Emphasis is on writing as a means of communicating ideas encountered in fulfilling the normal demands of professional practice, or in a related activity such as architectural journalism.

Architecture A4557y. Techniques of documentary drawing. 2 pts

Mr. Halse.

Preparation of documentary drawings and details; working-drawing techniques developed on various levels of architectural complexity; comparison of the handling of large and small projects.

Architecture A4560x. Architectural practice and legal aspects of construction. 2 pts

Mr. Rohdenburg.

Responsibilities inherent in the interrelationship of architects, consultants, public and private owners, and building contractors. Development of contract documents and specifications. Liens, arbitration, and insurance.

Architecture-Law W6010y. Environmental impact statements. 1 pt

Messrs. Grad and Harris.

Formulation and consideration of environmental impact statements; their legal aspects and influence on urban and regional planning. Relevant case histories.

HISTORIC PRESERVATION

Architecture A6700y-A6701x. Restoration design studio I and II. 5 pts

Messrs. Fitch and Young.

The studio offers opportunities to study, define, and apply design principles and methods for the rescue and revitalization of the built and natural environment—single and multiple buildings, land- and cityscapes, and the physical and spatial links between them. Students select actual situations to develop and use a comprehensive range of design and planning skills and are expected to apply theoretical and methodological principles expounded in lecture courses. They are expected to establish individual approaches to preservation design that demonstrate their ability to find a suitable compromise between aesthetic and environmental goals and social, political, and economic realities.

Architecture A6730x. American architecture: 1600–1914. 3 pts

Mr. Fitch.

A detailed examination of the main forces—cultural, technical, and ecological—that shaped American architecture from the first European settlement period to World War I. Special attention to domestic, folk, and vernacular buildings. Field trips and term paper required.

Architecture A6731y. Stylistic currents in American architecture. 2 pts

Mr. De Long.

A stylistic analysis of American architecture from the seventeenth century to the First World War. The work of major designers and architects discussed in relation to the movements they reflect or oppose. Where pertinent, European prototypes and parallels are included. Final examination or paper required.

Architecture A6732. Decorative arts: European. Mr. Butler. 2 pts. Not given in 1975–1976.

A survey of dominant theories in design and proportion in European architecture, interior design, and furniture. Lectures, field trips, museum visits.

Architecture A6733y. Decorative arts: American. 2 pts

Mr. Butler.

A survey of the evolution of American furniture and interior decorative design, to give architects and historians a general understanding of stylistic parallels between this specialized field and architecture in general. Illustrated lectures and museum tours.

Architecture A6734x. The language and literature of classical architecture: 1485–1840. **2 pts**

Mr. Foulks.

A detailed review of the literature which propagated the use of classical architectural idioms from the Renaissance through the Greek Revival. The classical orders as visually interpreted by the architectural treatise in Italy, Germany, France, and England and later pattern books of England and America. Influence of these printed sources upon executed buildings is emphasized to aid the student in stylistic analysis and identification of characteristic ornament and decorative devices of various periods in American architecture.

Architecture A6740x-A6741y. Seminar in restoration and preservation. **3 pts**

Mr. Fitch and visiting lecturers.

Current concepts as expressed in legislation, institutions, and actual projects, here and abroad. Lectures and field trips designed to familiarize advanced students with methods of archaeological and bibliographic research, technical problems of restoration and conservation, and curatorial problems of interpretation and maintenance.

Architecture A6749x, A6750y, A6751x. Retrieval and recycling of the historic environment I, II, and III. **3, 5, and 5 pts**

Messrs. De Long, Fitch, Foulks, Meadows, Sanchis, and Young, and others.

This course sequence comprises three terms, one of lectures and two of workshops.

The first term (*Architecture A6749*) consists of three four-week lecture series, each dealing with a principal historic preservation role. The three series are entitled *Restoration*, which has to do with museological and decorative art concerns and includes course work and laboratories dealing with specific technological questions, such as material pathologies and restorative techniques; *Adaptive Re-use*, which focuses on the recycling and retrieval of specific buildings and deals with questions concerning various planning and design issues such as the problems of integration of electro-mechanical equipment, the implication of building codes, and the integration of new construction with old; and *Neighborhood Conservation*, which covers matters of economics and real estate development, public administration and planning technique, and legal considerations such as zoning, air rights transfer, and other evolving legislative tools, as well as examining broader questions of neighborhood conservation and community participation in the preservation process. It is the intention in this first term to introduce all students regardless of their background or specific educational goals to an overview of the profession both as it is currently practiced and as it is projected for the future.

At the completion of the term each student is expected to select, in consultation with a faculty adviser, one or more of the sectoral areas in which to concentrate during the workshop and workshop/thesis terms.

In the first workshop term (*Architecture A6750*), students engage in two six-week case studies. Six in all are offered, two for each sector, giving each student an opportunity to work with two different instructors in two different sectoral areas. Three-dimensional graphics preparation exercises are required of all students.

It is expected that in the second workshop term (*Architecture A6751*) the student will write a thesis further expanding his interest or will pursue advanced research within one of the sectoral areas in which he or she has previously worked.

Architecture A6752x. Museological problems of the historic room. **2 pts**

Mr. Heckscher.

The installation, maintenance, and interpretation of the historic room as a feature of the general museum. In addition to lectures, each student is expected to execute historical documentation, prepare measured drawings and installation layouts for a specific room of the American Wing of the Metropolitan Museum of Art.

Architecture A6754y-A6755x. Descriptive analysis of historic buildings I and II.

Mr. Sanchis. **2 pts**

Field trips and studio work to teach the student to make thorough and comprehensive surveys of actual buildings, recording by measurement, photographs, and verbal descriptions. Study of techniques for inventories and surveys of whole districts, as a basis for broad conservation policies. Introduction to recording techniques such as surveying, photography, and photogrammetry.

Architecture A6760x. Historic building technology: 1600–1860. **3 pts**

Mr. De Long and visiting lecturers.

Traditional building materials, construction methods, and planning concepts employed in America, including the Caribbean, the Southwest, and Hawaii, from the early settlement period to the rise of industrialization up to 1860. Lectures, field trips, and research papers.

Architecture A6762y. Architectural conservation. **2 pts**

Mr. Prudon.

Introduction to current techniques in conservation of old architectural "fabrics." Lectures cover such problems as causes and treatment of stone diseases; protection of wooden "fabrics" against fire; insect and bacterial attack; cleaning of brick and masonry; identification and matching of old paint colors. Lectures, bibliographic research, demonstration of laboratory techniques, field work.

Architecture A6765y. Law, development, and historic preservation. **3 pts**

Messrs. Byard and McNulty.

An introduction to the laws and businesses involved in preservation, with emphasis on the development process, its purposes and participants, and the laws, both common and statutory, that permit and control its operation. Lectures, discussions, and preparation of case studies having to do with the preservation of landmark buildings and districts in New York City and elsewhere.

Architecture A6767x. Applications of urban planning in historic preservation.

Mr. Sullivan. **2 pts**

Study of three areas that contribute to professional practice: organization and decision-making in public agencies; theories of change in urban environments; and the use of planning techniques to further historic preservation objectives. Discussion of urban historical geography as a key to urban change; public agency organization and decision-making; planning techniques that can be turned to the advantage of preservation, such as zoning, density control, design review, and community development; and the various government programs that affect the built environment.

Architecture A8790x or y. Research problems in the history of architecture.

Messrs. Fitch and Placzek. **2 or 3 pts**

Prerequisite: the instructor's permission.
Students do extra work for the third point.
Advanced research in the history of architecture: the rise and development of architectural movements; analysis of particular architects and building types; special monuments; etc. Development of the student's critical and analytical capacity is encouraged by individual tutoring and the student's preparation of papers.

Architecture A8794x and y. Thesis. **5 pts**

Mr. Fitch.

The student is expected to analyze in depth a selected stylistic movement, historic personage, or significant monument, showing in detail its origin, development, and historical significance.

HEALTH SERVICES PLANNING AND DESIGN

Architecture A6803x. Introduction to environmental and health problems. **3 pts**

Mr. Mann.

The identification of environmental and health needs in both the industrially developed and industrially developing countries. Seminars, lectures, and site visits.

Architecture A6810x. Introduction to health facilities planning and design. **3 pts**

Mr. Mann.

Seminars, lectures, and site visits related to basic fundamentals concerning health planning and health facilities programming, planning, and design. Analysis of case studies from various countries.

Architecture A6811y. Health facilities planning and design. **3 pts**

Mr. Mann.

Actual development, in depth, of specific health planning and health facilities planning, programming, and design case studies. Work in realistic settings in communities to be stressed.

Architecture A6830x. Environmental and health planning research formulation.

Mr. Mann. **1 pt**

Review of field trips, analysis of need, and consultation with instructors to develop a subject area for in-depth research in the spring term.

Architecture A6831y. Environmental and health planning research. **8 pts**

Mr. Mann.

Individual or team in-depth research, to provide significant additions to the existing knowledge of a selected area of interest. Paper and/or research proposal required.

URBAN DESIGN

Architecture A6850x-A6851y. Urban design studio I and II. **5 pts**

Mr. Eckstut.

The studio courses are concerned with physical results; they constitute the laboratory for all required support courses in the urban design program. Their objective is to demonstrate the design implications (constraints and opportunities) of concerns (legal, administrative, economic, and technical) generally regarded as having no design impact. The studios also give structural support to the seminar project and act as the production facility.

Studio I: introduction to the vocabulary and methodology of the practice of urban design. After analysis of the historical development and existing functional plan of New York City, exploration of the physical characteristics of different categories of land use (e.g., residential, commercial, industrial, and open space). Design exercises, field trips, and research to investigate prototypes of each land-use category for varying densities and for different site conditions. The student learns to analyze existing physical conditions as a series of relationships rather than as isolated incidents.

Studio II: application of material drawn from the supporting courses. Emphasis on the role and impact of an integrated urban design process on the public as chief beneficiary. Includes approaches and solutions to a related series of problems involving local area planning, the development of urban design guidelines and criteria, and finally, legislative controls.

Architecture A6860x-A6861y. Urban design infrastructure I and II. **3 pts**

Mr. Eckstut.

Open only to students in the urban design program.

Support elements in the city and how they serve to determine the built characteristics of the physical environment. Relationship of the following elements to land use and density: vehicular, rail, and pedestrian circulation; water supply; sewage; waste disposal; energy; communications; signage and lighting. Each system analyzed with regard to both technical considerations and potential for encouraging or inhibiting future development. Presentations by visiting lecturers from the appropriate government agencies or private industries. Completion of a research assignment each term is required.

Architecture A6863y. The implications of politics for urban design. **3 pts**

Mr. Heller.

Plans for physical development invariably undergo extensive modification as a project moves from the drawing board to the street. Perhaps the most important modifications result from the political process, both in the course of official review procedures (e.g., if zoning changes are required or public money is involved) and in the course of less formal community review procedures which are often more rigorous and more difficult to pass.

In this course an analysis is made, utilizing recent and prominent case histories in the New York region, of the influence of political decision making upon urban design methodology. Examples are selected from industrial, commercial, housing, and transportation planning projects. The course seeks to demonstrate the importance of building political acceptability into any urban design proposal, and to analyze perils and suggest some ways of meeting them.

Architecture A6890x-A6891y. Urban design seminar. **1 pt**

Mr. Cooper.

Introduction to concepts and actual practice of urban design. Each term, one prominent urban design issue, e.g., mixed-use zoning, air rights development, or neighborhood preservation, is selected. Guest lecturers, recognized as experts in the field, are invited to speak and participate in the term project. Students develop and produce a definitive research report on the history of the issue, and its current status and future possibilities. Other course work, especially the urban design studio, relate to and support the seminar effort.

RESEARCH AND THESIS

Architecture A6900x-A6901y. Research I or II. **2 pts**

Mr. Polshek and the staff.

Either term may be taken separately.

Prerequisite: a project outline and the written permission of a faculty project supervisor.
An introduction to the independent study of technical, scientific, and social aspects of architecture. Each student selects an area for investigation, plans an approach to his chosen subject matter, and develops an adequate presentation of his findings. The project may involve experimentation, accumulation of physical data, consultation with recognized authorities, or surveys of opinion and is expected to add significantly to the existing knowledge of the chosen subject.

Architecture A8900x-A8901y. Doctoral research I or II. **2 pts**

Mr. Polshek and the staff.

Either term may be taken separately.
Open only to Ph.D. degree candidates.
Prerequisite: a project outline and the written permission of a faculty project supervisor.
Individually conducted advanced research into technical aspects of building construction, town planning, and housing.

The following courses are offered in Columbia College for students pursuing a major in architecture:

Architecture C3101. Architectural graphics	**Mr. Rainey**	**2 pts**
Architecture C3103. Freehand drawing	**Mr. Gaunt**	**2 pts**
Architecture C3201. Elements of architectural design I	**Mr. Stern**	**4 pts**
Architecture C3202. Elements of architectural design II	**Mr. Stern**	**4 pts**
Architecture C3301. History of architecture I	**Mr. DeLong**	**3 pts**
Architecture C3302. History of architecture II	**Mr. DeLong**	**3 pts**
Architecture C3303. The architect in society	**Mr. Raskin**	**3 pts**
Architecture C3901. Senior seminar	**Mr. Mostoller**	**3 pts**
Architecture C3997-C3998. Independent study	**Mr. Stern**	**2 or 3 pts**
Architecture C3211. Intermediate architectural design I	**Mr. Scully**	**4 pts**
Architecture C3212. Intermediate architectural design II	**Mr. Scully**	**4 pts**

The following course is offered in Columbia College for students pursuing a major in urban studies:

Urban Studies C3880. Seminar in urban design	**4 pts**

Planning

INTRODUCTION TO PLANNING

Planning A4003x and y. Introduction to urban planning. **3 pts**

Mr. Kolodny.

Not open to candidates for the degree of M.S. in urban planning; open to graduate students in allied disciplines and professions.

An introduction to the practice and theory of urban planning. The planning function in American government; its basic sources of authority and legitimacy, and its role vis-à-vis other mechanisms for allocating resources: the market and the political process. A history of the profession as it has developed in the United States, with particular focus on the controversy surrounding the comprehensive plan, the nature of the public interest, and the planner's role as advocate. Review of some of the major substantive concepts in planning and the issues they are meant to deal with: the neighborhood concept, garden cities and new towns, greenbelts, urban renewal and neighborhood conservation, and development subsidies and incentives.

Planning A4005y. Economic, social, and political context of planning. **3 pts**

Ms. Boyer.

Focus on the structure and genesis of thought about the city and the urban public, and about the planning process in American city and regional planning. Particular emphasis on definitions of the boundaries of planning concepts in different historical periods and how they have limited the practice, policies, and programs of planning and have related and reacted to changing economic, social, and political contexts.

Planning A6001x. Introduction to the planning profession. **3 pts**

Messrs. Marcuse and Kolodny.

Required of all first-year students in the urban planning program.

The course consists of (1) lecture-discussions, covering the history and role of planning as a profession, the types of practice, and professional ethics; (2) small-scale studio/field work: an intensive examination of a concrete planning problem in New York and preparation of proposals for its solution; and (3) a project, largely student-directed, analyzing the School as a system, both to provide a model for the type of analysis offered by the School and to help orient the student to the environment in which he will work for two years.

THEORY

Planning A4112x. The city as a physical system. **3 pts**

Mr. Thomas.

An investigation of the interdependencies between the elemental activity systems of a culture and the physical forms which provide the matrix for living patterns. Historical comparative analysis—from Paleolithic villages to the new town movement—of the form of cities as a product of political, economic, and social forces. Discussion of some major theorists on urban form and design. Analysis of the grammar of urban physical pattern—public and private space, districts, pathways, use of water, green space, etc. Illustrated lectures, seminars, and case studies.

Planning A4114x. The city as a political system. **3 pts**

Instructor to be announced.

An examination of the relationship between urban planning and the political process, with particular attention to the resources, strategies, and tactics available to the professional planner for influencing local governmental policies.

Planning A4116y. The city as an economic system. **3 pts**

Mr. Kwok.

The economic theories that influence the structure and the dynamics of urban and regional development; functions of and relationship between city and region; linkages and interdependence of activities; location decision and transportation; analysis of land rent and land use competition; urban and regional growth and development; and economic issues in urban and regional planning.

Planning A4118x. The city as a social system. **3 pts**

Ms. Fainstein.

History and analysis of the city as a social system. The development of communities and neighborhoods; ethnic, racial, and religious groups; power structures; the distribution of incomes and occupations; class analyses; life styles and their effects on urban patterns; deviance; crime and the judicial system; bureaucracy; the role of technicians and professionals; the contributions and limitations of research in urban sociology.

Planning A4120y. Public intervention in the urban physical system. **3 pts**

Messrs. Grava and Schulman.

An exploration of the procedures and processes of deliberate public actions intended to modify or upgrade the physical environment or the form of the city. Survey of the specific methodologies and purposes of planning for transportation networks, various utility systems, recreational spaces, community facilities, public housing, etc. Review of the basic concepts of control mechanisms (such as zoning and subdivision regulations; building, housing, and sanitary codes) and of various legislative frameworks and requirements (such as urban renewal and environmental protection).

Planning A4122y. Public intervention in the urban social system. **3 pts**

Ms. Fainstein.

History, issues, and problems in the delivery of social services to urban communities: health, education, income maintenance, manpower training, and related service systems.

Architecture A4410y. Origins of design attitudes in modern *urbanisme*, 1750–1930. **3 pts**

Mr. Plunz.

Seminar on selected topics concerning the perceptions of contemporary architects and planners as these relate to urban form; an analysis of the relationship of design vocabulary to the conditioning of the designer's approach caused by social factors. Case studies emphasize the rise of deterministic thinking and the development of formal vocabularies of functionalism; intentional communities, growth, change, mobility, and social stratification as important form determinants; problems of applied fantasy and abstraction; and the phenomenon of scientific thinking and its resultant aesthetic.

ANALYTIC METHODS

Planning A4206x. Analytic methods I. **3 pts**

Mr. Vernez.

Introduction to analytic planning tools and their application, within the larger framework of urban analysis and planning process. Fundamental quantitative techniques in demography, land use, transportation, housing, physical infrastructure, urban services, and community facilities. Use of quantitative methods in the planning process, especially in reconnaissance, analysis, and plan evaluation. Examination of appropriate data sources, such as the U.S. Census. Review of statistics and financial analysis as necessary. Lectures, demonstrations, workshops, and field work.

Planning A4208y. Analytic methods II. **3 pts**

Mr. Fainstein.

Introduction to a number of basically nonquantitative methods with a general application to planning: demographic analysis; mass and elite interviewing techniques; sampling theory; survey instrument design; the use of polls and opinion surveys; study and research design; principles of evaluation research; participant observation and other techniques for community and organizational studies; inter- and intra-group processes and the role of the technical consultant; principles of community organization; proposal and report writing; the budget as a planning tool; oral, graphic, and audio-visual presentation techniques.

Planning A4210x. Introduction to computer application. **2 pts**

Messrs. Teng and Tountas.

An introduction to basic computer terminology, equipment, use, and programming. An investigation and survey of the application of electronic data-processing in urban planning and municipal operations—data handling, information systems, data banks, and retrieval. The development and use of mathematical models; statistical analysis; methods and utilization of graphic output; critical-path scheduling and project management. Lectures are accompanied by demonstrations and student work in analysis, programming, and preparation of instruction decks. Auxiliary equipment and the equipment of the University Computer Center are utilized.

Planning A6217y. Techniques of program evaluation. **3 pts**

Mr. Vernez.

Prerequisite: *Planning A4206* or the instructor's permission.
A selective review of the major evaluation techniques applied in the fields of urban planning and urban policy analysis: cost-benefit and cost-effectiveness analysis; PPBS; optimization, goal achievement, scenarios, and delphi procedures; metropolitan plan evaluation methods; simulation; sensitivity analysis; social experiments. Examination of theoretical issues and of the context and problems that define and constrain urban planning and program evaluation. Review of evaluation studies of new towns, metropolitan plans, and public services delivery. Lectures, seminars, and student projects.

Planning A6220x. Systems concepts in urban planning. **3 pts**

Mr. Grava.

Prerequisite: basic computer programming and mathematics and the instructor's permission.
An exploration of programming, systems analysis, simulation models, operations research, decision theory, and other new management, study, and data handling methods as to their applicability and use in city planning and urban studies. Lectures, seminars, and student projects. Emphasis on theoretical concepts and case studies.

Planning A6272x. Advanced quantitative methods. **3 pts**

Mr. Salama.

Prerequisite: *Planning A4206* or the instructor's permission.
An in-depth review of selected quantitative methods as they are developed in urban planning and in urban planning research, including multiple and partial correlation, casual inference and path analysis, analysis of covariance and dummy variables, factor and cluster analysis, and analysis of variance. A discussion of sampling from the large governmental data file, which has become increasingly available for urban policy analysis. Lectures, seminars, and student projects. Emphasis on theory and case studies.

Planning A6274y. Regional science and economic methods. **2 pts**

Mr. Salama.

Prerequisite: *Planning A4206* or the instructor's permission.
Methods of regional analysis with emphasis on environmental, social, political, and economic variables; urban and regional accounts; economic base and multiplier models; structural (input-output) and multiple-equation (econometric approach) models; techniques relevant to market analysis, impact analysis, locational analysis, and forecasting.

Architecture A4550y. Critical/descriptive writing for architects and planners.

Ms. Berkeley. **2 pts**

Students experiment with different kinds of writing—"objective," descriptive, humorous, critical, analytical—on subjects of concern to architects and planners. In most cases, the specific subjects are chosen by the students. Discussion centers on the writing *process:* how to define the readership, how to organize thoughts and notes, etc. Emphasis is on writing as a means of communicating ideas encountered in fulfilling the normal demands of professional practice, or in a related activity such as architectural journalism.

O.R. E4000. Introduction to methods of operations research. **3 pts**

For a complete description of this course, see the bulletin of the School of Engineering and Applied Science.

SECTORS

HOUSING

Planning A4304y. Housing: the economic and social elements. **3 pts**

Mr. Kolodny.

Prerequisite: the instructor's permission.
This course aims at a fundamental understanding of housing in its social and economic aspects. Emphasis is on the nature of the housing problem, the dynamics of the housing market, the history and current status of government attempts at intervention in the market and housing's place in resolving the major public issues of poverty, segregation, and urban growth and decay. Theory and analytic method are stressed.

Planning A6341y. Seminar on residential renewal in the inner city. **3 pts**

Mr. Kolodny.

Prerequisite: *Planning A4304* or the instructor's permission.
Exploration of theories of urban growth and decay as they pertain to residential land uses, and of the basic strategies devised to redevelop the inner cities and rehouse their populations. Students are expected to become acquainted in depth with the principles and practices of programs of slum clearance, public housing, urban redevelopment, urban renewal, neighborhood conservation, neighborhood preservation, relocation, demonstration and model cities, new towns-in-towns, and new-town and suburban development as mechanisms for decanting urban populations. A significant project of research and analysis is required.

Planning A6344x. Seminar in housing policy. **3 pts**

Mr. Kristof.

Prerequisite: *Planning A4304* or the instructor's permission.
Exploration of the major social, economic, and political issues confronting housing policy. Examination in a small working-group setting of alternative policy approaches to racial and economic segregation, abandonment and residential decay, urban growth, forms of public subsidy, balancing rights of ownership with those of occupancy, etc. A significant research effort is required.

Architecture A4538x. Development and finance. **3 pts**

Mr. Bell.

An introduction to economic decision making with regard to income-producing properties, through case study examinations of the effects of feasibility studies, political restraints, pioneering, financing, methods of leverage, taxation, and investment return. Successful and unsuccessful suburban and urban multifamily housing, shopping center, and office building projects.

Architecture A4539y. Advanced development and finance. **3 pts**

Mr. Bell.

Prerequisite: *Architecture A4538.*
A continuation of the analysis of sophisticated "deal making." An examination of the economics and feasibility of condominium conversions, hotel and motel operations, medical and specialized buildings, land acquisition, and restoration and rehabilitation. The general contractor; estimating and bidding. Pitfalls in leasing and management. Selected on-the-scene, in-depth economic evaluations of multifamily housing, shopping center, and office building complexes in the metropolitan area.

Architecture A4623y. Critical economic analysis of current housing technologies.

Mr. Bell. **2 pts**

Examination of the politics and economics of current (traditional and new) technologies, including economic comparisons of different structural systems: single family, low and high rise. Case study methods are used to determine the economic alternatives realistically available to the developer and architect for deciding which systems, technology, or combinations of technologies would be most likely to produce a financially feasible building venture.

Law-Planning W6141x. Housing and community development. **2 pts**

Mr. Parker.

Federal, state, and city programs. Public, non-profit, cooperative, and private housing problems. The role of the entrepreneur. Housing and urban renewal financing. Social, legal, economic, and administrative aspects of land use, housing, and urban renewal. Community improvement and urban planning assistance programs.

Law-Planning W6299y. Urban development controls. **3 pts**

Mr. Parker.

Problems of management and control of the development of housing in metropolitan areas. The economic and social impact of federal and state government control devices and the role of judicial intervention. The role of zoning in the inner city; regulation for aesthetic purposes; the exclusionary impact of land use controls on minority groups; new towns, planned unit development, and other innovations.

TRANSPORTATION

Planning A4404x. Urban transportation planning. **3 pts**

Mr. Thomas.

Examination of characteristics of the several modes of movement and the interdependencies between them. Appropriate analytical techniques for each mode are discussed. The transportation planning process, with its component analyses of the supply and demand functions of movement systems, is discussed in detail. Case studies of major transportation planning efforts are analyzed.

Planning A6434y. Transportation issues seminar. **3 pts**

Ms. Woody.

Prerequisite: *Planning A4404* or the instructor's permission.
Discussion of major issues in transportation at several levels, from national to local, and covering the economic, political, and social implications of decision making in transportation. Current topics and case studies are investigated.

Economics G6228. Urban land use, transportation, and public services. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Arts and Sciences.

Logistics and Transportation B6942. Economics of transportation. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Business.

Logistics and Transportation B8942. Economic transportation planning. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Business.

O.R. E4701. Transportation systems analysis. **3 pts**

For a complete description of this course, see the bulletin of the School of Engineering and Applied Science.

SOCIAL POLICY

Planning A4502x. Analysis of policy formation. **3 pts**

Mr. Marcuse. (Formerly *Planning A4722*)

Alternate theories of how public policy is in fact formed, from the rational model to pluralist political theory. Case studies of four areas of urban policy formation, selected from among housing, health, "anti-poverty," women's rights, and mass transit concerns.

Planning A4504y. Social issues and citizen participation. **3 pts**

Instructor to be announced. (Formerly *Planning A4763*)

Prerequisite: the instructor's permission.
A discussion of national population trends and problems; the evolution of social policy in relation to these trends and problems; and the interaction of planning with politics in the policy development process.

Planning A4506x. Advocacy planning. **3 pts**

Mr. Davidoff. (Formerly *Planning A4764*)

An analysis of the principles and dynamics of advocacy planning for comprehensive community development in urban areas: special emphasis on the planner's role as community organizer, technocrat-expert, and political advocate of community interest in resource development, facilities planning, and program production.

Planning A4508y. The planner as a manager of change. **3 pts**

Ms. Carter. (Formerly *Planning A4767*)

Examination of community change: strategies and methods; application of methods to simulated and real problems; identification and development of planner's skills in managing change.

Corporation Relations and Public Affairs B8450. Urban policy and management. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Business.

Political Science G4226. Political analysis of social programs. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Arts and Sciences.

Social Work T6801. Social welfare policy. **3 pts**

For a complete description of this course, see the bulletin of the School of Social Work.

Social Work T6812. Social services: policy and delivery strategies. **3 pts**

For a complete description of this course, see the bulletin of the School of Social Work.

Sociology G4047. Urban sociology and social policy. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Arts and Sciences.

Sociology W4068. Analysis of planned action. 3 pts. Not given in 1975–1976.

LESS DEVELOPED COUNTRIES

Planning A4602x. General issues in planning and development. **3 pts**

Instructor to be announced.

Fundamentals of planning history, theory, and concepts; emphasis on background and terminology of modern planning and on fundamental planning issues in less developed countries.

Planning A4604x. Preliminary planning research in less developed countries.

Instructor to be announced. **3 pts**

Investigation of information and sources applicable to planning in a specific geographic area—statistical materials, demographic, economic, and social indicators, administrative organization, institutional structure, etc.; evaluaton of the type, the extent, and the degree of detail of information available.

Planning A4610y. Introduction to planning problems in less developed countries.

Mr. Dunham. **2 pts**

An investigation into the planning problems characteristic of nations in the early stages of economic development. Physical and social results of rapid urbanization. Emerging norms and theories. Administrative and training requirements. The role of international technical assistance agencies. Housing policies, programs, and projects. Case studies of selected areas.

Planning A4612x. National development issues in less developed countries. **3 pts**

Mr. Kwok.

Exploration of economic issues and problems in development planning; review of the general conditions in less developed countries; the historical and theoretical contexts of development; analysis of the principal factors of development and growth models; and examination of development policies and the role of planning with reference to the institutional structure.

Planning A4614y. Urban-rural planning and housing development in contemporary China. **3 pts**

Mr. Kwok.

An investigation and survey of the problems in planning and housing of a developing socialist nation in view of its ideology and economy. The evolution of development and planning in attaining national goals under changing conditions. Analysis of planning concepts and policies, spatial pattern, implementation, causes and effects.

Planning A4616y. Housing and urban development in less developed countries.

Instructor to be announced. **3 pts**

The phenomenon of squatting and squatter-built housing; urban population growth and the demand for shelter; the impact of rapid urbanization on housing development; potential solutions to population growth and housing shortage.

Planning A4618y. Seminar on transportation and regional development in less developed countries. **2 pts**

Mr. Grava.

The role of transportation in development; adaptation and application of modern transportation planning techniques; various approaches to transportation development in relation to unequal regional distribution of income, resources, manpower, employment, and infrastructure.

Geography W4005. The geography of hunger and food supply. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Arts and Sciences.

International Affairs U4501. Comparative economic organization and policy. **3 pts**

For a complete description of this course, see the bulletin of the School of International Affairs.

International Affairs U6803. Modern world politics. **3 pts**

For a complete description of this course, see the bulletin of the School of International Affairs.

Public Health P6013. Health planning in developing countries. **2 pts**

For a complete description of this course, see the bulletin of the School of Public Health.

ENVIRONMENT

Planning A4704x. Planning and the natural environment. **3 pts**

Mr. Burke.

Impact of planning strategies on the natural environment. Historical and legislative background and the public role in environmental planning; including review of the National Environmental Protection Act of 1969 and the preparation of environmental impact statements. The importance of energy supply problems in shaping land use patterns; investigation of alternatives and conservation measures.

Planning A4707y. Techniques of environmental planning. **3 pts**

Instructor to be announced.

Specific skills and methods needed for environmental planning, including environmental aspects of conventional planning ranging from preparation of EIS' to the incorporation of environmental criteria into land-use planning.

Architecture A4652x. Environmental planning. **3 pts**

Mr. Gisolfi.

The effects of the natural environment on large and small-scale land planning decisions. Practical applications emphasized through class projects using published data on climate, geology, hydrology, soils, vegetation, etc.

Architecture-Law W6010y. Environmental impact statements. **1 pt**

Messrs. Grad and Harris.

Formulation and consideration of environmental impact statements; their legal aspects and influence on urban and regional planning. Relevant case histories.

Geography W4000. Environmental bases for regional and ecological studies. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Arts and Sciences.

Geography W4014. Conservation theory and environmental management. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Arts and Sciences.

HEALTH

Architecture A6803x. Introduction to environmental and health problems. 3 pts

Mr. Mann.

The identification of environmental and health needs in both the industrially developed and industrially developing countries. Seminars, lectures, and site visits.

Architecture A6810x. Introduction to health facilities planning and design. 3 pts

Mr. Mann.

Seminars, lectures, and site visits related to basic fundamentals concerning health planning and health facilities programming, planning, and design. Analysis of case studies from various countries.

Architecture A6811y. Health facilities planning and design. 3 pts

Mr. Mann.

Actual development, in depth, of specific health planning and health facilities planning, programming, and design case studies. Work in realistic settings in communities to be stressed.

Public Health P6012. Health, poverty, and the low income consumer. 2 pts

For a complete description of this course, see the bulletin of the School of Public Health.

Public Health P6502. Health care delivery systems. 3 pts

For a complete description of this course, see the bulletin of the School of Public Health.

ELECTIVES

Planning A4052y. New towns seminar. 3 pts

Messrs. Burke and Thomas. (Formerly *Planning A4703*)

Analysis of the concept of "contained" communities and their implications as a device for the expansion of existing urban constructs, as well as for the "colonization" of new areas. The planning and development process is dealt with in detail, considering legislation, economics packaging and marketing, social pattern design, implication of service systems as formative elements, and the physical plant. Experts in substantive areas are drawn from an increasingly active U.S. "new town movement."

Planning A4054x. The Urban Development Corporation: a prototypical public developer. 3 pts

Mr. Byard. (Formerly *Planning A4724*)

The New York State Urban Development Corporation as a prototypical governmental developer. An examination of the complex process by which new housing for the poor is produced; how the centralization of power in the UDC has simplified that process. The risks and rewards of the UDC experiment with an attempt to identify its reproducible aspects.

Planning A4056x. Municipal budgeting. 3 pts

Ms. Woody. (Formerly *Planning A4744*)

Introduction to budgeting systems and analysis of implications of these systems for the planner. Utilization of New York City budget and budgeting system as case study.

Planning A6052x. Planning law and administration. 3 pts

Mr. Schulman. (Formerly *Planning A6702*)

Prerequisite: *Planning A4120* or the instructor's permission.

An analysis of the various legal controls available to carry out official planning policy: zoning, official map and building control, subdivision regulations, building and housing codes, aesthetic and sign regulations, urban renewal, public development. Emphasis is on basic principles of constitutional law and on the inter-relationships of legislation, administration, and litigation. Practice in formulation of regulations. The administration of the planning and renewal development functions.

Planning A6054y. State and national land-use planning. **3 pts**

Instructor to be announced. (Formerly *Planning A6704*)

Review of current state and national land-use legislation. Constitutional issues; use of environmental criteria; social impact; relationship to local land-use planning; growth policies; effects of other state and national actions (contract awards, public facilities, transportation, employment policies, etc.) on land-use patterns.

Economics W4226. The economics of collective action. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Arts and Sciences.

Economics G6302. Economic planning. 3 pts. Not given in 1975–1976.

Geography W4022. Location theory. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Arts and Sciences.

Geography W4041. Urban geography. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Arts and Sciences.

History W4203. The medieval town. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Arts and Sciences.

History W4673-W4674. American urban history. 3 pts. Not given in 1975–1976.

Political Science G4241. The political setting of public administration. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Arts and Sciences.

Political Science G4231. Government and politics in metropolitan regions. **3 pts**

For a complete description of this course, see the bulletin of the Graduate School of Arts and Sciences.

RESEARCH AND PRACTICE

Planning A6911x-A6912y. Planning studio–field practice. **3 pts**

The staff. (Formerly *Planning A6811-A6812*)

A two-term program providing an opportunity for students in the second year to work on real planning programs in collaboration with and under the supervision of faculty. Emphasis on project and program planning for community and other public service organizations with limited technical assistance resources, and on policy analysis and policy planning for government agencies at the city and state levels. Field work, team consultation, and seminars.

Planning A6917x-A6918y. Thesis seminar. **1 pt and 2 pts**

Instructor to be announced. (Formerly *Planning A6817-A6818*)

Students earn one point of credit in the autumn term and two points in the spring term.

A two-term seminar consisting of an intensive, in-depth, thorough examination of a single problem in planning. In most cases, an individual written report is prepared, based on the student's own research. In some cases, it may be combined with or stem from work in the Studio–Field Practice Workshop. Students periodically meet together with faculty in seminar sessions for discussion of common problems and for progress reports. Meetings and discussions are correlated with sessions of *Planning A6919-A6920—Planning theory seminar.*

Planning A6919x-A6920y. Planning theory seminar. **2 pts and 1 pt**

Mr. Grava. (Formerly *Planning A6819-A6820*)

Students earn two points of credit in the autumn term and one point in the spring term.
An investigation of the various common and not-so-common theoretical approaches toward plan formulation and public decision making with respect to the urban environment. Starting with the traditional comprehensive process, most of the other defined models (such as incrementalism, rationalism, systemic planning, satisficing, mixed scanning, advocacy-pluralism, gaming, political economy, transactive, philosophical synthesis, organization development, opportunism, and quasi-Keynesian models) are explored. The conceptual antecedents and practical usefulness of each model are examined, utilizing case studies. Each student is expected, by the end of the course, to define a personal position vis-à-vis planning theory.

Planning A6925x-A6926y. Advanced research I and II. **2 or 3 pts**

The staff. (Formerly *Planning A6825-A6826*)

Either term may be taken separately.
Prerequisite: a project outline and the written permission of a faculty project supervisor.
Individual or small-group research, in consultation with a faculty member, in areas of the student's choice. Students are responsible for planning and conducting research activities and enlisting the cooperation of a faculty adviser.

Planning A8900y. Doctoral research colloquium. **3 pts**

Mr. Marcuse and staff. (Formerly *Planning A8800*)

Open only to Ph.D. degree candidates in planning or in closely related fields.
Discussion to center on advanced planning theory and on contemporary cases with methodological, conceptual, or policy implications, the specific format and subjects to be determined by the group.

The following course is offered in Barnard College for students pursuing a major in urban studies:

Urban Studies 11 (Barnard). Introduction to urban planning **Mr. Kolodny** **3 pts**

ADMISSION

OFFICE OF ARCHITECTURE ADMISSIONS: 400 Avery

Office hours: Monday through Friday, 10 to 4

Telephone: (Area code 212) 280–3510

All applicants receive consideration for admission without regard to race, creed, color, national origin, or sex.

In considering a candidate for admission to the Graduate School of Architecture and Planning, the Committee on Admissions is interested in his potential for intellectual and professional growth. A student's admission depends, therefore, on his demonstrated intellectual capacity and preparation in his field of study, and on his expectation of professional attainment.

Admission Procedure

Application forms may be obtained from the Office of Architecture Admissions and should be completed in accordance with the instructions accompanying them. Applicants should request the registrar of each of the colleges and professional schools he has attended to send an official transcript of his work directly to the Office of Architecture Admissions. Three letters of recommendation are required and should be submitted to the Office directly by the sponsors. A personal statement is required of all applicants. Information on additional required supporting materials is listed below under the name of the degree offered.

APPLICATION DEADLINES

FOR DEGREE CANDIDATES

Autumn term: Applications and all supporting material must be received by February 15.
Scholarship applications must be received by February 15.
Applications for the architectural technology program and for the health services planning and design program must be received before July 1.

Spring term: Only the architectural technology program offers spring admissions to beginning students.
Applications must be received by November 30.

FOR SPECIAL STUDENTS

Autumn term: Applications must be received by July 31.

Spring term: Applications must be received by December 15.

No application will be forwarded to the Committee on Admissions until all supporting documents and materials have been received. It is the applicant's responsibility to make sure that all of the materials he has requested and submitted have been received prior to the deadline for receipt of applications.

DEPOSIT

An applicant who has been accepted for admission as a degree candidate is required to pay a $50 deposit to the University within fifteen days after the notice of his acceptance. This deposit is applied toward his tuition when he registers; if he does not register, it is not refunded for any reason except entry into military service or the Peace Corps. Application for refund must be made in writing at the time of the admissions cancellation. Credit for the deposit may be extended for (1) twelve months when an applicant fails to register due to illness or other causes beyond his control, or (2) the period of active duty in the military service or Peace Corps. Proof of any extenuating circumstances may be required.

If the fee is not paid within fifteen days after he has received the notice of acceptance, he forfeits the place in the School that has been reserved for him.

Master of Architecture Degree (six terms)

Students are admitted to the M.Arch. program in the autumn term only, and they must attend on a full-time basis.

ACADEMIC PREPARATION

All applicants must have, at the time of enrollment, an undergraduate degree or the equivalent from an accredited college or university. An architecture major is not required. Candidates must have successfully completed the following courses for admission into the Master of Architecture program: one term of general physics (with laboratory), one term of drawing, painting, or sculpture, and two terms of a survey course in architectural history up to 1750. (All entering students will be given an architectural history proficiency examination. Based on the results of that examination, students will be advised to take one or more additional courses in architectural history presently offered in the School.) In special circumstances a student may be accepted for admission with a deficiency in one or more of the above on condition that such deficiency be removed by successful completion of the appropriate course or courses before entering the second year of the program.

Applicants are also required to take the Aptitude Test of the Graduate Record Examination. The test should be taken no later than two months before applications are due. Information may be obtained from the Graduate Records Examination, Educational Testing Service, Box 955, Princeton, New Jersey 08540.

A reading knowledge of a modern foreign language, a course in environmental studies, and some facility with mathematics (including an introduction to calculus) are recommended areas of preparation for applicants to the Master of Architecture program. Ability in mathematics will be tested by a proficiency examination immediately prior to the start of the first year's work, and students found needing more

instruction will be required to take *Architecture A3009—Applied mathematics* during their first term. The materials covered in this course (and in the proficiency examination) are basic elements of algebra, trigonometry and analytic geometry, and the rudiments of differential and integral calculus. Candidates wishing to familiarize themselves with this material are referred to the text by Salvadori, *Mathematics in Architecture* (Englewood Cliffs, New Jersey: Prentice Hall, 1968).

SUPPORTING MATERIALS

In addition to the application form and supporting documents, applicants must submit evidence of their graphic ability: paintings, drawings, prints, or graphic designs. Do not send slides. Submitted material should not be enclosed in a binder, should not exceed 8½ by 11 inches, and should not measure more than ½ inch in thickness. It will be returned by mail only if sufficient postage is included and the return address is clearly indicated.

ADMISSION AS A TRANSFER STUDENT

Applicants who wish to transfer from another architectural program may apply to the M.Arch. program for admission as transfer students. Advanced standing toward the M.Arch. degree for all relevant courses taken at other institutions is given only upon the recommendation of the faculty members in charge of the appropriate courses at Columbia and with the written approval of the Dean. Advanced standing will be awarded only in courses in which students have obtained a grade of C or better. No requests for advanced standing will be considered until official copies of relevant transcripts have been submitted to the Student Records Office. In some cases, faculty members may ask to see examples of previous course work.

Courses may be waived on the basis of professional experience or examinations in subject matter. Waivers do not carry point or course credit, and approved elective courses must be taken to fulfill the point requirements for the degree.

An estimate of the course work which prospective transfer students would be required to complete may be obtained during an interview with the Dean or one of his representatives and must be determined before or during the registration period. *All transfer students must complete a minimum of 60 points of course work at Columbia to obtain the Master of Architecture degree.*

PROFESSIONAL OPTION PLAN

The University provides opportunities for students in Barnard College and the School of General Studies to obtain their B.A. or B.S. degrees while completing the first year of the M.Arch. program in the Graduate School of Architecture and Planning. Since the details differ in each undergraduate division, students should consult the bulletins of the particular divisions in which they will be or are registered. Similar programs are available to or may be arranged for students enrolled in other colleges.

Applicants may enter only in the autumn term; they must attend on a full-time basis.

JOINT DEGREE PROGRAM IN ARCHITECTURE AND URBAN PLANNING

See page 33 for further information.

Master of Science Degree in Architecture and Urban Design (two terms)

All applicants for admission to the program leading to the M.S. degree in architecture and urban design must have a B.Arch. or M.Arch. degree or the equivalent. In addition to the application form and required supporting documents, applicants must submit a portfolio containing examples of their architectural designs, particularly from the last two years of undergraduate training. Preferably, the portfolio should not exceed 12 by 18 inches and should be submitted with the application. It will be returned by mail only if sufficient postage and packaging are included and if the return address is indicated on the portfolio.

Applicants for the M.S. program in urban design may enter only in the autumn term; they must attend on a full-time basis.

Master of Science Degree in Health Services Planning and Design (two terms)

All applicants for admission to this program must have a B.Arch. or M.Arch. degree or the equivalent or a professional degree in related fields. In addition to the application forms and required supporting documents, applicants must submit a portfolio containing examples of their architectural designs, particularly those executed during the last two years of their undergraduate training.

Applicants to the M.S. program in health services planning and design may enter only in the autumn term, but may attend on a full-time or part-time basis.

Master of Science Degree in Historic Preservation

Applicants for admission to the program leading to the M.S. degree in historic preservation must hold a first degree in architecture, landscape architecture, art history, American studies, history, or other related fields. It is recommended that candidates holding non-architectural degrees have taken two terms of history of architecture and one term of freehand or mechanical drawing.

Master of Science Degree in Architectural Technology (two terms)

Applicants for admission to the program leading to the M.S. degree in architectural technology must hold the B.S. degree in civil engineering or the equivalent, or the B.Arch. degree or the equivalent. All applicants must take the Aptitude Test of the Graduate Record Examination; they are urged to take it no later than two months before their application is due. Information may be obtained from the Graduate Record Examination, Educational Testing Service, Box 955, Princeton, New Jersey 08540.

Since several of the requirements for this degree may be taken in the evening, it is possible to enroll in this program on a part-time basis. Applicants may enter in either the autumn or the spring term.

JOINT DEGREE PROGRAM IN ARCHITECTURAL TECHNOLOGY AND CIVIL ENGINEERING

See page 29 for a description of this program.

Master of Science Degree in Urban Planning (four terms)

Since the program leading to the M.S. degree in urban planning is designed to prepare students from many different backgrounds for careers in the planning field, applicants may hold degrees in professional fields such as architecture, engineering, planning, and law. They may also hold degrees in the social sciences, usually sociology, political science, geography, or economics. Applicants may enter only in the autumn term; they must attend on a full-time basis. A course in statistics and one in economics, sociology, or political science (preferably related to urban issues) are required before entrance into the program. Courses in all three social sciences are recommended. Ability in statistics will be tested by a proficiency examination immediately prior to the start of the first year's work, and students needing more instruction will be required to take a recommended statistics course. The course will not carry credit toward the M.S. degree.

All applicants should, if possible, submit examples of term papers with their application and are required to take the Aptitude Test of the Graduate Record Examination. The test should be taken no later than two months before applications are due. Information may be obtained from the Graduate Record Examination, Educational Testing Service, Box 955, Princeton, New Jersey 08540.

JOINT DEGREE PROGRAMS IN URBAN PLANNING AND OTHER DISCIPLINES

See pages 33–34 for descriptions of these programs.

Doctor of Philosophy Degree

The programs leading to the Ph.D. degree are for students who wish to prepare themselves for professional careers in teaching or research. The University gives preference to applicants who have completed their undergraduate work within the last five years.

An applicant must hold, or expect to receive before his enrollment, a bachelor's degree in arts, letters, philosophy, or science. The degree work must ordinarily include no less than 90 points of liberal arts: courses in the humanities, the social sciences, and the pure sciences. Professional courses, such as architecture, are not credited towards the liberal arts requirements. The liberal arts requirement is ordinarily not fulfilled by the usual degree in architecture or engineering. An applicant whose only degree is in one of these fields should therefore be prepared to complete certain liberal arts requirements which will be outlined to him by the Graduate School of Arts and Sciences Director of Admissions before he can be admitted as a regular student in the doctoral program.

Applicants must apply on the Graduate School of Arts and Sciences application forms and should not use School of Architecture forms.

For further information on the program, the applicant should consult page 35 of this bulletin, as well as the bulletin of the Graduate School of Arts and Sciences.

Special Students

Under certain circumstances professionals in the field of architecture or planning may be eligible to take courses in the Graduate School of Architecture and Planning. These students must receive permission from the Office of the Assistant Dean for Admissions in order to obtain applications for admission as *special students* (nondegree candidates). Certain specified courses, including the design studios, are not open to special students. Requests for application forms and other information should be directed to the Office of Admissions.

If at a later date a special student wishes to apply for matriculation in either the M.Arch. or M.S. degree programs, he must file a formal application before the stipulated deadline. The Admissions Committee will not treat his application preferentially.

Students who take courses as special students and are later admitted to a degree program may be awarded advanced standing for up to 15 points of work taken as a special student. Those who wish to apply for degree candidacy are therefore urged to so do at the earliest possible time.

Summer Session

Certain introductory courses are available to students during the Summer Session. Those interested in applying should contact the Office of Summer Sessions Admissions, 103 Low Memorial Library (telephone 280–3331) for bulletins and application forms.

Foreign Students

In general, only those foreign students (1) who can understand rapid idiomatic English and can speak, write, and read English with a high degree of facility and (2) who can prove their ability to support themselves financially while in the United States are eligible for admission to Columbia. For a single student, a minimum of $6,300 for living and tuition expenses for each academic year (early September to mid-May), plus travel money, is considered essential. Since a foreign student holding a student visa (F) or exchange visa (J) is required by the United States Immigration and Naturalization Service to carry a full program of study, students should not plan to depend on income from outside employment.

All applicants who are admitted to Columbia and whose first language is not English, or who received their secondary or university education in countries where English is not the native language will, unless specifically exempted by the Office of Foreign Student Admissions, be required to take Columbia University's English Language Placement Test—even if they have taken the Test of English as a Foreign Language (TOEFL—see below). Students who do not meet the standards of the University may be required to take English language courses before beginning or in conjunction with their program of study. No point credit is given for these courses, and students should bear in mind the possibility that their period of study in the United States may be lengthened by their need to gain the required proficiency in English. Provision should therefore be made for the additional living and tuition expenses that may have to be met.

STUDENTS APPLYING FROM WITHIN THE UNITED STATES

Students applying from within the United States, whether non-immigrants or immigrants (permanent residents), should follow the standard application procedures.

If applying from outside the New York City area, students whose native language is not English or who did not receive their education in an English-speaking country should make arrangements to take the Test of English as a Foreign Language (TOEFL). Inquiries about this test, which is administered four times annually throughout the world, should be addressed to the Educational Testing Service, Princeton, New Jersey 08540. Applicants are urged to make arrangements to take either the November or the February examination.

If applying from within or near the New York City area, students should make an appointment with an adviser in the Office of Foreign Student Admissions, 102 East Hall, Columbia University, New York, N.Y. 10027 (telephone (212) 280–3587). They will then have to take the English Language Placement Test (in lieu of the TOEFL), unless exempted by this office.

STUDENTS APPLYING FROM OVERSEAS

Foreign students who expect to have non-immigrant status (F or J visa) and who are applying to Columbia from overseas should follow the following procedures:

(1) Students should write for a preliminary application to the Office of Foreign Student Admissions, 102 East Hall, Columbia University, New York, N.Y. 10027, U.S.A. This office will evaluate the preliminary application and notify the student whether he or she should proceed with a formal application for admission. No documentation or application fee is required in submitting a preliminary application. (2) Students whose native language is not English or who did not receive their education in an English-speaking country should make arrangements to take the Test of English as a Foreign Language (TOEFL). Inquiries about this test, which is administered four times annually throughout the world, should be addressed to the Educational Testing Service, Princeton, New Jersey 08540, U.S.A. Applicants are urged to make arrangements to take either the November or the February examination.

FINANCIAL AID

Students desiring financial aid who reside in countries that have a United States Educational (Fulbright) Commission should apply through the Commission. Information about the Commission, and about Fulbright grants (both travel and full-support grants) may be obtained from the nearest United States Embassy, Consulate, or Information Service. Students in Great Britain who wish to request financial aid should apply through the English-Speaking Union, 37 Charles Street, London, W1X-8AB, England. All other applicants should write to the Office of Foreign Student Services, 102 East Hall, Columbia University, for a preliminary application. If the preliminary application is found to be satisfactory, a final application for admission to the School will be sent by the Foreign Student Admissions Counselor. Students interested in applying should begin the application procedure one year before they wish to enter.

FOREIGN STUDENT SERVICES

The staff of the Office of the Foreign Student Adviser, 106 East Hall, provides advice and counseling to foreign students on such matters as housing, personal and financial problems, and regulations of the United States Immigration and Naturalization Service (visas, extensions of stay, work permission, temporary departure from the United States, transfer from Columbia to another school, termination of study). Information about the various foreign student clubs at Columbia and about opportunities to attend conferences, travel in the United States, and participate in community and cultural activities may be obtained from this Office. Maps of New York City and discount tickets to concerts and plays are available.

The staff of the Office of Foreign Student Admissions, 102 East Hall, provides information and counseling on University admission, advanced standing, English proficiency examinations, and academic placement.

DEGREE REQUIREMENTS

The requirements for the various degrees are outlined in the programs of the three divisions. In addition, the student must meet the requirements given below.

Curriculum

Students are responsible for the completion of the curriculum in the stated order. Petitions for exceptions may be made, in writing, to the Dean.

While the curricula, with the exception of the doctoral program, are for specified periods of one, two, or three years, these are minimum periods and not guaranteed times for completing the degree requirements, particularly in the design sequence.

Design Review

A comprehensive review by the faculty and staff of the design work of every M.Arch. candidate is made at an appointed time. The student must earn a satisfactory recommendation from the design review committee before he is allowed to register for the next design course. The committee may recommend that the student be dropped or that he be required to complete additional design work and submit to another review before being permitted to proceed to the next term of the design program.

Academic Standing

Quality performance is required of the students admitted to the School. Students receiving a grade of F in any design course, or in non-design courses more than one F (or its equivalent), are not allowed to continue. While consideration is given to particular cases where a student's work has suffered because of illness, the student may be required to take additional work to demonstrate that he has overcome the problems which have resulted in his poor record.

Advanced Standing

No advanced standing may be granted until a student has successfully completed one year in the Master of Architecture degree program or one year in the program leading to the award of the M.S. degree in urban planning.

Courses applied toward one degree may not be applied toward another degree.

Leave of Absence

A leave of absence may be granted upon the student's written request after satisfactory completion of one year in the Graduate School of Architecture and Planning. A leave of absence assures readmission to the School provided the student complies with the terms of the leave. Leaves of absence are only granted to students in good standing.

Doctor of Philosophy Degree

The doctoral study program prepares candidates for academic careers in teaching and research; it is not intended to be an advanced professional training program. The academic orientation of the program is evident from the fact that it is sponsored by the Graduate School of Arts and Sciences rather than by the Graduate School of Architecture and Planning.

The program aims to help candidates acquire comprehensive and meaningful understanding of processes shaping urban environment and to discover ways of directing these processes through policies and programs to realize social goals. Thus, attainment of a high level of individual scholarship and a demonstrated capacity for research are the two significant criteria for judging a candidate's suitability for the award of the Ph.D. degree.

The course requirement and choice of fields of specialization have been defined broadly to allow candidates some freedom to follow their inclinations. For the specific requirements of the various doctoral programs, the chairmen of the divisions in the School of Architecture should be consulted. Prospective students are also advised to consult the Graduate School of Arts and Sciences bulletin for further information on the general requirements for the Ph.D. degree.

In brief, the requirements for the Ph.D. degree are as follows:

Courses: every candidate is required to complete 60 points of course work, of which at least 30 points must be earned in residence at Columbia.

Languages: a candidate must demonstrate the ability to read and translate professional literature from two foreign languages. In special cases mathematics may be substituted for one of the two required languages.

Certifying examinations: after completing the course work and language requirements, a student must pass an oral and written examination to be certified as a Ph.D. candidate.

Dissertation: a publishable research report presented in the form of a dissertation and its defense is the final requirement for the Ph.D. degree.

The student is expected to complete all requirements within a period of seven years after his initial enrollment. Those granted advanced standing must complete their studies in a correspondingly shorter period.

Application forms and a bulletin of the Graduate School of Arts and Sciences can be obtained from the Graduate School of Arts and Sciences Office of Student Affairs, 106 Low Memorial Library, Columbia University, New York, N.Y. 10027.

REGISTRATION AND EXPENSES

Registration

The registration procedure for all students is as follows (see the Academic Calendar for dates):

1. The student reports to the Student Affairs Office, 400 Avery, where he or she obtains registration cards and instructions.

2. The student's program must be approved by his or her academic adviser. The student then proceeds to the Student Affairs Office in order to have the course cards signed.

3. The signed cards are then presented to the Bills and Charges department, after which the student pays the required fees. The location of the appropriate offices is given in the registration instructions.

Students in the master's program in health services planning and design report to Room 510 at the School of Public Health after they have completed the above registration procedure. They will be asked to fill out a Course Permission Form A-2 and a Course Application Blank A-3 for each course that they will take at the School of Public Health. Signatures are required on both forms: from the professor of the course and from the design critic in charge of the program. Students who do not complete these forms will not be considered registered by the School of Public Health.

On registration days the Registrar's Office, 208 Philosophy, is open from 9 a.m. to 8 p.m.

The Student Affairs Office is open during registration periods from 9 a.m. to 8 p.m.

All students will be asked to give Social Security numbers when registering in the University. Those who do not now have a number should obtain one from their local Social Security office well in advance of registration.

Registration for the second year will not be permitted until all entrance deficiencies have been removed unless special arrangements have been made with the Student Affairs Office before the end of the first year.

A student who is not a citizen of the United States and who is registering at the University for the first time must secure a clearance from the Office of the Foreign Student Adviser in East Hall before registering for courses. The Office will help the student to obtain a Social Security number.

Orientation Program for New Foreign Students

The Office of Foreign Student Services orientation program for new foreign students takes place on Friday, August 29. For further information, consult the Office of the Foreign Student Adviser, 106 East Hall (extension 3591).

Students who are required to take the English Language Placement Test may do

so as early as Tuesday, August 26. Test schedules will be available in 211 Lewisohn Hall or at the Office of Foreign Student Services, East Hall.

Auditing Courses

Degree candidates who are registered for 15 points or more in the current term may audit one or two courses in any division of the University without charge. Application is made at the Registrar's Office, 208 Philosophy, during the change-of-program period in each term: Monday, September 8, through Friday, September 12, for the autumn term; Thursday, January 22, through Wednesday, January 28, for the spring term. Applications may not be filed before or after these dates.

Applications require *(a)* the certification of the Registrar that the student is eligible to audit, and *(b)* the approval of the dean of the school in which the courses are offered. For approval to audit graduate courses, consult the Graduate School of Arts and Sciences Division in the Registrar's Office. For obvious reasons, elementary language courses, laboratory courses, studio courses, applied music courses, and seminars will not be open to auditors. Other courses may be closed because of space limitations. In no case will an audited course appear on the student's record, nor is it possible to turn an audited course into a credit course by paying the fee after the fact. Courses previously taken for credit may not be audited.

Changes in Programs of Study

A student who wishes to drop courses or to make other changes in his program of study must obtain written approval from the Student Affairs Office on a special form. The deadline for making program changes is Friday, September 12, in the autumn term, and Wednesday, January 28, in the spring term (see the Academic Calendar). In no case will permission to drop courses be granted after the last day of classes in each term. *Failure to attend classes or unofficial notification to the instructor does not constitute dropping a course and will result in a failing grade in the course.*

Tuition for courses dropped during the change-of-program period will be refunded in full, but the comprehensive fee will not be reduced. For courses dropped after the last day for change of program, no adjustment will be made.

Grades

All students registered in the School of Architecture will be graded on the pass-fail system described below:

P = Pass (This grade indicates an acceptable level of work.)
F = Fail (The grade of F is a final grade and is not subject to reexamination.)

A written evaluation of each student's performance will be provided by his instructor. These evaluations will indicate how well the student succeeded in accomplishing the course objectives.

The mark of R (registration credit; no qualitative grade earned): accepted for degree credit only in the doctoral programs. The mark of R is given only to those students who indicate, upon registration, that they intend to take the course for R credit, or who file notice of change of intention with the office of the Registrar not later than the last day for change of program. Students wishing to change to R credit after this date are required to submit the Dean's written approval to the Registrar. (The mark of R is entered on the student's record by the Registrar, and thus is not a grade given by the instructor.) It should be noted further that a course which has been taken for R credit may not be repeated later for examination credit.

The mark of ABS (absent from the final examination): granted by the instructor, not later than the day of the examination, to a student whose attendance and progress have been satisfactory and who cannot be present because of sickness or some other extreme emergency. The student must make arrangements with his department to take a special examination. If the ABS is not removed within one year, it will automatically be changed to an F. An application fee of $10 is charged for each special examination.

The mark of INC (incomplete): given to a student who has satisfactorily met all the requirements of a course except for the completion of certain assigned papers or reports which he has been compelled to postpone for reasons beyond his control and satisfactory to the instructor. If the INC is not removed by the completion of the required work within one year, it will be automatically changed to an F. *The mark of INC cannot be assigned without approval from the Dean's Office.*

The mark of YC (year course): given at the end of the first term of a course in which the full year's work must be completed before a qualitative grade is assigned. The grade given at the end of the second term is the grade for the entire course.

The mark of CP (credit pending): given only in graduate research courses in which student research projects regularly extend beyond the end of the term. Upon completion, a final qualitative grade is assigned and credit allowed. The mark of CP implies satisfactory progress.

Regulations

According to University regulations, each person whose registration has been completed will be considered a student of the University during the term for which he or she is registered unless the student's connection with the University is officially severed by withdrawal or otherwise. No student registered in any school or college of the University shall at the same time be registered in any other school or college, either of Columbia University or of any other institution, without the specific authorization of the dean or director of the school or college of the University in which he or she is first registered.

The privileges of the University are not available to any student until he or she has completed registration. Since, under the University statutes, payment of fees is

part of registration, no student's registration is complete until his or her fees have been paid. A student who is not officially registered for a University course may not attend the course unless granted auditing privileges (see page 74). No student may register after the stated period unless he or she obtains the written consent of the appropriate dean or director.

ATTENDANCE AND LENGTH OF RESIDENCE

The minimum residence requirement for each Columbia degree is 30 points of course work completed at Columbia University. Therefore, a student who wishes to receive both a master's degree and a doctorate from Columbia should be aware that any advance standing awarded for graduate work completed elsewhere will not reduce the 60 points of residence credit required for obtaining both degrees.

Students are held accountable for absences incurred owing to late enrollment.

RELIGIOUS HOLIDAYS

It is the policy of the University to respect its members' observance of their major religious holidays. Officers of administration and of instruction responsible for the scheduling of required academic activities or essential services are expected to avoid conflict with such holidays as much as possible. Such activities include examinations, registration, and various deadlines that are a part of the academic calendar.

Where scheduling conflicts prove unavoidable, no student will be penalized for absence due to religious reasons, and alternative means will be sought for satisfying the academic requirements involved. If a suitable arrangement cannot be worked out between the student and the instructor involved, students and instructors should consult the appropriate dean or director. If an additional appeal is needed, it may be taken to the Provost.

Some of the major holidays occurring on weekdays during the current academic year are:

Monday, September 15	Yom Kippur
Thursday, Friday, April 15, 16	First days of Pesach
Friday, April 16	Good Friday
Wednesday, Thursday, April 21, 22	Concluding days of Pesach

LEAVES OF ABSENCE

All degree candidates who enrolled for the first time in September 1962 or thereafter are required to attend the School continuously until they have completed all the course requirements for their degree. If a student wishes to interrupt his studies for any reason, he must apply in writing to the Dean, stating the reason and period of the leave. A leave already granted may be extended at the discretion of the Dean.

READMISSION AFTER AN UNAUTHORIZED ABSENCE

Students who absent themselves without obtaining a leave of absence must apply for readmission to the School. This formal application must be made to the Admissions Office *at least one month* before the student expects to resume his studies.

ACADEMIC DISCIPLINE

The continuance of each student upon the rolls of the University, the receipt of academic credits, graduation, and the conferring of any degree or the granting of any certificate are strictly subject to the disciplinary powers of the University.

CONDUCT

All members of the University community, its visitors and guests, are governed by the Rules of University Conduct, which apply to all demonstrations, including rallies and picketing, that take place on or at a University facility. It is the student's responsibility to be aware of all provisions, regulations, and procedures contained in the Rules. Copies are available in the Office of the University Senate, 406 Low Memorial Library.

Estimated Expenses

The approximate cost of attending the University for the academic year of eight months is as follows:

Tuition and fees for a 30-point program	$3,853.00
Living expenses (room, board, books, clothing, laundry, travel, sundries)	2,700.00
	$6,553.00

MATERIALS

Books and supplies for first-year students will cost around $100; for others, around $75. The School furnishes lockers and drafting tables, but students must supply their own paper, instruments, and materials.

The School reserves the right to retain a copy of any work submitted for credit—drawings, designs, plates, essays, or models, as well as any fellowship competition drawings—whether submitted by graduates or by students in residence.

PERSONAL EXPENSES

The University advises each student to open an account in one of the local banks as soon as he arrives in New York City. Since it often takes as long as three weeks for the first deposit to clear, he should cover his immediate expenses by bringing with him travelers checks or a draft drawn on a local bank.

Tuition and room rent may of course be paid by check, and any excess will be refunded to the student after the check has cleared.

INCOME TAX DEDUCTIONS

According to Treasury decision 6291, under Section 162 of the 1954 Internal Revenue Code, income tax deductions are allowed in many instances for tuition and other educational expenses. Students are referred to the federal ruling on income tax deductions for teachers and other professional people seeking to maintain or improve skills required in their employment.

Fees

The following fees, prescribed by statute *for each autumn or spring term,* are subject to change at any time at the discretion of the Trustees.

Tuition, the health service fee, health insurance premium, and special fees are payable each term in advance and as part of registration.* If these fees are paid after the last day of registration (see the Academic Calendar), they will not be reduced, and a late fee of $10 will be imposed. Checks for tuition and fees should be made payable to Columbia University.

COMPREHENSIVE FEE

For degree candidates engaged only in research	$150.00

TUITION

For all courses, per point, except where a special fee is fixed	$ 125.00
With the proviso that for degree candidates the tuition for a program of 15 to 19 points shall be, per term	1,875.00

HEALTH INSURANCE FEE AND HEALTH INSURANCE PREMIUM

Payment of the health service fee, which is merely contributory to the total cost of health service, and of the health insurance premium is compulsory for some students and optional for others. Students for whom payment is compulsory may waive participation in one or both of the health plans by showing proof of comparable coverage. For benefits attainable under these plans, for regulations governing waiver of participation, and for other information, see "Medical Care and Insurance," on pages 80–81.

* However, the newly admitted degree candidate in the Graduate School of Architecture and Planning is required by the School, upon acceptance, to submit a deposit in order to reserve a place in the entering class. This amount is credited toward tuition when the student registers. See page 63.

Health service fee, per term	$26.00
Student accident and health insurance premium	
For the autumn term (September 1–February 1)	
Student only	$21.00
Additional cost for one dependent (optional) *	29.00
Additional cost for two or more dependents (optional) *	50.00
For the spring term and summer period (February 1–September 1)	
Student only	30.00
Additional cost for one dependent (optional) *	40.00
Additional cost for two or more dependents (optional) *	69.00

APPLICATION FEES AND LATE FEES

Application for admission as a degree candidate	$20.00
Application for admission as a special student	5.00
Application for each special examination	10.00
Renewal of application for a degree (see below)	1.00
Late registration	10.00
Late application, or late renewal of application, for a degree	10.00

WITHDRAWAL AND ADJUSTMENT OF FEES

A student in good academic standing who is not subject to discipline will always be given an honorable discharge if he wishes to withdraw from the University. If he is under twenty-one years of age, his parent or guardian must first give consent in writing to the proper dean or director.

Any student withdrawing must notify the Registrar in writing at once; any adjustment of the tuition that he has paid is reckoned from the date on which the Registrar receives this written notification. (For partial withdrawal, see "Changes in Programs of Study," on page 74).

The health service fee, health insurance premium, application fees, late fees, and special fees are not refundable.

In addition, at a minimum, the following amount of tuition will be retained:	
Students registered for 12 or more points	$50.00
Students registered for less than 12 points	25.00

After September 12 in the autumn term or January 28 in the spring term, the above amount is retained *plus* an additional percentage of the remaining tuition (as indicated in the adjustment schedule below) for each week, or part of a week, that the student remains registered after these dates. The student is considered registered until the date on which his written notice of withdrawal is received by the Registrar.

* Unmarried children must be under the age of nineteen. Dependent coverage is available upon application to Frank B. Hall & Co., Inc., Benefit Consulting Division, 83 Pine Street, New York, N.Y. 10005. The premium for this coverage is paid directly to the company by the student.

ADJUSTMENT SCHEDULE

	Minimum Tuition Retained	*Percentage of Remaining Tuition Retained*
Up to and including dates specified above	$25 or $50	0
Following week	25 or 50	10
Second following week	25 or 50	20
Third following week	25 or 50	30
Fourth following week	25 or 50	45
Fifth following week	25 or 50	60
Sixth following week	25 or 50	75
Seventh following week	25 or 50	90
Eighth following week	25 or 50	100 (no adjustment)

APPLICATION OR RENEWAL OF APPLICATION FOR A DEGREE

Degrees are awarded three times a year—in October, January, and May. A candidate for any Columbia degree (except the doctoral degree) or for a certificate must file an application with the Registrar, in 208 Philosophy. In the 1975–1976 academic year, the last day to file for an October degree is August 1; for a January degree, October 31; and for a May degree, February 16. A late fee of $10 will be charged after these dates and until the expiration of the *late* filing period for each conferral date (September 4 for October degrees, December 5 for January degrees, April 5 for May degrees). Applications received *after* the late filing period will automatically be applied to the next conferral date.

If the student fails to earn the degree by the conferral date for which he or she has made application, the student may renew the application by paying a renewal fee of $1. A $10 late fee will be charged for late filing of renewals of application according to the same schedule as for original applications (see above).

REQUESTS FOR TRANSCRIPTS

Transcripts may be requested by writing to the Office of the Registrar, 201 Philosophy Hall, Columbia University, New York, N.Y. 10027. *Official* transcripts must be sent by the University directly to an official address such as another university, a college, a business firm, or a government agency. However, a student may request that an unofficial transcript (stamped "Student Copy") be sent to him or her. There is a charge of $2 for each transcript requested except those which are sent between offices of Columbia University. Checks accompanying transcript requests should be made payable to Columbia University.

Medical Care and Insurance

The University has authorized a two-part program of medical service to protect and promote the health of its students. First is the University Health Service itself, which provides the following services to students who pay the health service fee:

(1) ten days bed care in the infirmary each term and four days of ward care in St. Luke's Hospital; (2) laboratory studies and x-rays ordered by the Health Service; (3) medical, surgical, and psychiatric consultation in the Health Service; and (4) one consultation with a specialist when recommended by a Health Service physician. A student is not eligible for this case during the summer unless he has paid the Summer Session health service fee. See the bulletin of the Summer Session for further details.

Second is the Student Accident and Health Insurance (SAHI), which supplements the Health Service by providing coverage against in- or out-of-hospital accident and in-hospital illness anywhere in the world throughout the entire calendar year. The benefits under the policy are described in a brochure which may be obtained from the Columbia University Health Service, 1091 Amsterdam Avenue, New York, N.Y. 10025, or from the Registrar's Office, Bills and Charges Division, 208 Philosophy Hall, Columbia University, New York, N.Y. 10027. Basically, SAHI provides benefits of up to $1,000 for any one accident, after which it pays 80 percent of further expenses up to an additional reimbursement of $10,000. Within the limits of the schedule of benefits given in the brochure, coverage for an illness includes hospital room and board; surgeons', nurses' and physicians' fees; hospital services and supplies; and ambulance service. In addition to the basic illness benefits, Major Medical pays 80 percent of further expenses up to an additional reimbursement of $10,000 ($3,000 for mental or nervous disorders). The policy can, if the student elects to pay a higher premium, be extended to cover his dependents (see the schedule of fees).

The health service fee and the cost of the SAHI premium are automatically charged *(a)* all students registered for 12 or more points and *(b)* all students certified as full-time by their departments regardless of points. Students living in the University residence halls who are not included in categories *(a)* or *(b)* will be charged the health service fee only. A part-time student who is registered for less than 12 points may, if he wishes, participate in the combined health service–SAHI program by filing application in the Registrar's Office not later than September 12 in the autumn term and January 28 in the spring term, and by paying the fee and the premium. A student who is not in the health service–SAHI program is entitled only to emergency first-aid care in the University Health Service.

A student who already has an accident and health insurance policy will be exempted from paying the SAHI premium if he can show proof of comparable coverage (for example, a Blue Cross–Blue Shield Identification Card). The deadline for submitting proof of comparable coverage to the Registrar's Office is September 19 in the autumn term and February 4 in the spring term.

Participation in the health service plan may be waived by students who present documentary evidence that they are covered by H.I.P., G.H.I., or Medicaid, or that they are members of the armed forces or the dependents thereof. It may also be waived for graduate students who are registering only to defend their doctoral dissertations and for students who present certification from their deans or departmental chairmen that they are registering for research or study *in absentia*. Such evidence must be presented in the Registrar's Office not later than September 12 in the autumn term and January 28 in the spring term.

The costs of the medical care and insurance program are listed in the schedule of fees on pages 78–79.

Housing

ON CAMPUS

The University provides limited housing for undergraduate and graduate men and women who are regularly registered either for an approved program of full-time academic work or for work being done on a doctoral dissertation. The University residence halls are shown on the campus map (inside back cover). The rates below are for the academic year 1974–1975.

Rates in the residence halls (Harmony, Hudson, John Jay, Johnson, McBain, Ruggles, and 70 Morningside Drive) for single and double rooms range from $600 to $900 per person, with $787 the average rate. Meals are available in the John Jay or Johnson Hall dining rooms on weekdays when classes are in session. These may be paid for in cash or through subscription to a board plan. Inquiries from men students should be directed as early as possible to the Residence Halls Office, 125 Livingston Hall, Columbia University, New York, N.Y. 10027. Inquiries from women students should be directed as early as possible to Johnson Hall, 411 West 116th Street, New York, N.Y. 10027.

Woodbridge Hall, at 431 Riverside Drive, is a University residence hall for married full-time graduate students. Each apartment contains a living room, a bedroom, a complete kitchen, and a bathroom; basic furniture is provided. Rates range from $1,890 to $2,290 a year, including utilities, and assignment is for the full academic year. Inquiries should be directed to the Residence Halls Office, 125 Livingston Hall.

Burgess, at 542 West 112th Street, is a newly renovated, air-conditioned building for married full-time graduate students. Accommodations range from efficiency apartments (one room plus kitchenette and bath) to two-bedroom apartments; basic furniture is provided. Rates range from $156 to $252 a month, including utilities. Requests for further information and for application forms should be directed to the Office of University Housing, 400 West 119th Street, New York, N.Y. 10027. Students are urged to apply as soon as they apply to the School.

OFF CAMPUS

Students who wish to live in furnished rooms or apartments off campus may consult the Registry of Off-Campus Accommodations, McBain Hall, 562 West 113th Street, New York, N.Y. 10025, for information.

International House, a privately owned student residence near the campus, has accommodations for about five hundred graduate students, both foreign and American. Rates are $99 to $128 a month for the academic year, and include a continental breakfast, linen and maid service, and membership and program fees. A cafeteria, recreational facilities, and a varied program are available to members. To be eligible for admission a student must be at least twenty-one years old and must be registered for at least 12 points or for a program of full-time research. Inquiries should be addressed to the Committee on Admissions, International House, 500 Riverside Drive, New York, N.Y. 10027.

FINANCIAL AID

Financial aid programs are administered without regard to race, creed, color, national origin, or sex.

Fellowships and Scholarships

The Graduate School of Architecture and Planning awards fellowships and scholarships to its students in annual competition. A fellowship is an academic honor accompanied by an award which defrays tuition and fees. A scholarship is an award, on grounds of scholarly competence and need, which defrays all or part of the cost of tuition and fees. The term of each award, except for traveling fellowships, is one academic year.

No services to the School or to the donor of the fellowship or scholarship are required, nor shall there be any restriction on publication of studies or research as a condition of the grant.

Fellows and scholars, unless they are traveling fellows, are expected to reside in New York City or its vicinity during the term of the award in order to devote full time to academic studies.

Stipends are paid by the Bursar in two installments: one-half at the time of registration for the autumn term, the remainder at the beginning of the spring term. The fellow or scholar must register not later than the registration dates specified in the Academic Calendar, or the School will consider the fellowship or scholarship vacated and may appoint someone else in his place.

Fellowships and scholarships may be cancelled at any time for failure to maintain a satisfactory academic standard or to comply with the terms of the award.

Application Procedure

Fellowships and scholarships have already been awarded for 1975–1976. Applicants for admission who are also applicants for fellowships or scholarships must submit the application by February 15, 1976. Applicants for fellowships or scholarships who are currently enrolled in the School but who are applying for admission to a second degree program must also submit the application for admission and fellowships by February 15. The special forms on which application must be made can be obtained by writing to, or calling, the Office of Student Affairs. Awards will be announced in April.

Applicants for financial aid who are currently enrolled in the M.Arch. or M.S. programs of the School should apply for financial aid before February 15. Full-time enrollment (12 points per term) is required of all students receiving financial aid.

ENDOWED FELLOWSHIPS AND SCHOLARSHIPS

ARCHITECTURE ALUMNI FUND FOR STUDENT AID

One partial tuition scholarship awarded annually. Gift of the Architecture Alumni Association.

LEOPOLD ARNAUD SCHOLARSHIP

One partial-tuition scholarship awarded annually. Gift of various donors.

QUINCY WARD BOESE FELLOWSHIP

One fellowship awarded annually. Bequest of Quincy Ward Boese.

BORING FELLOWSHIP

One fellowship awarded annually. Gift of Edward C. Moore, Jr.

GEORGE W. ELLIS FELLOWSHIPS

Two fellowships awarded annually to graduate students who are residents of the state of Vermont or who are graduates of a Vermont college or university. These awards are open to students in other divisions of the University as well as to architecture students. The bequest of George W. Ellis.

WILLIAM KINNE FELLOWS TRAVELING FELLOWSHIPS

Several fellowships awarded annually. Open to members of the graduating class for study and travel for a period of at least three months during the summer before their final year or after graduation. See pages 5–6 for further information.

EDWARD HALE KENDALL SCHOLARSHIP

One scholarship awarded annually. Bequest of Edward Hale Kendall.

VINCENT G. KLING SCHOLARSHIP

One scholarship awarded annually to a third- or fourth-year student who shows promise in design. Gift of the employees of Vincent G. Kling and Associates.

CHARLES F. MCKIM TRAVELING FELLOWSHIP

One fellowship awarded every sixth year. Open to graduates of the School. Gift of Charles F. McKim.

WILLARD B. PERKINS FELLOWSHIP

One fellowship awarded annually. Bequest of Willard B. Perkins.

JAMES RENWICK, JR., SCHOLARSHIP

One scholarship awarded annually. Bequest of Anna Cooper Renwick.

LYDIA C. ROBERTS FELLOWSHIPS

Several fellowships awarded annually. Open to students born in Iowa who have been graduated from an Iowa college or university. Each holder, when accepting the award, must state that it is his purpose to return to Iowa for at least two years after he completes his studies at Columbia. Holders are eligible to apply for reappointment. These awards are open to students in other divisions of the University as well as to architecture students. A gift of Lydia C. Chamberlain.

F. AUGUSTUS SCHERMERHORN SCHOLARSHIP

One scholarship awarded annually. Established by the Trustees in honor of F. Augustus Schermerhorn.

LILA W. VAN DER SMISSEN SCHOLARSHIP

One scholarship awarded annually.

GEORGE BRECHER WEITZMAN FELLOWSHIP

One scholarship for the study of architectural history awarded annually to a graduate student who has received a bachelor's degree in architecture. Gift of Morris Brecher.

NATIONAL, REGIONAL, AND FOUNDATION FELLOWSHIPS

AMERICAN INSTITUTE OF ARCHITECTS—AMERICAN INSTITUTE OF ARCHITECTS FOUNDATION SCHOLARSHIPS PROGRAM

Applications and information may be obtained from the American Institute of Architects, Scholarship Program, 1785 Massachusetts Avenue, N.W., Washington, D.C. 20036. The deadline for filing applications is November 30.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Since 1967 the United States Department of Housing and Urban Development has awarded fellowships (under its City Planning and Urban Studies Fellowship Program) to several School of Architecture applicants. Applications and further information may be obtained from the Office of Housing and Urban Development, Urban Studies Fellowship Program, Washington, D.C. 20410. The deadline for filing applications is March 1.

NEW YORK STATE REGENTS COLLEGE TEACHING FELLOWSHIPS

Annual predoctoral fellowships are open to legal residents of New York State for doctoral study in preparation for college teaching. Recipients must indicate their intent to teach in an institution of higher learning within the State upon graduation. Applications may be obtained from the State Education Department, Regents Examination and Scholarship Center, Albany, New York 12201, and are due December 1.

PUBLIC HEALTH SERVICE FELLOWSHIPS

Predoctoral fellowships are available to students in the basic sciences or the social sciences for work relating to problems of health and disease. Applications are obtained by writing to the Chief, Career Development Review Branch, Division of Research Grants, National Institutes of Health, Bethesda, Maryland 20014, and are due by December 1.

JOHN HAY WHITNEY FOUNDATION OPPORTUNITY FELLOWSHIPS

The John Hay Whitney Foundation offers Opportunity Fellowships for seniors in college or college graduates planning or already engaged in graduate or professional studies who are United States citizens with racial or cultural backgrounds or regions of original residence as follows: Negroes, Spanish-Americans, American Indians, and residents of the Southern Appalachian and Ozark Mountain areas, Guam, Puerto Rico, Samoa, the Pacific Trust Territory, and the Virgin Islands. Applications may be obtained from the John Hay Whitney Foundation, 111 West 50th Street, New York, New York 10020. The deadline for filing applications is November 30.

INTERNATIONAL FELLOWS PROGRAM

The International Fellows Program was created for outstanding American graduate students who wish to use their professional training on an international level. The program is open to men and women under 30 who are American citizens and who have been admitted to graduate degree programs in Columbia University. Admission is based on the applicant's character, motivation, collegiate record, and professional promise; on the recommendations of his instructors; and particularly on his demonstrated ability and estimated potential for leadership in his chosen field and in the field of international affairs.

Each International Fellow follows the program of study prescribed by the graduate school or department of the University in which he is enrolled. In addition he is required to take a full-year course, *IFP W6045-W6046—The role of the United States in world affairs,* open only to International Fellows. In both terms, each Fellow is required to give an oral summary of a proposed position paper on an international topic, to prepare the paper, and to take a final examination. Fellows of the School of Architecture receive elective credit for this course.

In addition to formal classes, the International Fellows have an extensive program of extracurricular activities. A special six-day session is held each September at the United Nations, and the Fellows make two three-day trips to Washington to meet with Congressional leaders and executives of the Pentagon, the State Department, the White House, USIA, AID, and other agencies.

Candidates in need of financial assistance may be granted stipends to defray part of their expenses. For information about the program and for application forms, write directly to the International Fellows Program, Box 18, Law School Building, 435 West 116th Street, Columbia University, New York, N.Y. 10027. Applications must be submitted by February 1.

UNIVERSITY FELLOWSHIPS AND SCHOLARSHIPS

Several fellowships and scholarships for graduate study are awarded annually from funds provided by the University. In order to be considered, applicants merely submit the financial aid request of the Graduate School of Architecture and Planning application to the Admissions Office by February 15. Current students submit a grant-in-aid application which may be obtained from the Admissions Office after spring registration and should be returned before February 15.

New York State Scholar Incentive Awards

Any student who has been a legal resident of New York State for the preceding year is entitled to a Scholar Incentive Award for each term in which he is registered as a full-time degree candidate. The amount of this award is based upon the net taxable balance of his income and the income of those responsible for his support, as reported on the New York State income tax return for the previous calendar year.

Application forms and further information may be obtained from the Department of Education, Regents Examination and Scholarship Center, Albany, N.Y. 12201.

Application for awards should be filed three months in advance of the beginning of the term for which the grant is to apply.

Medals and Prizes

ALPHA RHO CHI MEDAL

Awarded annually to the student who has shown ability in leadership and who gives promise of professional merit through his attitude and personality.

ALUMNI MEDAL

Awarded annually to the student in the graduating class who has shown throughout the course the greatest promise in design.

AMERICAN INSTITUTE OF ARCHITECTS MEDAL

A medal and a copy of Henry Adams' *Mont Saint-Michel and Chartres* awarded annually to the student who has maintained the best general standard in all departments during the entire professional course. A copy of the book is also given to the alternate for the prize.

BORING MEDAL

Awarded annually to the winner of the Boring Prize Competition.

HAMLIN MEDAL

Awarded annually to the winner of the Hamlin Prize Competition.

MORTIMER HIRSCH MEMORIAL PRIZE

A prize of $75 awarded to the student who submits the best research paper in the history or theory of architecture.

LUCILLE SMYSER LOWENFISH MEMORIAL PRIZES

Two cash prizes awarded annually for the purchase of professional books to the students in the graduating class who submit the best undergraduate terminal problems.

NEW YORK SOCIETY OF ARCHITECTS MEDAL

Awarded annually to the student who has maintained the highest standard during the entire professional course.

VAN DER SMISSEN MEDAL

Awarded annually to the student of the graduating class who has shown the greatest spirit of cooperation and friendship during the entire course.

WARREN MEDAL

Awarded annually to the winner of the Warren Prize Competition.

Assistantships

Teaching assistantships are available in architecture and in urban planning. Assistants divide their time equally between their studies and various tasks, helping

faculty members in instruction and in administration. Doctoral candidates may also be appointed.

Research assistantships are available to candidates for the M.S. or Ph.D. degrees in urban planning.

Loans

A student who must borrow money in order to meet expenses for his study at Columbia University is urged to apply for a loan through the program administered by his state of legal residence.

Most state programs now include residents who are attending out-of-state schools. They will allow the student to borrow up to $2,500 for the academic year with an interest rate of 7 percent and to arrange a ten-year repayment schedule that begins nine months after graduation.

The usual procedure for the transaction of state loans is for the student to obtain the appropriate state forms from his local bank in his state of residence, and to bring the completed forms to the school he will attend. After the application has received institutional certification, it is returned to the student for presentation to his local bank's loan officer; then it is sent to the state corporation for approval, and finally the student receives his loan from the local bank.

As can be seen, this lengthy procedure, which takes about six weeks, demands that the student begin to inquire about his state student loan program immediately. Applications will be processed by this office as soon as they are received. The student must be sure that his application is legible, complete, and signed.

A student may receive National Direct Education Act loans or Columbia University loans only if he can demonstrate ineligibility for a state loan, or if he needs financial aid in excess of the maximum state loan. The interest rate for these loans is 3 percent and the repayment period is the same as for state loans. Student loan programs are designed to supplement the student's budget; they are not to be used as the sole means of support. Applications are available in the Office of Architecture Admissions after June 1.

Student Employment

The schedules of architecture students are so heavy that very little time is left for part-time work. However, those students who must work part time should consult the Financial Aid Officer, who will recommend jobs under the Work-Study Program.

Wives or husbands of students may consult the Office of Student Employment, 206 East Hall, for information. Those who are interested in full-time jobs on the campus should contact the University Personnel Office, 209 Dodge. Most of these jobs are clerical or secretarial in nature, usually requiring some typing and in some instances stenography as well. Regular tull-time University employees are eligible for a limited number of points of tuition exemption providing they meet the stated requirements of the Supporting Staff Plan (a copy of which may be obtained from the University Personnel Office, 313 Dodge), as well as the admission

requirements of the school or division in which they wish to enroll. Tuition-exempt courses are taken primarily in evening classes in the School of General Studies.

A list of opportunities in architectural offices for summer employment and full-time employment for graduates is maintained in the Dean's Office.

ACADEMIC CALENDAR, 1975-1976

MAJOR RELIGIOUS HOLIDAYS

See "Attendance and Length of Residence" on page 76 of this bulletin for a statement of University policy regarding religious holidays and applicable dates for this academic year.

July 1 Tuesday. Last day to apply for autumn admission to the architectural technology M.S. program.

31 Thursday. Last day to apply for admission to the autumn term as a special student.

Aug 1 Friday.* Last day to apply or reapply for October degrees (see September 4).

Autumn Term

Aug 29 Friday. Orientation program for new foreign students (see pages 73–74).

Sept 2–4 Tuesday–Thursday.† Registration, including payment of fees.

4 Thursday. Classes begin. Last day to apply for Ph.D. final examinations (defense) to be held this term. Last day to file *late* application or renewal of application for October degrees. Applications received after this date will automatically be applied to the next conferral date.

5 Friday. Late registration begins.

8 Monday. First day to change programs and apply to audit courses.

12 Friday. Last day to (1) register for credit, (2) change programs, and (3) apply to audit courses. **No adjustment of fees for individual courses dropped after this date.**

Oct 21 Tuesday. Midterm date.

22 Wednesday. Award of October degrees.

31 Friday.* Last day to apply or reapply for January degrees (see December 5).

---

* Students who apply after this date must pay a late fee.
† Students allowed to register after the period specified must pay a late fee.

Nov	**3**	**Monday. Academic holiday.**
	4	**Tuesday. Election Day. Holiday.**
	27–30	**Thursday–Sunday. Thanksgiving holidays.**
	30	Sunday. Last day to apply for spring admission to the architectural technology M.S. program.
Dec	**5**	Friday. Last day to file *late* application or renewal of application for January degrees. Applications received after this date will automatically be applied to the next conferral date.
	10	Wednesday. Classes end.
	11	Thursday. Study day.
	12–19	Friday–Friday. Midyear course examinations. Term ends.
	15	Monday. Last day to apply for admission to the spring term as a special student.
	20	**Saturday, through January 13, 1976, Tuesday. Winter holidays.**

Spring Term

Jan	**14–16**	Wednesday–Friday.* Registration, including payment of fees.
	16	Friday. Last day to apply for Ph.D. final examinations (defense) to be held this term.
	19	Monday. Classes begin. Late registration begins.
	21	Wednesday. Award of January degrees.
	22	Thursday. First day to change programs and apply to audit courses.
	28	Wednesday. Last day to (1) register for credit, (2) change programs, and (3) apply to audit courses. **No adjustment of fees for individual courses dropped after this date.**
Feb	**15**	Sunday. Last day to apply for 1976–1977 admission to the Graduate School of Architecture and Planning (except for the architectural technology and the health services planning and design M.S. programs—see page 62). Last day for current graduate students in the school to apply for a second degree program. Last day to apply for financial aid.
	16	Monday.† Last day to apply or reapply for May degrees (see April 5).
Mar	**4**	Thursday. Midterm date.
	7–14	**Sunday–Sunday. Spring holidays.**

* Students allowed to register after the period specified must pay a late fee.
† Students who apply after this date must pay a late fee.

Apr **5** Monday. Last day to file *late* application or renewal of application for May degrees. Applications received after this date will automatically be applied to the next conferral date.

28 Wednesday. Classes end.

29 Thursday. Study day.

30 Friday, through May 7, Friday. Final course examinations. Term ends.

Commencement

May **9** Sunday. Baccalaureate Service.

12 **Wednesday. Conferring of degrees and certificates.**

1975

JULY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

SEPTEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

OCTOBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

NOVEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

DECEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

1976

JANUARY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

FEBRUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29						

MARCH

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

APRIL

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

MAY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

JUNE

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

JULY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

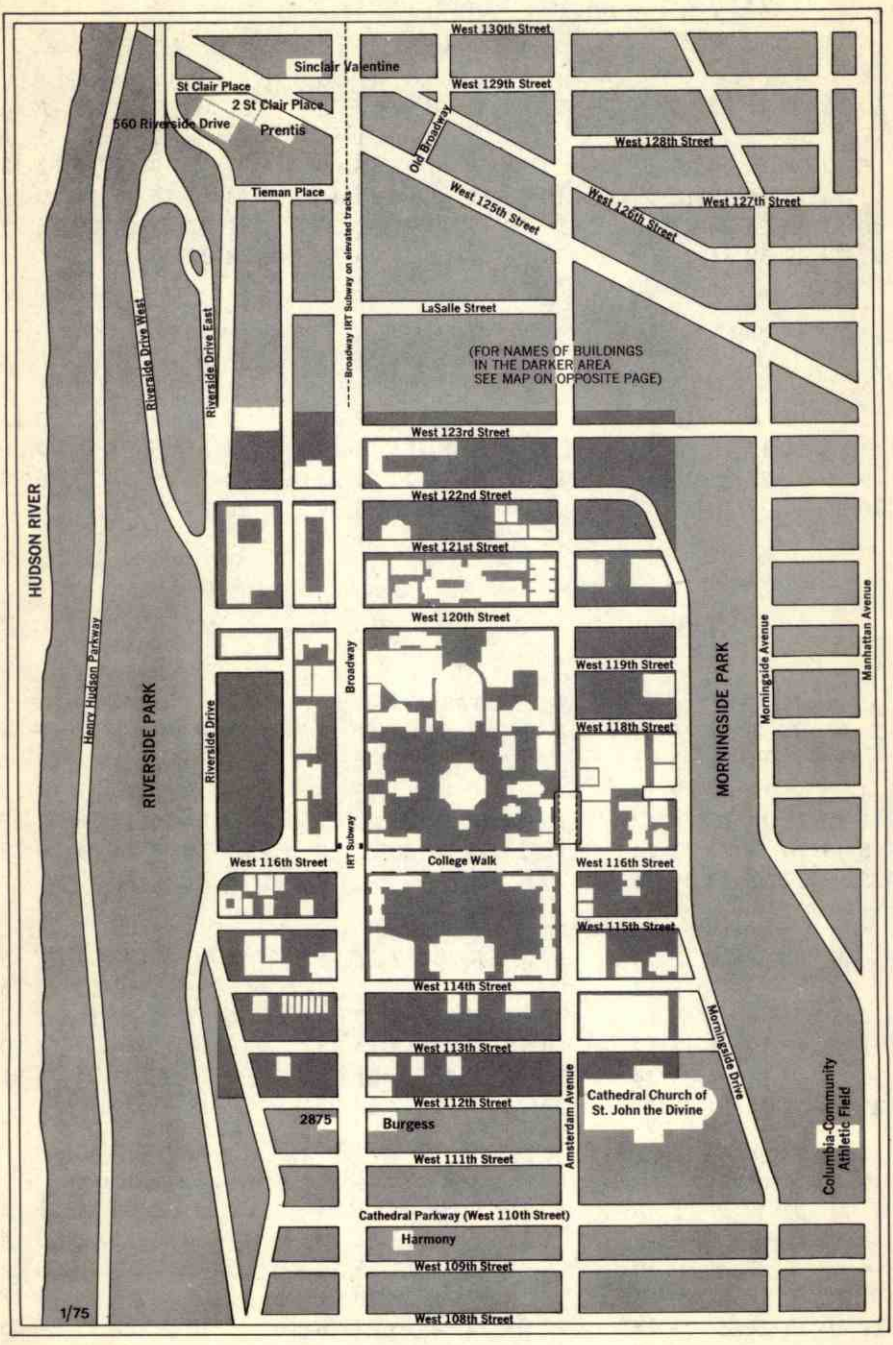
AUGUST

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

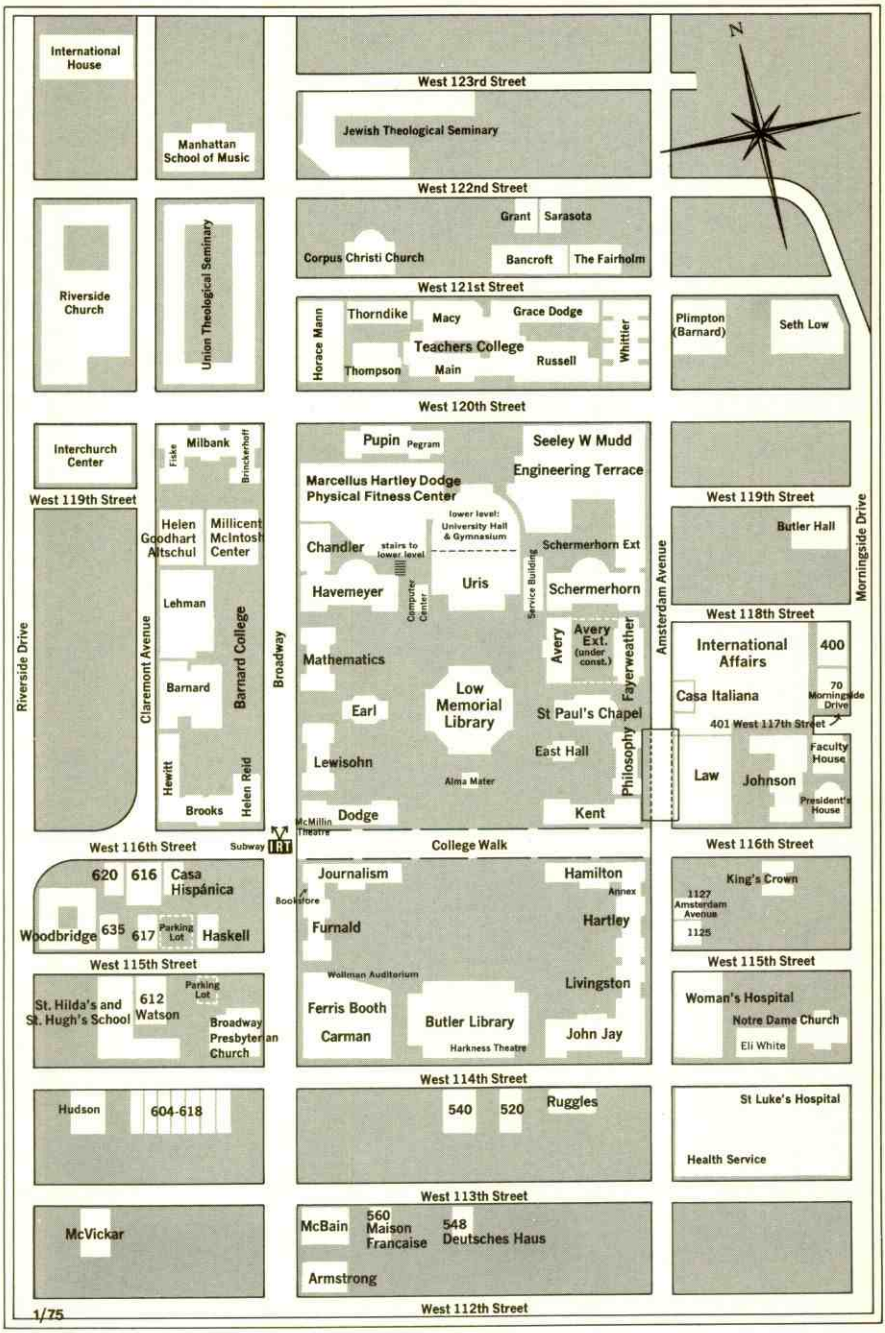
SEPTEMBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

The Morningside Heights Area of New York City



The Morningside Campus & Environs



AND PLANNING
COLUMBIA UNIVERSITY
NEW YORK, N.Y. 10027

SPECIAL FOURTH-CLASS RATE—BOOKS