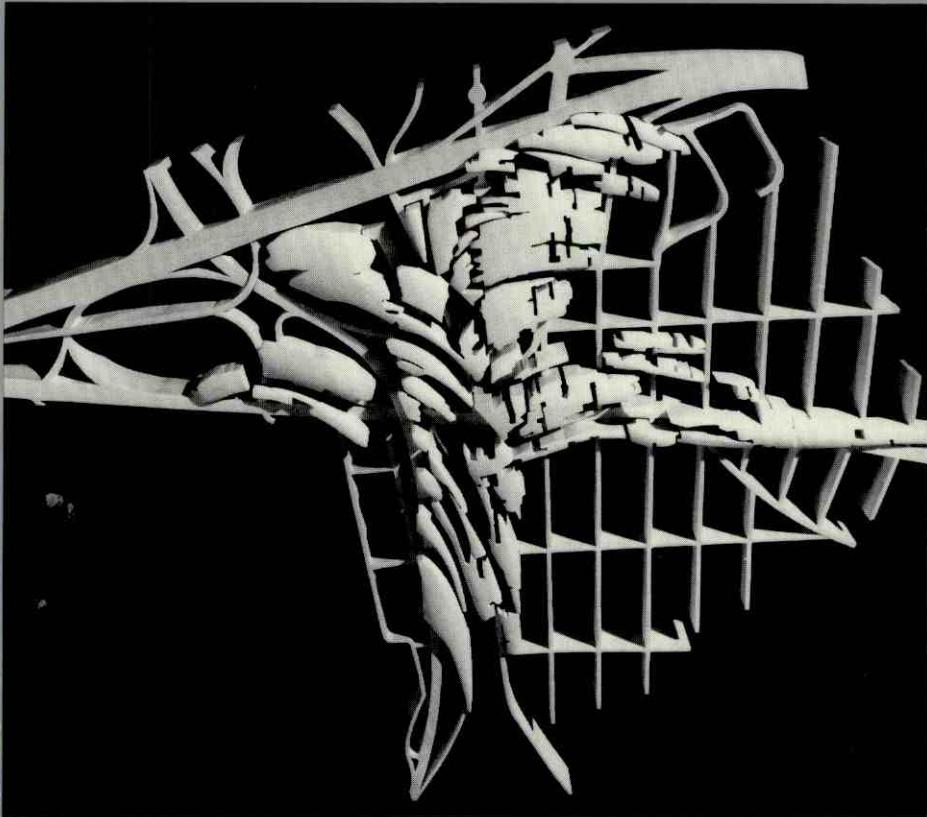


COLUMBIA
UNIVERSITY
BULLETIN
1996-98

**GRADUATE SCHOOL OF
ARCHITECTURE
PLANNING AND
PRESERVATION**



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1996-98**

**GRADUATE SCHOOL OF
ARCHITECTURE
PLANNING AND
PRESERVATION**

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D. H. S.

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Educational Purpose

The Graduate School of Architecture, Planning, and Preservation offers a series of distinctive programs. The educational objectives of these programs deal in different ways with one open-ended field: urban society and its future. The presence of several areas of study within a single school enables a critical understanding of the forces that affect the building of spaces and the making of cities, so as to encourage appropriate formulation of original concepts, designs, and policies.

In each degree program offered, the School aims to develop students' artistic and intellectual abilities and to provide them, as future professionals, with the information and strategies necessary to deal responsibly and inventively with the issues challenging urban society today. These issues are approached in a non-doctrinaire way so as to yield both significant theoretical proposals as well as pertinent solutions that can be effectively implemented in the contemporary city. Each program with its related studios is structured to permit faculty and students to explore a range of approaches in respective fields, while constantly aiming at social relevance and programmatic innovation.

Beyond its specific educational aims, the objectives of the School include basic research in the fields of architecture, planning, and preservation, exchange with other disciplines in the University, and the intensity of experimentation that makes the School part of broader international debates. Historically linked to the University's world-renowned Avery Library, the School takes advantage of its unique location in New York City. It draws vitality from and contributes to the unsurpassed resources available through the city's art and culture, its outstanding practitioners, scholars, and historians.

Bernard Tschumi
Dean

The Graduate School of Architecture, Planning, and Preservation

History

The fourth oldest architecture school in America, Columbia was established in 1881 by William R. Ware. A former student of Richard Morris Hunt (the first American to attend the *École des Beaux-Arts* in Paris), Ware approached architectural education from a humanistic rather than a technical point of view. His appointment capped a distinguished career as a practicing architect, scholar, and teacher; it established the precedent, followed almost exclusively since then at Columbia, of entrusting the School's direction to architects with sustained professional experience.

In its early years, Columbia's was the leading preparatory program for would-be architects intent on studying at the *École des Beaux-Arts* in Paris. But by 1902 it had matured into a full-scale School of Architecture. Ware retired in 1903, to be succeeded by A.D.F. Hamlin. Hamlin stepped down from the position in 1912, when, with an enrollment of 140, the School moved into its new quarters, Avery Hall, designed by McKim, Mead, and White. Hamlin was succeeded by Austin Willard Lord (1912–1915) and William Harry Carpenter (1915–1919).

In 1931, William A. Boring, who had been the School's director since 1919, became the first dean of what was then called the Faculty of Architecture. Under Boring and especially under his successor Joseph Hudnut, who took over in 1933, the curriculum was broadened dramatically. While the pre-World War I era had been dominated by the academic classicism of Ware, Hamlin, and such leading professionals as Charles Follen McKim, Thomas Hastings, and Henry Hornbostel, all of whom taught at the school, Boring and especially Hudnut encouraged the then nascent modernism and incorporated studies in town planning. Important studio critics, including the urbanistically inclined skyscraper architects Harvey Wiley Corbett and Wallace K. Harrison, joined the English town planner Raymond Unwin and the architectural historian Talbot Hamlin to create an environment in tune with the dramatic social and economic changes of the interwar years.

With Hudnut's departure for Harvard in 1935, the School, under the new dean Leopold Arnaud, entered into a gradual decline that only began to reverse itself in the late 1950s when provocative studio critics Percival Goodman and Alexander Kouzmanoff, as well as the historian James Marston Fitch, gave the program new energy. Fitch's courses in architectural history blossomed into a program in historic preservation, established in 1966 as the first at an American university. Despite the vagaries of the post-war curriculum and an ambiguous commitment to graduate-level architectural education, the School continually benefited from New York City's prominence as a world capital and attracted many foreign students, some of whom would grow to professional prominence, including Romaldo Giurgola and Michael McKinnell.

After the short and vital but stormy tenure of Charles Colbert (1960–1963), Kenneth A. Smith, an engineer, was appointed dean, and in 1965 the School was organized along divisional lines, with planning and architecture each having its own chairperson. Charles Abrams was the first planning chairman and Romaldo Giurgola the first for architecture. Abrams, with his wide experience in New York real estate and social planning, and his deep humanity, forged a program that balanced statistical analysis with compassion and earthy pragmatism. Giurgola built upon the design strengths of Kouzmanoff and Goodman, bringing into the studios as first-time teachers such bright young architects as Gio Poncello, Jacqueline Robertson, Robert Kliment, and Ada Karmi Melamede.

The School's students played a central role in the protests that engulfed the University in the spring of 1968. While the tumultuous campuswide demonstrations of that watershed year were triggered by a concern for America's role in international affairs, the architecture students played a particularly strong role in focusing the debate on the University's relationship to its neighbors in the Morningside Heights and Harlem communities. In addition, the students challenged the University's lackluster building program, protesting the construction of Uris Hall and the proposed gymnasium for Morningside Park.

In 1972, James Stewart Polshek became dean. With strong professional connections with designer-architects, preservationists, and planners, Polshek tapped the School's inherent strengths and refined the graduate program while healing the wounds left over from the previous decade. He reshaped the design faculty and enriched the School's offerings in architectural history and theory, which were under the leadership of Kenneth Frampton, who also came to Columbia in 1972. As important, Polshek extended the School's reach both within and beyond the University, establishing a strong program of public lectures featuring leading architects, planners, and politicians; creating special programs for undergraduates in Columbia and Barnard Colleges; and helping establish the Temple Hoyne Buell Center for the Study of American Architecture in 1983. Under Polshek and his faculty, including especially Frampton, Giurgola, and Robert A.M. Stern, Columbia became an important focal point in the postmodernist debate.

In 1988 Bernard Tschumi became dean, and the School's architecture programs, reflecting changing concerns in design, became more theoretical as they began to take on a more international flavor, capitalizing as never before on New York's status as a world city.

Prepared by Robert A.M. Stern

Facilities and Resources

The School

The School is located in its own building, Avery Hall; in the adjacent building, Fayerweather Hall; in the Avery extension, which connects the two; and in Buell Hall, directly south of Avery Hall. This complex houses design studios, classrooms, computer studios and computer labs, lounges, exhibition galleries, a carpentry workshop, audiovisual facilities, a slide library, a photography darkroom, a three-hundred-seat auditorium, and a seventy-seat lecture hall.

Avery Library

The resources of the world's leading architecture library, the Avery Architectural and Fine Arts Library, are located in Avery Hall and the Avery extension; they are available to the students of the School. Founded by Samuel Putnam Avery in 1890 as a research collection of 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 more than 240,000 books and periodicals on architecture, urban planning, art history, historic preservation, 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 comprehensive collection of books on contemporary architectural movements. In addition, the library has more than 300,000 original architectural drawings, collections of prints, and rare photographic material and archives. Avery Library also houses the *Avery Index to Architectural Periodicals*, the most comprehensive periodical index in the field. It is now available on-line as well as in print form.

The Ware Memorial Library is designed as a circulating branch of the library for everyday use by the students. It contains more than eight thousand books on architecture and planning from the United States and Europe and is located in the Avery Library.

The Temple Hoyne Buell Center for the Study of American Architecture

The Temple Hoyne Buell Center for the Study of American Architecture, located in Buell Hall, was founded in 1982 to advance the understanding and interpretation of American architecture, landscape, and urbanism. To achieve this goal, the Buell Center has embarked on an ambitious program of fellowships and study programs designed to engage professionals, scholars, and the general public. These rich and varied programs make the Buell Center one of the world's most important focal points for the study of American architecture.

The Center for Preservation Research

The Center for Preservation Research was established in 1983 as a technical research facility of the Historic Preservation Program. Specializing in advanced studies and postgraduate education, it focuses on fundamental technical and theoretical research on the conservation of the built environment. The primary goal is the development of practical, scientific, and philosophically sound solutions to the long-term and emergency conservation of our world heritage of historic buildings, monuments, and sites. The Center provides an intellectual and practical environment for fostering collaboration between academic and professional resources in North America and internationally.

The Center operates a complex of laboratories in Schermerhorn Hall and is closely linked with the Historic Preservation Program and its parent body, the Graduate School of Architecture, Planning, and Preservation. Collaboration also exists with other schools and institutes both within and beyond the University.



Columbia Headquarters for Japanese Architectural Studies and Advanced Research

The Columbia Headquarters for Japanese Architectural Studies and Advanced Research, located in Buell Hall, was established in 1989 to advance the cause of serious research in the history and theory of Japanese modern architecture and urbanism. It serves as a center for academics and architects from around the world. The headquarters' plans include the following: (1) courses in Japanese architecture at the advanced level, (2) a special subset of books and periodicals on Japanese architecture organized in Avery Library, (3) fellowships for young scholars, and (4) funds for recognized scholars to reside on campus and pursue advanced research in history and theory.

The Community Design Workshop

The Community Design Workshop has been developed to provide design research and development assistance to community organizations and public agencies. Its central purpose is to afford students in all of the School's programs practical exposure to and involvement in current community planning and design issues, to guide them in providing concrete solutions to such design problems, and to explore the extent to which architecture, planning, and preservation can be useful tools in the resolution of community issues. The Community Design Workshop is an elective in the Methods/Practice Sequence for students in the M.Arch. Program. Students can also elect to couple the workshop with studio to develop an Independent Design Option, as long as the option guidelines are observed. Within the Planning Program, the Community Design Workshop is an elective. In Historic Preservation, the Community Design Workshop belongs to the Planning Option.

Computing Activities

The School has embarked on an ambitious campaign to incorporate state-of-the-art digital technologies in the design curriculum. The Paperless Design Studio is the most visible sign of this change, but there have been many other dramatic improvements in facilities and electronic infrastructure for research, teaching, presentation, and general computing at GSAPP. The general computer resources provided by the University have been substantially upgraded as well, and all students receive free e-mail accounts and World Wide Web home pages.

In the Paperless Design Studio on the seventh floor of Avery Hall, the drafting tables have been replaced by a complete range of digital design tools, including high-end 3D modeling, rendering, and animation software. In the Combined Media Studios on the sixth floor, drafting tables are arranged around clusters of Macintosh and Silicon Graphics (SGI) hardware. There are also three separate computer facilities in Fayerweather Hall: an SGI lab, a Macintosh lab, and the Urban Planning GIS Lab. The renovation of Room 114 Avery has provided the School with an "electronic theater," a location for digital events, Paperless Studio reviews, and computer-related teaching. The School has also invested in a Digital Output Center for high-resolution and large-format color

output as well as a numerically controlled milling machine for 3D rapid-prototyping output. The current CAD-workstation count was over 100 in 1995, and will continue to rise as additional Combined Media Studios are installed in Avery Hall in 1996.

The key to the School's digital infrastructure is the network of over 150 high-speed Ethernet connections that make possible the use of central servers to distribute files and software programs to students at any machine in the School. This wiring also makes possible remote printing, access to library and other online resources, video conferencing to other Columbia University labs and multiple simultaneous connections to the Internet. Output of the "paperless" studios now includes significant quantities of video animation, "live" computer-generated demos and flipbooks, World Wide Web sites and interactive multimedia documents. The computer-aided design curriculum has been upgraded to reflect these new trends, with expanded introductory and advanced CAD classes offered every semester.

Publications

The School maintains a series of publications to foster the exchange of information and ideas between it and the architecture, planning, preservation, and real estate development communities. *Newsline* is a periodical that contains information and essays regarding the School's programs, faculty, and alumni as well as calendars and reviews of New York area events. It acts as a platform for current debates in architecture and urban issues. It is distributed to students and alumni. *Abstract* is the yearly journal that documents the School's programs and student work and offers students the opportunity to have their work published for wide distribution. *Abstract* is distributed to students and is available for purchase in bookstores. *D (Documents)* is a documentation of events, lectures, and symposia at the School. It is published twice a year. *Studio Work* covers work and research produced in selected studios in the School. In addition, the School publishes catalogs of exhibitions it organizes as well as a series of books titled *Columbia Books of Architecture (CBA)*, covering a variety of issues of the built environment, theory, and history.

Lectures and Exhibitions

The School offers an array of lectures, exhibitions, and events that reflect the diversity and interests of its programs. The Wednesday Evening Lecture Series brings internationally prominent practitioners, historians, and theorists to speak on issues of architecture, planning, development, and urbanism. In addition, the Architecture, Planning, Preservation, and Real Estate programs maintain their own special lecture series that are open to the School community. Speakers in the programs have recently included: Tadao Ando, Thomas Beeby, Marshall Berman, Mario Botta, Santiago Calatrava, Robert Caro, Nigel Coates, Peter Cook, Jacques Derrida, Elizabeth Diller, Peter Eisenman, Frank Gehry, Romaldo Giurgola, John Hejduk, Coop Himmelblau, Denis Hollier, Arata Isozaki, Philip Johnson, Fay Jones, Rem Koolhaas, Barbara Kruger, Daniel Libeskind, Richard Meier, Rafael Moneo, Jean Nouvel, James Stewart Polshek,

Peter Rice, Aldo Rossi, Adele Naudé Santos, Alvaro Siza, and James Stirling.

In addition, the School and its programs sponsor special symposia and conferences that draw together faculty, prominent guests, and students to discuss issues of timely and historical importance. Recent conferences and symposia include: "Robert Moses' New York," "Currents in Contemporary Architectural Theory," "The City and the Edge," "Cyberspace, Hyperghetto," and "Light Construction."

Exhibitions occur frequently at the School each term. With the opening of the Arthur Ross Architectural Gallery in Buell Hall, the School will become a focus for exhibitions concerning design. Recent and planned exhibitions include: "Building: Machines," "New Schools in Catalonia," "Emerging European Architects," "The Works of Santiago Calatrava," "Raum Plan vs. Plan Libre," "The Architecture of Albert Frey," "The Filter of Reason—Paul Nelson," "The History of History," "The Drawings of Iakov Chernikhov," "Kazuo Shinohara," "The International Style (MOMA 1932)," and "The Weissenhofsiedlung."

New York City

The City of New York is in itself a principal resource for the student, who benefits from its urbanism and endless variety of excellent examples of historic and modern buildings.

New York's institutions are another significant advantage. Alumni and faculty members of the School are in positions of major responsibility in various organizations. This has helped the School to open up unique opportunities for students. A partial list of these organizations includes the Museum of Modern Art (Department of Architecture and Design), the Metropolitan Museum of Art, the Cooper-Hewitt Museum, the South Street Seaport Museum, the Architectural League of New York, the Institute for Fine Arts (New York University), the New York City Planning Commission, the New York City Landmarks Preservation Commission, the Parks Council, and the Municipal Art Society.

William F. Kinne Fellows Traveling Fellowships

The School is the beneficiary of a considerable bequest in honor of William F. 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 and related fields are awarded annually to graduating students. Applications from members of the graduating class are considered for postgraduate travel and for travel during the summer preceding the final year of study. Specific requirements and guidelines are announced during the academic year. Students apply in the spring term of each year.

The Paul Milstein Professorship of Urban Development

In 1983 Mr. and Mrs. Seymour Milstein endowed the Graduate School of Architecture, Planning, and Preservation with a professorship named in honor of their brother Paul Milstein. The Paul Milstein Professorship of Urban Development provides the opportunity to focus in depth on issues of interest by inviting senior professionals or scholars to teach for one or two terms each year

in the Master of Science in Real Estate Development Program. It is the intention of the professorship to encourage a deepening interest in the forces that have and will shape urban development in America.

Mathews Lecture Series

The Mathews Lectures began in 1935 with an endowment from Charles T. Mathews (Class of 1889). Among the lecturers who have participated in the series are:

Professor Joseph Hudnut (1935)
Professor Leopold Arnaud (1937)
Professor Talbot Hamlin (1939)
Professor Meyer Schapiro (1946)
Professor John Mundy (1965)
Professor Henry R. Hitchcock (1971)
Sir Nikolaus Pevsner (1972)
Professor Alfred K. Frazer (1974)

Professor Spiro Kostoff (1976)
Professor Vincent Scully (1977)
Professor George Collins (1979)
Professor Neil Levine (1981)
Professor Helen Searing (1983)
Professor Georges Duby (1985)
Professor Stephen Murray (1990)

Programs and Degrees

Master of Architecture

Master of Science in Advanced Architectural Design

Master of Science in Architecture and Urban Design

The Ph.D. in Architecture

Master of Science in Urban Planning

The Ph.D. in Urban Planning

Master of Science in Historic Preservation

Master of Science in Real Estate Development

The Shape of Two Cities: New York/Paris (special undergraduate program)

Columbia/Barnard Undergraduate Architecture Majors

Joint Degree Programs

Master of Architecture—Master of Science in Historic Preservation

Master of Architecture—Master of Science in Urban Planning

Master of Science in Urban Planning—Master of Science in Historic Preservation

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

Master of Science in Urban Planning—Master of International Affairs (in conjunction with the School of International and Public Affairs)

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

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

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

Programs

Master of Architecture Degree Program

CORE STUDIOS DIRECTOR: Mr. Steven Holl

ADVANCED STUDIOS DIRECTOR: Mr. Kenneth Frampton

The Master of Architecture Program is a three-year first professional degree program that examines the importance of architectural design concepts in relation to historic and contemporary issues in an evolving culture.

Being part of a great university located in a major metropolis has determined much of what is unique about the Architecture Program. The School is not only able to attract excellent faculty members, but it is also able to draw upon the large and diverse community of architects, theorists, practitioners, and scholars in New York. Thus the program is able to expose student architects to architecture as a complex and pluralistic cultural endeavor.

At the same time that it explores the richness of architecture culture, the program seeks to provide an orderly system for integrating the various aspects of architectural study. Therefore, the curriculum is broadly divided into the study of history and theory, technology, methods, visual studies, and design. Learning about architecture involves, on the one hand, examining those historical, social, cultural, technical, and economic forces that shape buildings; on the other hand, it means mastering these forces with means traditionally available to the architect. The design studio is the main focus of the curriculum in that it offers the opportunity to integrate and synthesize what is being studied.

In general, the program seeks to impart basic principles and knowledge, to develop visual and analytical skills, and to relate creativity to given cultural situations. It is hoped that architects, thus trained, will be able to use their knowledge and insight by responding to and improving the built environment.

Admissions

Eligibility

The M.Arch. at Columbia is the first professional degree in architecture; therefore, students who already hold a professional degree (such as the 5-year B.Arch. degree) are not eligible to apply to the program. Students who have studied architecture in nonprofessional programs (such as a four-year program in architecture) may apply, with the possibility of obtaining advanced standing for some course work. Prior architectural study is not a requirement. Regardless of prior experience, all students fill out the same application forms and send supporting materials (as described below). Applications and all supporting materials are due on January 15. Students are admitted to the M.Arch. Program for the autumn term only.

Academic Preparation

1. All applicants must have, at the time of first registration, an undergraduate degree from an accredited college or university. Applicants are required to take the Aptitude Test of the Graduate Record Examination. Information may be obtained from the Graduate Record Examination, Educational Testing Service, Box 955, Princeton, NJ 08540.
2. Applicants who have no prior background in architecture must complete a 3-point course in architectural graphic presentation as a prerequisite for the Core Studio Sequence, before first registering in the M.Arch. Program.
3. To fulfill the prerequisite for the History/Theory Course Sequence all applicants must have completed a 3-point survey course in architectural history dealing with any of the following periods: classical to Renaissance, Renaissance to modern, or modern.
4. To fulfill the prerequisites for the Building Technologies Course Sequence, all applicants must have completed a 3-point course in general physics or two 3-point calculus courses.

Applicants are *strongly advised* but not required to complete the following nonmandatory course work: one term of studio in the visual arts (drawing, painting, or sculpture). In addition, a reading knowledge of a modern foreign language, a course in environmental studies, and additional courses in architectural history are recommended.

Portfolio

In addition to the application form and supporting documents, applicants must submit a portfolio showing evidence of their visual acuity and graphic abilities: paintings, drawings, prints, graphic designs, or architectural drawings. It is recommended that evidence of freehand drawing skills be included. Submitted materials, either original work or reproductions of the originals, should not exceed 8% by 11 inches and should not measure more than $\frac{1}{8}$ inch in thickness. Portfolios exceeding these specifications will be returned before the reviewing period. The pages should not be placed in a ring binder, and each page must be clearly marked with the applicant's name. Please do not send slides.

After April 1 portfolios will be returned by mail only if sufficient postage is included and the return address clearly indicated.

Placement into Studio Sequence

Students who are admitted into the M.Arch. Program are informed in their letters of admission of the level at which they will enter the Core Studio Sequence. Based on the evidence submitted in the portfolio, the student's status in relation to the prerequisites and requirements of the studio sequence is determined. Placement into a more advanced studio is not done by application or petition, but is determined by a faculty committee during the admissions process. A limited number of students may receive advanced standing points for *Architecture A4001 and A4002—Core studio, I and II*, thereby reducing the required studio

sequence to two years. After the student's status has been determined by the M.Arch. Committee on Admission, it is not subject to further review by the Graduate School of Architecture, Planning, and Preservation. No subsequent petitions for advanced standing in design studio courses are considered. Students who are placed into advanced studios should consult with the admissions office about their curriculum.

Transferring Academic Credit

Students who have completed acceptable architecture course work prior to entering the M.Arch. Program may apply for advanced standing credit or course waivers in nonstudio courses. No requests for advanced standing credit are considered until official copies of relevant transcripts have been submitted to the Office of Architecture Admissions.

There are two situations in which one may receive *advanced standing* in the M.Arch. Program: (1) a student who is admitted into the second year of the M.Arch. Program may receive advanced standing for the first-year courses including the two design studios (potentially 36 points); (2) a student admitted into the first year with an undergraduate degree in architecture may receive credit for some courses; credit will be evaluated on an individual basis (maximum 9 points).

Information regarding procedure for students who wish to petition for advanced standing or course waiver is available at the time of first registration in September. Students may receive the approvals from faculty or directors at any time after enrollment. Official transfer of credit by the Columbia University registrar, however, cannot be entered on the transcript until one year of full-time enrollment in the M.Arch. Program has been completed. Advanced standing forms are available in the Office of the Dean of Admissions and should be returned there for review.

Petitions for advanced standing credit in nonstudio courses are normally reviewed by a faculty member teaching the equivalent course within the Graduate School of Architecture, Planning, and Preservation. Advanced standing credit is awarded only for courses in which students have received a grade of C or better. In some cases, faculty members may ask to see examples of previous course work. Students are advised to have course descriptions and previous course work on hand at September registration to facilitate planning an academic program with an adviser.

Required documentation for advanced placement normally includes official course transcripts, catalog course descriptions, and at least one of the following: a course syllabus, complete course notes, or a complete set of tests, homework, and course-project documentation.

There are three circumstances under which courses can be *waived*: (1) the student presents evidence of professional experience in related subject matter; (2) the student passes a formal examination on the subject (with the approval of the course instructor); or (3) the student presents evidence of having passed relevant courses at the undergraduate or graduate level. Because waivers do not carry point or course credit, elective courses *must* be taken to fulfill the point requirements for the M.Arch. degree. (Students waived from Structures II, Enclosures and Environments II, Building Systems I, or Building Systems II must take a Building Technologies elective for each course waived.)

The Three-Year M.Arch. Curriculum

The Master of Architecture Program attempts to distinguish itself from similar programs elsewhere by stressing the importance of developing an understanding of, and an ability to apply, architectural concepts in relation to broader historic and contemporary issues. The objective of the program is to assist the student in developing a theoretical basis for decision making in design, while maintaining intense exposure to a broad spectrum of philosophical and cultural attitudes. The faculty believes that a variety of pedagogical approaches delivered with clearly defined objectives best suits the needs of the heterogeneous graduate student population.

The program comprises four major components, together forming the educational matrix that is the core of the Columbia experience:

1. A student body with interest in the profession of architecture and with diverse backgrounds in many areas of intellectual endeavor, all contributing to the richness of the program.
2. A faculty of experienced teachers, both practitioners and researchers, all of whom are expected to relate their extracurricular work to their teaching responsibilities.
3. A program of study consisting of lectures, seminars, and studios, whose objectives are definable but whose form is malleable in response to changing cultural attitudes and social needs.
4. A setting of the most effective physical facilities, including classrooms, studios, auditoriums, shops, and libraries. In addition, the cultural milieu of New York City is an ever-present advantage that gives the program its unique qualities.

The focus of the entire program is the Architecture Design Studio. It is a carefully structured three-year course of study that prepares the student for roles related to the design of buildings and other environmental artifacts. This design activity is augmented by five other areas of study. The History/Theory Sequence broadens the student's perceptions of his or her design activity, through the historical and theoretical examination of the cultural role of design activity. The Building Technologies Sequence prepares the student to understand the structural, constructional, and material consequences and constraints on design decisions. The Visual Studies Sequence provides specialized investigation that complements the normal studio work, including both manual and computer-aided drawing courses. The Methods/Practice Sequence prepares the student to undertake management and professional practice activities. The Elective Sequence, which permits the student to pursue individual interests in architectural and environmental topics, may become, in certain cases, the basis for pursuing advanced study in specialized areas beyond the M.Arch. degree.

Summary of the Master of Architecture Program

To graduate with a Master of Architecture degree, a student is required to complete 108 graduate-level course points that are approved by the Graduate School

of Architecture, Planning, and Preservation. These course points are a combination of required courses, a certain number of points of distribution course requirements, and elective course points. The courses are divided into the following categories: Studio, History/Theory, Building Technologies, Visual Studies, Methods/Practice, and Elective. Each category (except Elective) has requirements that must be fulfilled. The School reserves the right to institute changes in the curriculum before the expiration date of this bulletin.

I. STUDIO COURSE SEQUENCE

The Studio Sequence is the focus of the M.Arch. Program. During the three-year, six-term program each student may study with as many as six different critics. All studio work is subject to formal public design review, and design juries include visiting architects, historians, artists, critics, and engineers, as well as faculty members from the Architecture, Building Design, Urban Design, Planning, and Historic Preservation programs of the School.

The Core Studios are composed of a carefully structured three-term sequence involving a series of interrelated projects that begin with an examination and utilization of fundamental space-making elements (line, plane, volume), and that are directed toward the ordering of hierarchical spatial sequences, the engagement of the phenomena involved in the act of making or constructing, and the occupation of space. Studio projects involve the issues of public and private, urban and suburban, context and program, analysis and invention, among others, and progressively increase in length from two weeks to twelve weeks.

In the Advanced Studios, themes and programs are defined by the individual critics. These themes and programs both carry an educational objective and present an opportunity for the critic to develop with his or her students a specific area of work or research. The Advanced Studios are intended to build upon the ideas and skills developed in the Core Studios. The range of faculty and studio projects in studio sections allows the student to work with those instructors on projects that will allow specialized design study. In contradistinction to the Core Studios, the Advanced Studios are open to M.Arch. students as well as to second professional degree students.

Requirements for M.Arch. Program

Six sequential studios starting in autumn term, first year:

A4001	Core studio, I	9 pts
A4002	Core studio, II	9 pts
A4003	Core studio, III	9 pts
A4004	Advanced studio, IV	9 pts
A4005	Advanced studio, V	9 pts
A4006	Advanced studio, VI	<u>9 pts</u>

Total: 54 pts

II. HISTORY/THEORY COURSE SEQUENCE

DIRECTOR: Mr. Kenneth Frampton

The History/Theory curriculum stresses a broad social and cultural approach to architecture history. Architecture history is not seen primarily as stylistic evolution, but rather in terms of a rich matrix of parameters—political, economic, artistic, technological, and theoretical—that have had a role in shaping the discipline. Most instructors of architecture history at GSAP have both professional and academic degrees. A shared intention is to understand the relations between practice and a historical perspective.

The course offerings are structured to provide each student with an opportunity to gain both a broad general background in architecture history and a degree of specialized knowledge in areas of his or her selection. The architecture history classes within the School are supplemented by classes in the Department of Art History and Archaeology, and students are especially encouraged to take art history courses examining pre-1750 and non-Western topics. Students may also take courses in other departments of the University, such as history and philosophy, providing they meet basic distribution requirements.

Prerequisite for Entry into M.Arch. Program

Any 3-point survey course in the history of architecture. A broad survey of world architecture is especially recommended.

Requirements for M.Arch. Program

Two sequential courses:

A4348	History of architecture, I: 1700-1850	3 pts
A4349	History of architecture, II: 1850-1930	3 pts
Total: 6 pts		

If a student has had a similar class or classes, he or she may petition the professor of the class to waive the requirement.

Distributional Requirements for M.Arch. Program

Four courses Total: 12 pts

The four courses must be chosen from five categories: (1) Pre-1750, (2) Modern 1750 to the Present, (3) Urban Society, (4) American, and (5) Non-Western. Students are expected to combine breadth in those fields they have not previously studied with in-depth seminars in at least one of these categories. At least one of the distribution areas must be Pre-1750, unless a waiver is granted. Each term's course schedule will identify those courses fulfilling the distribution requirements.

Below is a list of History/Theory courses offered in the past; included are classes that meet distributional requirements. Some courses are offered on a one- or two-year rotating basis.

M.Arch Program

Course Sequence	Autumn Term 1	Spring Term 2	Autumn Term 3	Spring Term 4	Autumn Term 5	Spring Term 6
Design Studio Total 6x9=54 pts	Core studio, I	Core studio, II	Core studio, III	Advanced studio, IV	Advanced studio, V	Advanced studio, VI
Building Technologies Total: 6x3=18 pts	Structures, I	Structures, II	Enclosures and environments, II	Building systems, I	Building systems, II	
History/Theory Total: 6x3=18 pts	History of architecture, I: 1750-1850	History of architecture, II: 1850-1930	Distribution 1	Distribution 2	Distribution 3	Distribution 4
Visual Studies Total: 2x3=6 pts	Architectural drawing: basic		Architectural drawing: advanced* or Advanced CAD			
Methods/Practice Total: 2x3=6 pts			Computer-aided design in architecture*		Professional practice	
Electives Total: 2x3=6 pts					Elective	Elective
Totals 108 pts	Studio+3 classes, 18 pts	Studio+3 classes, 18 pts	Studio+3 classes, 18 pts	Studio+3 classes, 18 pts	Studio+3 classes, 18 pts	Studio+3 classes, 18 pts

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*Offered in either autumn or spring or both semesters.

A4303	Critical positions in contemporary architecture	3 pts
A4357	Theory of architecture before the 18th century	3 pts
A4358	Renaissance architecture and urbanism	3 pts
A4418	Venice, the Veneto, and Palladio: critical positions	3 pts
A6734	Classical language and literature of architecture	3 pts
V3248	Greek art and architecture	3 pts
W3180	Art and architecture of ancient Egypt	3 pts
G4355	Gothic architecture	3 pts
G4548	Eighteenth-century French architecture	3 pts
G8573	Eighteenth-century French architecture theory	3 pts
A4229	Studies in tectonic culture	3 pts
A4336	Architecture culture: 1943–1968	3 pts
A4337	Politics of space: cities, institutions, and space	3 pts
A4353	Le Corbusier and the evolution of modern architecture	3 pts
A4374	Contemporary theory and criticism: structuralism/poststructuralism	3 pts
A4393	Anti-rationalist tendencies in modern architecture	3 pts
A4398	Materia: architecture as material culture	3 pts
A4402	Metropolis	3 pts
A4420	Comparative critical analysis of built form	3 pts
A4421	Avant-garde and tradition in 20th-century architecture	3 pts
A4426	Russian constructivism	3 pts
A4454	Modernism's self-critique: European architecture in the 1930s	3 pts
A4459	Urban fare: a private reading of public spaces	3 pts
A4479	The culture of glass	3 pts
A4498	Theorizing modernity: 1900–1940	3 pts
A4558	Architecture and art: autonomy, discipline, limits	3 pts
A6704	Architectural biography	3 pts
A4330	Urban history, I	3 pts
A4331	Urban history, II	3 pts
A4371	Paris: the evolution of urban form	3 pts
A4410	Design attitudes in European and American urbanism: 1750–1930	3 pts
A4480	Elements of landscape architecture	3 pts
A4547	Case studies in urban design	3 pts
A6769	History of the American city	3 pts
PI A4112	Physical structures of cities	3 pts
PI A4304	Introduction to housing	3 pts
PI A6001	History and theory of urban planning	3 pts
A4366	Historical evolution of housing in New York City	3 pts
A4339	American architecture and urbanism	3 pts
A4341	American architecture 1876–1976	3 pts
A6730	American architecture before 1876	3 pts
A6732	American decorative arts	3 pts

A6769	History of the American city	3 pts
A6785	Modernism in America	3 pts
A4307	Contemporary non-Western architecture	3 pts
A4329	Colonialism/post-colonialism	3 pts
A4342	Modern Japanese architecture	3 pts
A4344	Traditional Japanese architecture	3 pts
A4351	Formal structure in central Asian architecture	3 pts
A4573	Encounters with Islamic architecture	3 pts
V3613	Buildings and cities in Japanese history	3 pts

III. BUILDING TECHNOLOGIES COURSE SEQUENCE

Director: Mr. Anthony Webster

Coordinator for Electives: Mr. Ted Krueger

The Building Technologies curriculum is based on the belief that architects benefit by using a basic knowledge of technical systems to help generate a building's spaces, forms, and expression. Accordingly, the curriculum develops an understanding of contemporary technical-utilitarian systems, and explores their resolution in relation to programmatic development and spatial design.

The six-course, required sequence begins by outlining the environmental conditions that habitable spaces respond to, and by describing the physical characteristics of building components. Next, individual building systems—including (primarily) structure, building enclosure, environmental conditioning, and information management—are described in depth. For each system studied, various design strategies, materials, fabrication techniques, and didactic built works are explored. Field trips, laboratory demonstrations, and short design problems augment class study. As both qualitative and basic quantitative concepts are mastered, the curriculum shifts its focus to increasingly complex systems serving entire buildings. The sequence's last two courses (Building systems, I and II) concentrate on how these systems are detailed, interact with each other, and inform a building's spaces and formal expression—first through in-depth case studies of entire buildings, and then by the preliminary design of an industrial-loft block. In both courses, students work in teams with structural, mechanical, and building-envelope experts.

Throughout the required sequence, students are encouraged to apply their growing technological knowledge to design problems posed in studio. Occasionally, studios focusing on various relationships between technology, utility, program, and form are offered for third-year students.

Prerequisite for Entry into M.Arch. Program

Any 3-point course in general physics or two 3-point courses in calculus.

Requirements for M.Arch. Program

Six sequential courses are required:

A4111	Structures, I	3 pts
A4123	Structures, II	3 pts
A4220	Enclosures & environments, I	3 pts
A4221	Enclosures & environments, II	3 pts
A4125	Building systems, I	3 pts
A4610	Building systems, II	3 pts

Total: 18 pts

Electives for M.Arch. Program

Advanced electives supplement the required curriculum and provide the basis of study for those students entering the school with a strong technical background. The electives focus on recent technological developments and their impact on design, and the historical relationships between technology, philosophy, politics, and architecture. These courses take advantage of New York's professional practitioners working with the technological "state of the art." The diverse views of architectural technology held by both the School's design and technology instructors are reflected in, and thereby strengthen, the elective offerings.

Electives are open to all students in the School, subject to the prerequisites listed in the course descriptions. Students waived out of Structures, II; Enclosures & Environments, II; Building Systems, I; or Building Systems, II, must take a course from the following list for each waived course. Some courses are not offered every year. Additional technology electives are occasionally taught.

A4622	Advanced environmental systems	3 pts
A4645	Philosophy of technology	3 pts
A4627	Materials and methods in architecture	3 pts
A4621	Design of mechanisms and deployable structures	3 pts
A4629	Architectural acoustics and lighting	3 pts
A4136	Computers and structures	3 pts
A4647	Patterns and structure	3 pts
A6443	Technology transfer in architecture	3 pts
A6838	Investigative techniques for historic structures	3 pts
A6710	Building systems integration	3 pts
A4634	Advanced curtain walls	3 pts
A4669	Internet laboratory	3 pts

IV. VISUAL STUDIES COURSE SEQUENCE

The Visual Studies Sequence is intended to develop and improve the student's capacity for graphic representation of three-dimensional architectural form and space. It is intended as a corollary to *Architecture A4001* and *A4002—Core studio, I and II*, and involves the presentation and utili-

Master of Science Degree in Advanced Architectural Design

DIRECTOR: Mr. Stanley Allen

The Program

The M.S. degree in Advanced Architectural Design (formerly Architecture and Building Design) is a three-term program consisting of summer, autumn, and spring terms.

The objective of the program is to provide outstanding young professionals who hold B.Arch. or M.Arch. degrees the opportunity to enter into an intensive postgraduate study of architectural design that simultaneously enhances their architectural abilities and encourages critical thought. The research and design work produced in the studios draws to a large extent on the unique possibility of observing New York City as a "design laboratory." The intention of the program may be articulated as follows:

1. To engage the mind in a complex definition of architecture: from the questioning of the program to the elaboration of design.
2. To engage the student in the production of the objects—drawings, models, etc.—which may give the subject of architecture tangible, visible, and measured presence.
3. To encourage the student to confront culture, knowledge, and intuition in the making of an architecture that goes beyond stylistic issues to satisfy larger conceptual, social, and human values.

Admissions

Applications are due February 15. All applicants for admission to the program must have a B.Arch. or M.Arch. degree or 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. The portfolio should not exceed 8½ by 11 inches, should not measure more than ½ inch in thickness, and should be submitted with the application. The portfolio will be returned by mail only if sufficient postage and packaging are included and if the return address is indicated on the portfolio. The Graduate Record Examination (GRE) is recommended but *not* required.

Applicants for this program enter in the summer term; they must attend on a full-time basis for three consecutive semesters.

Organization of the Program

The program is viewed as a framework in which both academic and professional concerns are explored. A set of required studios and courses is enhanced by limited and open electives that are shared with other programs in the School and that promote intellectual cross-fertilization among disciplines. A required lecture course in the 20th-century city and contemporary theory, exclusive to the pro-

Term 4 (Spring)

A4004	Advanced studio, IV	9 pts
A4125	Building systems, I	3 pts
	History/theory distribution course	3 pts
A4511	Architectural drawing: advanced	<u>3 pts</u>
		18 pts

Term 5 (Autumn)

A4005	Advanced studio, V	9 pts
A4610	Building systems, II	3 pts
A4560	Professional practice	3 pts
	History/theory distribution course	<u>3 pts</u>
		18 pts

Term 6 (Spring)

A4006	Advanced studio, VI	9 pts
	History/theory distribution course	3 pts
	Electives	<u>6 pts</u>
		18 pts

Total for M.Arch. degree: 108 pts minimum

Joint Degrees

For joint degree options in the Master of Architecture Program, please consult the Joint Degree Programs section of this bulletin.

VII. SUMMER COURSES

Summer Programs Abroad

The School occasionally offers summer programs abroad. These programs are open to Columbia students and others registered in professional programs. They generally involve lectures, seminars, tutorials, and tours and are held for five weeks during June and July.

Summer Studio

See page 54 for description.

After full-time matriculation into the M.Arch. Program, a student may credit no more than 6 points toward his or her degree from courses being taken simultaneously at institutions other than Columbia University and must obtain prior approval from the dean. M.Arch. degree candidates must be matriculated in the program for at least two years (72 points). A maximum of two research courses may be taken toward the M.Arch. degree. A total of 108 points are required for the M.Arch. degree.

Example of Three-Year M.Arch. Curriculum

Term 1 (Autumn)

A4001	Core studio, I	9 pts
A4111	Structures, I	3 pts
A4348	History of architecture, I	3 pts
A4509	Architectural drawing: basic	3 pts
		<hr/> 18 pts

Term 2 (Spring)

A4002	Core studio, II	9 pts
A4123	Structures, II	3 pts
A4220	Enclosures and environments, I	3 pts
A4349	History of architecture, II	3 pts
		<hr/> 18 pts

Term 3 (Autumn)

A4003	Core studio, III	9 pts
A4221	Enclosures and environments, II	3 pts
A4535	Computer-aided design in architecture	3 pts
	History/theory distribution course	3 pts
		<hr/> 18 pts

zation of increasingly sophisticated and precise drawing techniques, both drafted and freehand.

Requirements for M.Arch. Program

A4509	Architectural drawing: basic	3 pts
A4511	Architectural drawing: advanced	3 pts
Total: 6 pts		

V. METHODS/PRACTICE COURSE SEQUENCE

The Methods/Practice Sequence introduces the student to various aspects of professional practice including computer-aided design, project and office management, developmental processes, legal and planning regulation, etc. These serve as an introduction to areas to be further developed during the three-year apprenticeship period (following completion of the M.Arch. Program) required for professional licensing.

Requirements for M.Arch. Program

A4535	Computer-aided design in architecture	3 pts
A4560	Professional practice	3 pts

Electives for M.Arch. Program

One course out of those offered:

A4531	Computer applications for the built environment	3 pts
A4534	Advanced computer-aided design in architecture	3 pts
A4536	Development and finance	3 pts

VI. ELECTIVES

In addition to those courses listed above in categories II–V, any of which may be taken as an elective, courses offered by the Urban Planning and Historic Preservation programs when taken as electives may be applied toward completion of the M.Arch. degree.

Electives in Other Schools and Departments

Students may choose courses from other schools and departments of the University for M.Arch. elective credit. These courses should be directly related to the student's professional program within the School, and these courses must be at the graduate level (course numbers 4000 and above). Exceptions may be granted only by the dean or course sequence directors. Approval for these courses must be obtained during the registration period for the semester during which they are to be taken, and provided to the Office of Admissions.

gram, provides grounding for architectural exploration in the studio. "Limited electives" are those School offerings designated as appropriate by the director. "Open electives" are of the student's choice. Autumn and spring studios are shared with final-year Master of Architecture students. In order to encourage the practical and conceptual integration of the computer in design work, AAD studios will take full advantage of the School's computer facilities.

Program Requirements

The M.S. degree in Architecture and Advanced Architectural Design requires 45 points in the following curriculum.

Summer Term

A6853	Design studio, I	9 pts
	Limited elective	3 pts
A4402	Metropolis	<u>3 pts</u>
		15 pts

Autumn Term

A4005	Design studio, II	9 pts
	2 limited electives	<u>6 pts</u>
		15 pts

Spring Term

A4006	Design studio, III	9 pts
	Limited elective	3 pts
	Open elective	<u>3 pts</u>
		15 pts

Note: Students are strongly advised to take one additional 3- or 4-point elective during each term. No extra tuition is charged between 15 and 19 points. Courses may be dropped until the tenth week into the semester for autumn and spring terms. Summer courses may be dropped until two-thirds of the class meetings have been held.

Master of Science Degree in Architecture and Urban Design

DIRECTOR: Mr. Richard Plunz

The Program

The Master of Science degree in Architecture and Urban Design is oriented toward architects who have already received a professional degree and who wish to concentrate further on the study of design considerations related to urban form.

The curriculum introduces a way of thinking about the city that is more complex and inclusive than architectural design, yet more form oriented than the discipline of urban planning. The course work explores that ill-defined realm between architecture and planning, as well as such areas as cultural theory, sociology, urban geography, economics, and real estate. The base endeavor, however, is architectural design, which serves as a catalyst for incorporation of wide-ranging perspectives from other disciplines. In this sense, the program is considered experimental, exploratory, and unorthodox in comparison to the established canons of the traditional architectural design studio. The faculty are committed to the architectural investigation of urban phenomena at all scales. In one sense, the curriculum attempts to further the role of urban design as a form of critical inquiry. The theoretical base originates with the 1960s, when the present critique of "modernist" urbanism first developed. Crucial to this foundation are such diverse tendencies as the Situationist International in Europe; the "Collage City" adherents in the United States; and the so-called "systems approach" that emerged universally out of the beginnings of the cybernetic age.

The core of the Urban Design curriculum is the coordinated three-semester studio/seminar sequence. This material engages the state of the late twentieth-century urbanism, especially of those cities that have come of age in the modern industrial era and now face the transition to new forms and meanings. A dialogue is woven between New York City, which is the primary focus of the program, and other world capitals with analogous contemporary conditions. It also moves between the recent theoretical debate on future urbanism and applied projects that directly engage the realities of the transformation of the post-industrial city. In this way, the program attempts to engage both the daily reality of our urban condition and the theoretical abstraction of current academic debate—not one to the exclusion of the other.

The Urban Design Program embraces a special relationship between the design studio and the New York City region through collaboration with government agencies and other public interest constituencies. This collaboration intersects a heightened degree of reality and immediacy within the academic program; and in return it gives public institutions a valuable resource for exploration of critical issues. In the final semester the focus shifts to one or two other world cities comprising a similar collaboration with the appropriate local agencies and constituencies. In general the problematics raised by all of the studios connect to concrete urban situations from which inquiry proceeds to a particular balance of "real" and "theoretical" depending on specific circumstances.

Autumn Term

A4005	Studio, II	9 pts
A6837	Urban design seminar, II	3 pts
Pl A4714	Legislating aesthetics	<u>3 pts</u>
		15 pts

Spring Term

A4006	Studio, III	9 pts
A6838	Urban design seminar, III	3 pts
	Urban design limited elective	<u>3 pts</u>
		15 pts

Note: Students are advised to take one additional 3- or 4-point elective during each term.
No extra tuition is charged between 15 and 19 points.

Admissions

Applications are due February 15. 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. The portfolio should not exceed 8½ by 11 inches, should not measure more than ½ inch in thickness, and should be submitted with the application. The portfolio will be returned by mail only if sufficient postage and packaging are included and the return address is indicated on the portfolio. The Graduate Record Examination (GRE) is *not* required.

Applicants for this program enter in the summer term; they must attend on a full-time basis.

Organization of the Program

The core of the Urban Design curriculum is the three-semester sequence of related studios and seminars. In summary, the material of the first-semester studio represents an introduction to the morphology of New York, from center to inner periphery to edge city. The first-semester seminar provides an overview of the contemporary literature on the question of urbanism. The second-semester studio is focused in detail on the singular issue of rebuilding the inner periphery in New York. Its seminar investigates the question of anonymous urban fabric with comparative study of New York and other world cities. The topic of the third-semester studio moves to another city for comparative purposes and is primarily engaged with the issue of restructuring and rebuilding the 19th- and early-20th-century fabric. The seminar continues to explore recent theoretical debate, focused on the problematic of public space.

Program Requirements

The M.S. degree in Architecture and Urban Design requires 45 points in the following curriculum:

Summer Term

A6848	Urban design studio, I	9 pts
A6836	Urban design seminar, I	3 pts
A6824	Reading New York urbanism	<u>3 pts</u>
		15 pts

The Ph.D. Program in Architecture (History and Theory)

CO-DIRECTORS: Mr. Kenneth Frampton
Ms. Mary McLeod

The Program

The doctoral program addresses the development of modern architectural form as it has been affected by social, economic, and technological change. In broad terms its research encompasses the relations between the profession, practice, civil institutions, and the society at large. The course has been designed to meet the needs of academically trained M.Arch. graduates who have also had some professional or academic experience and are thus particularly prepared to carry out research in this area.

The main focus of the program is the development of modern architecture and urbanism from 1850 to the present. It is especially oriented toward students who are interested in avant-garde and post-avant-garde developments, the history of American architecture and urbanism from 1800 to the present, the evolution of colonial and post-colonial architecture, and the cultural impact of modernization in Europe. The program concentrates on architectural production of the past fifty years, and in particular on the evolution of contemporary architectural theory and practice.

Admissions

Applications are due January 1. An applicant is expected to hold a master's degree in architecture and have excellent academic credentials. Under exceptional circumstances candidates who hold a master's degree in other fields are considered for admission. The acceptance of non-architecture candidates is contingent, however, upon completion of certain course work within the first year of the Graduate School of Architecture, Planning, and Preservation M.Arch. program before commencing the two-year M.Phil. course.

Because much of the textual research covering contemporary development is in languages other than English, candidates must have reading ability in one of the following foreign languages: French, German, or Italian. Similar competency in a second language drawn from this group must be achieved within a year of being admitted to the program.

The Ph.D. program is part of the Graduate School of Arts and Sciences. Application forms should be requested from the Office of Admissions, Graduate School of Arts and Sciences, Columbia University, Low Memorial Library, Room 107, 535 West 116th Street, New York, NY 10027.

Organization of the Program

Students are required to spend four semesters in residence during which time they are expected to take thirteen courses (39 credit points), of which eight must be taken for a letter grade. The required academic course work breaks

down into the four sections described below. In addition to the doctoral seminars given under Section 1, all students must take nine further courses of which five must be seminars.

It is assumed that these courses will be spread out evenly over the first three semesters of study, leaving a free semester with only one colloquium in the period immediately prior to the M.Phil. In addition to one elective course, the distribution pattern for the course work is to be as follows:

Section 1: Doctoral Seminars

All students are required to take four doctoral seminars over the four-semester sequence, including a pro-seminar in architectural theory and three other doctoral seminars.

Section 2: Architectural History/Theory Part 1

Students will be required to take one course in the Graduate School of Architecture, Planning, and Preservation in each of the following areas:

1. 19th- and 20th-Century American Architecture and Urbanism (1750–1950)
2. 18th-Century Architecture and Theory (1750–1900)
3. Contemporary Theory and Practice (1910–1970)

Section 3: Architectural History/Theory Part 2

Students will be required to take one course in each of the following areas:

1. Pre-1750 (Ancient, Medieval, Renaissance, Baroque Western architecture)
2. 18th-Century Architecture and Theory (1750–1800)
3. 19th-Century Architecture and Theory (1800–1900)

Section 4: Social and Critical Studies

Students will be required to take two courses in the following areas: English and Comparative Literature, Germanic Language and Literature, Philosophy, History, Political Science, Anthropology, and Urban Studies. These departments have been selected from the offerings of the Graduate School of Arts and Sciences for the emphasis they place upon comparative historical and critical studies. These courses will be decided upon in consultation with the student's adviser and members of the aforementioned departments.

This program has been designed to give doctoral candidates sufficient training for the M.Phil. examination, with a special emphasis on modern architectural and urban development and on the relationship of this evolution to parallel developments in material history and contemporary thought.

The four-semester program concludes with this examination, which will be divided into two sections: (1) the submission of three papers as an elaboration of course work requirements given under the study areas listed above; and (2) a general oral examination for the period 1750-1950. After completion of (1) and (2), the student is required to submit a research proposal for approval by the Doctoral Committee. A faculty member is then assigned as an adviser for the thesis.

After the period in residence, students will be free to pursue their research topic independently and submit their final thesis for examination approximately two years after completing the M.Phil.

The program is administered by a committee that includes faculty from the GSAP and the Department of Art History and Archaeology in addition to a further representative drawn from another department of the GSAS. The admissions committee will be made up of GSAP faculty and representatives from the Department of Art History and Archaeology.

Master of Science Degree in Urban Planning

DIRECTOR: Mr. Lionel C. McIntyre

The Program

The primary purpose of the M.S. degree in Urban Planning is the education of students so that they may contribute their knowledge, skills, and understanding to improving the quality of life in urban society and addressing the major urban issues of the day. Course work, field work, and research are means to this end. The faculty is committed to the vision of an improved city with expanded opportunity, social justice, and a better quality of life.

Urban planning is inherently an economic, social, political, and physical process that applies technical knowledge, research findings, and past experience to the city of today and tomorrow. The real challenge of planning education today is the effective integration of architectural design and technical skills with the methods of applied social science to ensure sensitive physical and social planning. The program meets this challenge through a curriculum that provides students with a thorough understanding of the basic processes that produce built environments, as well as the techniques necessary to intervene effectively in these processes.

The emphasis of the program is on physical and social planning in very large cities and comparative urbanization. Housing, urban land markets, planning law, and environmental planning are among the major subjects covered. The fundamental event in urban life today, and in the foreseeable future, is the dramatic restructuring of the built environment that is under way in large, mature cities in the United States and abroad. This restructuring is the product of a complex, inadequately understood transformation of the economic, demographic, social, and technological forces governing urban development. Nowhere is this restructuring more pronounced than in New York City, with its jarring juxtapositions of abandonment and gentrification, industrial exodus and office expansion, private wealth and public austerity. The city is often the first to experience new urban phenomena and public policy responses, making it the perfect laboratory in which to study the problems and opportunities inherent in the restructuring process.

Admissions

Applications are due February 15. The master's program prepares students from many different backgrounds for careers as professional planners. Applicants frequently have majored in architecture, engineering, sociology, political science, geography, economics, or urban studies. All applicants are required to take the Aptitude Test of the Graduate Record Examination (GRE). Information may be obtained from the Graduate Record Examination, Educational Testing Service, Box 955, Princeton, New Jersey 08540.

Organization of the Program

The program combines critical perspectives on the process of urban, social, economic, and physical change in large cities with the technical skills required for professional practice.

Central to the curriculum in Urban Planning is the articulation of space (understood as material form, not mere geographic territory) and social and physical urban processes in their various embodiments: the economy, social and physical services, population, the political and administrative institutional framework, and the built environment. This concern with the spatial-social nexus in the analysis and theorizing of urban processes is cast along comparative lines and focused especially on very large cities. Organizing the curriculum are questions about the efficiency and equity of planning models and practices, their differences in various types of societies and economies, and, on a more theoretical level, questions of urban form.

The focus on planning in very large cities stems from a recognition of the importance of the context within which planning takes place. Columbia's location in New York City and the interest that this city has had for planners and scholars are prime reasons for this choice. The focus on planning in very large cities should also serve as the medium for a comparative approach. This perspective has promise because it is in such cities that the major development issues are playing themselves out.

Pedagogically, this program is centered on the belief that the best professional education takes place in an environment of learning by doing, reinforced by classroom work that provides a thorough understanding of the economic, social, political, and physical aspects of the comprehensive planning and analysis of the built environment. This approach is implemented by a program of requirements, which includes a workshop in planning skills, a planning studio, courses in analytic methods, and courses in planning theory and practice.

Program Requirements

Students are required to complete 60 points for the M.S. in Urban Planning: 36 points in eleven core courses, 9 points in a sector specialization of their own choosing, and 15 additional points in elective courses. Students may take courses offered elsewhere in the University to fulfill some or all of their elective requirements. A master's thesis is also required.

Term 1 (Autumn)

PI A4208	Quantitative techniques	3 pts
PI A6290	Workshop in planning skills	3 pts
PI A4112	History of urbanization and physical structure of cities	3 pts
	Sector specialization	3 pts
	Elective	<u>3 pts</u>
		15 pts

Term 2 (Spring)

PI A4670	Planning research and evaluation methods	3 pts
PI A6001	Theory of urban planning	3 pts
PI A6911	Planning studio	6 pts
	Sector specialization	<u>3 pts</u>
		15 pts

Term 3 (Autumn)

PI A6850	Research design (prerequisite for PI A6918)	3 pts
PI A4151	Foundations of urban economic analysis*	3 pts
	Sector specialization	3 pts
	Electives (2)	<u>6 pts</u>
		15 pts

Term 4 (Spring)

PI A6052	Planning law†	3 pts
PI A6225	The planning process	3 pts
PI A6918	Thesis	3 pts
	Electives (2)	<u>6 pts</u>
		15 pts

Sectors

A minimum of three courses must be taken within a sector to fulfill the sector specialization requirement. A student interested in concentrating in a sector not listed below may construct his or her own specialization, subject to the approval of the program director. The following four sectors are offered in the Urban Planning Program:

Housing

International Comparative Planning

Physical Planning and Infrastructure Development

Urban Economic Development

*May be taken in either the first or third term.

†May be taken in either the second or fourth term.

The Ph.D. Program in Urban Planning

DIRECTOR: Mr. Peter Marcuse

The Program

The Ph.D. Program prepares students for careers in teaching, research, and advanced practice in the fields of urban theory, policy, and planning. The program has as its specific field of inquiry the articulation of space (understood as material form, not mere geographic territory) and social and physical urban processes in their various embodiments: the economy, social and physical services, population, and the political and administrative institutional framework. Organizing this inquiry are questions related to the efficiency and equity of planning practices and, on a more theoretical level, questions of urban form.

Admissions

Applications are due January 1. An applicant is expected to hold a master's degree in urban planning or in a related discipline and have excellent academic credentials, with a grade average of B+ or better. In addition, an applicant is required to have completed at least 90 points of undergraduate liberal arts courses in the social sciences, humanities, or natural sciences, and the core courses provided in the master's level curriculum in the Urban Planning Program at the School.

Students without a master's degree may be admitted to the Master's Program in Urban Planning with a "Notation of Intent" to apply for the Ph.D. Program. Upon completing the master's degree, their application for admission to the doctoral program will be considered.

The Ph.D. Program is part of the Graduate School of Arts and Sciences. Application forms should be requested from the director or directly from the Office of Admissions, Graduate School of Arts and Sciences, Room 107 Low Memorial Library, Columbia University, New York, NY 10027.

Organization of the Program

Each student is expected to acquire advanced knowledge in the following areas:

1. Urban Theory
2. History and Theory of Planning
3. Research Methods in Planning
4. Sector Specialization
5. Related Discipline or Field

At the center of the Ph.D. curriculum are the two seminars on Planning Theory and Planning History (*Planning A8931* and *Planning A8930*). Planning theory provides students with advanced knowledge of theories that inform planning practice and theory. There are three broad areas from which planning theory draws and upon which the seminar must rest: (1) theories of urban form, (2) theories of the state and of collective decision making, and (3) theories of planning action. The first area of theory draws from architectural and social scientific theories of built form and space. The second area draws almost exclusively from

the social sciences, in particular political science, sociology, and economics. It seeks to explore the ways in which collective decisions evolve in complex urban societies and the role of public action at the urban level. The final area of theory attempts to provide understanding of how planning is actually done in various institutional settings. This final field draws heavily on the planning literature and literature about planning in related disciplines. The Planning History seminar focuses on major works in planning history and major themes and issues in the history of planning. These two courses, in addition to the Ph.D. research colloquium (*Planning A8900-A8901*), are taught by senior faculty in planning.

Students are required to take two courses in advanced methods. One of them is the Advanced Seminar in Systems Analysis (*Planning A8220*). The other may be taken in another department in the Graduate School of Arts and Sciences.

Finally, students are expected to take one or two advanced seminars in specialized planning fields, such as housing, urban land markets, comparative urbanization, or comparative physical planning. Students may and are encouraged to take courses in their field of specialization or related fields in other departments of the University.

M.Phil. Examination Requirement

There are comprehensive examinations in History and Theory of Planning and in the Sector Specialization. These are written exams read by a committee of the Doctoral Program Subcommittee in Urban Planning. Students must pass these exams satisfactorily before they can present and defend their dissertation proposal. The exams are normally taken at the end of the spring term or in the summer. Any student who has satisfactorily passed the comprehensive examination and has had a Ph.D. dissertation proposal accepted will be awarded the M.Phil. degree.

Dissertation proposals must be approved by the main adviser and are presented and defended in front of at least three members of the Ph.D. Program Steering Committee, including or in addition to the adviser. Completed dissertations must be approved by the main adviser before they can be defended in front of a dissertation committee.

Program Requirements

History and Theory of Planning

Each student is required to complete a minimum of two courses in the history and theory of planning, the Advanced Seminars in Planning History and Theory. Among the topics covered are the genesis and structure of planning thought and methods; economic, political, and social factors influencing the development of planning theories and policies; the theory and development of urban structures; and the history of cities.

Doctoral Research Colloquium

This is a required two-semester course. It focuses on new developments in the social science and planning literature.

Research Methods in Planning

This requirement is intended to develop the social science, planning, and evaluation skills expected of a planning scholar. Two courses in advanced methods are required.

Sector Specialization

Sector specializations provide students with the substantive backgrounds for their individual scholarly interests. The following list of typical fields is intended to be suggestive, not exclusive:

- Planning History and Theory
- Urban Spatial Theory
- Economic Development
- Physical Planning
- Transportation
- Housing
- Community Development
- Comparative Planning

Related Discipline or Outside Field

This requirement helps students relate their urban planning interests to a broader field of intellectual inquiry. It is normally met by the completion of a minimum of three courses in the area chosen or by previous work. In either case, a letter from a University faculty member expert in that area attesting to the completion of the requirement is needed. The following are examples of related disciplines and outside fields: anthropology, art history, economics, geography, history, law, political science, public health, social work, sociology, historic preservation, urban design, and international affairs.

Degree Requirements

Examinations

Required examinations typically will be offered at the end or the beginning of the autumn or spring term. They will be graded (Pass with Distinction/Pass/Fail) by the Ph.D. Examination Committee. No examination can be taken while Incompletes in that area are outstanding.

The Examination Committee will comment in writing to the student on his or her written responses after each examination, and those comments shall be included in the student's file. If the committee determines that the student has not satisfactorily passed, the student shall be eligible for reexamination, but not more than once for each examination.

Course Credits and Grades

Students may earn either Examination Credit (E credit) or Registration Credit (R credit). E credit is granted after regular evaluation of student's work in a course and is expressed as a letter grade: A (excellent), B (good), C (fair), D (poor), F

(failure), or Inc (incomplete). A student has one year to make up an Incomplete. After that time, the grade will automatically be changed to an R, except in the case of seminars.

R credit is earned when the student attends a course without any obligation to take examinations or do other assigned work. Once awarded, the grade is not subject to change, nor may a course taken for R credit be repeated for Examination Credit. Both E and R credits are entered on a student's permanent record and are counted toward residence requirements. A student may also audit courses, with the approval of the instructor, but without receiving any credit.

The Graduate School of Architecture, Planning, and Preservation uses a Pass/Fail/Incomplete grading system. Ph.D. students, however, must receive letter grades.

Note: No more than 15 of the 75 points of required work can be taken for R credit—or 9 out of 45 points if 30 points of advanced standing have been granted, or 12 out of 60 points if 15 points of advanced standing have been granted.

Languages

No general language requirement is imposed on students in the Ph.D. Program. The literature in the field relevant to the work of planning students concentrating on areas within the United States today is, by and large, available in English; knowledge of additional languages is professionally necessary only for students in certain areas of specialization. At the time of the first meeting of the student's Ph.D. Committee, and again at the committee meeting with the student to review the Ph.D. dissertation proposal, a determination will be made whether such a requirement is appropriate. For example, it is anticipated that a student taking as a sectoral specialization urban planning in less-developed countries, or one writing a comparative international study of planning, will require a mastery of foreign languages appropriate to the particular interest. Where such knowledge is required, proficiency must be established to the satisfaction of the director of the doctoral program.

Master of Philosophy Degree

Any student who has satisfactorily passed the comprehensive examinations and has had a Ph.D. dissertation proposal accepted will be awarded the M.Phil. degree.

Any student who receives fewer than two Residence Units of advanced standing must complete the work for the M.Phil. degree within *four years*. If a student receives two Residence Units of advanced standing, all degree requirements must be completed within *three years*.

Time Limit and Extended Residence

A student must complete all requirements for the Ph.D. degree within seven years after initial registration, or within six years if awarded advanced standing of two Residence Units. Rare exceptions to this rule are recommended by the program and granted by the dean of the Graduate School of Arts and Sciences.

A student who has satisfied the minimum residence requirements is eligible to enroll for Extended Residence at a reduced fee. This applies to *any term* in which a student has yet to complete either course work, language requirement, qualifying examinations, or the defense of the dissertation. Exception is made for students defending a dissertation if they were registered for either a Residence Unit or Extended Residence in the term immediately preceding the defense, in which case they pay the Matriculation and Facilities Fee.

Students who are *not* completing degree requirements as described above, and who are *not* required to register for a Residence Unit or Extended Residence as a condition of their fellowship or University appointment, can satisfy the requirement for continuous registration and maintain their status by paying the Matriculation and Facilities Fee, which allows them to make use of various University facilities.

Joint Degree Programs

For joint degree options in the Urban Planning Program, please consult the Joint Degree Programs section of this bulletin.

Master of Science Degree in Historic Preservation

DIRECTOR: Mr. Robert A.M. Stern

The Program

The Columbia Master of Science degree in Historic Preservation is the oldest degree of its kind in the United States. The program is comprehensive, providing specialized training for those who wish to be professionally active in any aspect of the field of preservation. The fundamental concerns of the program are for (1) the accurate understanding of the vital contributions of surviving architecture, townscape, and landscape to the identity and well-being of living communities; and (2) the protection of those contributions through the scrupulous conservation of buildings, neighborhoods, and landscapes that express meanings from the past to us and to the future.

Like the field of historic preservation itself, the Columbia program encompasses diverse professional activities. It offers training in the management of cultural resources, including the identification and protection of valuable surviving elements of the past ranging from interiors and furnishings to entire urban and rural regions. It considers not only physical acts of protection but also the development of institutional means, both legal and economic, to support those acts. It pursues proven and innovative techniques for the management of change in conservation treatments, building services, adaptive uses of historic fabric, and proposals and controls for appropriate designs for new building complexes.

At the heart of our program lies the belief that training for professional practice must combine a sound footing in basic techniques and a firm grasp of theory, with appropriate specialization. In pursuit of this goal the Columbia program offers a core curriculum that introduces the broad range of preservation issues and techniques to all in the program before students move on to their special area of concentration in one of four sectors that correspond to the major subdivisions of the field: architectural design, history, building conservation, and preservation planning. Design focuses on analysis of protected buildings, townscape, and landscapes, and on the development of a capacity to recognize appropriate new design work within historic settings; history focuses on the identification, documentation, and understanding of significant artifacts and trends of the past; building conservation focuses on the analysis and stabilization of specific materials of the past; and preservation planning focuses on the analysis of appropriate legal and financial procedures for the protection of historical buildings, townscape, and landscapes.

Course work: 60 points are required. During the first year, all degree candidates study methods of documentation and building conservation, American architectural and environmental history, and the theory and practice of historic preservation planning, and participate in two design studios, one of which focuses on preservation planning policy. Before beginning their second term, students are required to select the sector that represents their area of concentration or focus. Submission of a thesis topic is a requirement for registration in the autumn of the second year. Research for the thesis in the autumn of the second year culminates

with a report to the thesis adviser; the completed thesis is presented in the spring term.

The remainder of the work consists of lectures, seminars, preservation studios, and laboratory courses in conservation.

Registration: Students must attend the program on a full-time basis, registering for at least 12 credit points per semester. In unusual circumstances the director will consider petitions for leaves of absence.

Related activities: Local community involvement is encouraged whenever appropriate. Special ties are maintained with New York City institutions such as the Metropolitan Museum of Art, the Landmarks Preservation Commission, the Landmarks Conservancy, the Municipal Art Society, Architectural League of New York, the Temple Hoyne Buell Center for the Study of American Architecture, and the Center for Preservation Research and its laboratory. These ties provide additional educational opportunities and further enrich the program.

Field trips: Second-year students are eligible for a grant from the William Kinne Fellows Traveling Fellowship Fund. These grants are to support travel that will advance a student's knowledge of architectural history and preservation.

Internships: All students are required to complete an internship before receiving the degree. Students are individually responsible for securing internships but are assisted in this by a special committee within the program. Internships should be approved in advance by the director and are recognized as completed upon receipt of a letter of evaluation from the internship supervisor sent to the director and a brief report from the student summarizing the work. In certain cases, work done before entering the program is accepted in lieu of an internship.

Prerequisites: Because of the interdisciplinary nature of preservation, no specialized training is required for entrance into the program, with the following exceptions:

- For all students, at least one undergraduate survey in architectural history.
- For students who do not hold an architectural degree, one basic drafting or drawing course; such a course is generally available at a vocational or community college. It does not carry credit toward the M.S. degree.
- For students in the design sector, a professional degree in architecture.
- For students in the conservation sector, at least one undergraduate course in chemistry, physics, biology, or earth science.

Admissions

Applications are due February 15. Applicants for admission to the M.S. degree in the Historic Preservation Program must first hold a professional degree in architecture or a bachelor's degree in art history, American studies, urban studies, history, or other related field. All applicants are required to take the Aptitude Test of the Graduate Record Examination (GRE). Information may be obtained from the Graduate Record Examination, Educational Testing Service, Box 955, Princeton, New Jersey 08540. Applicants may enter only in the autumn term.

Program Requirements

The course requirements in the Historic Preservation Program are divided into three categories: *core*, *sector*, and *electives*. All first-year students share a required ten-course core curriculum. Three of these courses, *Design principles: studio, I*; *Documentation*; and *Historic preservation studio, II*, focus the work of the core on a common site within the metropolitan region. In the second semester, program specialization begins with enrollment in one course beyond the core sequence. This will consist of a specialized seminar or course in history, design, planning, or conservation. For students concentrating in the conservation sector, this advanced seminar will consist of a required 3-point laboratory section connected with the core conservation science course. The second year is primarily committed to specialized course and thesis work within the student's chosen sector of concentration. Beyond American architecture survey, a fourth-semester preservation case study colloquium, and the two-semester thesis project, students will enroll in courses totaling a minimum of 9 credit points within their sector during the second year. The courses that meet this threshold requirement for sector concentration must be approved by a member of the full-time faculty. In order to ensure the timely and successful completion of thesis projects, students are encouraged to minimize course work in the fourth semester, taking only one elective course beyond the courses listed below.

First Semester

A4110	Basic principles of traditional construction	3 pts
A4510	Design principles for preservation: studio, I	4 pts
A6740	Theory and practice of historic preservation	3 pts
A6745	Documentation	3 pts
A6766	Conservation science	3 pts
A6767	Preservation planning	3 pts

Second Semester

A4341	American architecture after 1876	3 pts
A6734	The classical language and literature of architecture	3 pts
A6738	Investigative techniques for historic structures	3 pts
A6750	Historic preservation studio, II	4 pts
AXXXX	Course in sector of specialization	3 pts
A6777	Conservation science laboratory (for conservation sector only)	3 pts

Third Semester

A6751	Thesis, I	1 pt
AXXXX	Courses in sector of specialization and electives	9–15 pts

Fourth Semester

A6753	Thesis, II	9 pts
A6790	Preservation case study colloquium	3 pts
A4341	American architecture after 1876	3 pts
AXXXX	Courses in sector of specialization and electives	3–6 pts

Design Sector

This sector provides students with the increased historical and technical knowledge needed by architects for the successful solution of design problems involving historic structures. It also enhances aesthetic sensitivity through exposure to problems of restoration, adaptive use, and infill design of differing scales. These problems are addressed in course work and in the thesis, which must contain research and design for a particular problem of preservation.

Completion of a thesis is a requirement for those students who, after satisfactorily completing the stated prerequisites, choose to pursue the design sector. Preparation of the thesis occurs in *Architecture A6751—Thesis, I*, where written analysis of the thesis project, a proposed program, and all appropriate base drawing and other relevant materials are prepared. The thesis is executed and brought to completion in *Architecture A6753—Thesis, II*, under the direction of a studio critic or thesis adviser.

History Sector

The history sector relates academic studies in architectural and urban history to preservation practice. The sector aims to complement the dominant focus of architectural history, which is generally upon the relations among *original* clients, architects, and forms and their meanings by investigating the ways in which later generations assign meaning and value to older structures. The School offers a full range of graduate courses and seminars on the history and theory of architecture and on decorative arts, urbanism, and related developments. Courses on the history of architecture and urbanism are also available in the related departments of the University, including, but not limited to, the departments of Art History and Archaeology and History. The thesis allows students to pursue original research in the history of architecture and urbanism, the history and theory of preservation, and the interrelation between history and preservation practice.

Conservation Sector

This sector provides students with the technical and theoretical knowledge required for the examination, documentation, and analysis of historic structures and materials. It also establishes a background for the diagnosis and treatment of building pathology. These issues are addressed through a synthesis of lectures, laboratory work, field studies, and the trade techniques workshop designed to combine a range of special architectural and scientific skills. These skills, which are required for maintaining the integrity and quality of the built environment, include the history of architecture and building technology, graphic and written documentation, materials science, and analytical laboratory and field techniques.

Planning Sector

The preservation planning sector combines two strategies. The first stresses the historical and planning analyses, contextual evaluation, and physical design of the built environment. The second focuses on regulatory, legislative, economic, and planning methods used to conserve historic neighborhoods, rural landscapes, or recycled structures. These two strategies are intended to link a historical understanding of land development patterns with the analysis of interventionary methods and also with economic and political contexts where these forms have been determined. Both studio and the thesis emphasize preservation planning issues and allow the student an in-depth opportunity to explore, develop, and criticize preservation strategies.

Electives

Electives are subject to approval by each student's adviser and may be chosen from other offerings in historic preservation, from other programs in the School, from the Department of Art History and Archaeology, or from graduate courses offered by other departments of the University.

Advanced Standing

Any student who has already received a master's degree in architecture may apply for up to 24 points of advanced standing toward a master's degree in historic preservation, provided the student chooses the design sector.

Joint Degree Programs

For joint degree options in the Master of Science in the Historic Preservation Program, please consult the Joint Degree Programs section of this bulletin.

Master of Science Degree in Real Estate Development

DIRECTOR: Mr. Charles Reiss

The Program

The School offers an intensive one-year Master of Science degree in real estate development that prepares students to enter the real estate industry. This industry plays a critical role in shaping the built environment through the construction of housing, offices, commercial centers, and industrial sites. It creates not only structures, but also employment, tax revenues, public spaces, cultural symbols, and social environments of lasting significance. The complete and related functions and roles of government agencies, public benefit corporations, and nonprofit groups as well as the private sectors are studied and analyzed.

The program of study provides an interdisciplinary and carefully coordinated exposure to all major elements of the development process: finance, marketing, politics, law, design, construction, planning, and history. Students are trained for responsible positions in the public and private sector real estate industry, with particular emphasis on the skills and sensitivities necessary to develop real estate successfully in our nation's major complex urban areas.

Admissions

Applications for admission to the program leading to the M.S. degree in real estate development are due February 15. Applicants may hold degrees in a range of fields. While academic preparation in development-related disciplines such as economics, business, law, engineering, historic preservation, architecture, construction, and urban planning is highly desirable, it is not essential for admission to the program. In addition to submitting the normal application materials, students are required to take the Aptitude Test of the Graduate Record Examination (GRE) if their undergraduate degree was awarded within three years of application to the real estate program. 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.

Program Requirements

The Master of Science degree in real estate development is a one-year, 36-point degree. Students attend full-time during the autumn and spring terms, complete their final real estate development projects immediately following the spring term, and are awarded degrees in October. In the courses, theory, quantitative techniques, and extensive case study materials are combined. Students must take 30 credits of required courses, with the rest constituting electives. Upon special application the electives may be increased.

The final real estate development project is begun during the spring term under the supervision of a faculty adviser. Final projects are detailed development

proposals, evaluations of important completed projects, or analyses of major public laws or private sector initiatives in real estate development. The project is due before graduation in October.

Autumn Term

PI A4312	Real estate finance, I	3 pts
PI A4538	Real estate opportunities	3 pts
PI A6332	Land use law	3 pts
PI A6348	Architectural design	3 pts
PI A6350	Design for development	3 pts
PI A6352	Market analysis for development	3 pts
PI A6356	Construction technology and management, I	3 pts
PI A6568	Community development	3 pts

Spring Term

PI A4311	Housing finance	3 pts
PI A4314	Real estate finance, II	3 pts
PI A6330	Site planning and support systems for development	3 pts
PI A6340	Real estate thesis	1 pt
PI A6333	Real estate development law	3 pts
PI A6354	Political environment of development	3 pts
PI A6357	Construction technology management, II	3 pts
PI A8792	Research problems/internship	3 pts

Joint Degree Programs

To utilize more fully the facilities and resources of the University and to provide opportunities for students to pursue studies in related fields, the School, in conjunction with other departments 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's admissions office for further information.

Historic Preservation and Architecture/Historic Preservation and Urban Planning

Requirements are completed in four years rather than the five required for the three-year M.Arch. and two-year M.S. in historic preservation degrees and in three years for the urban planning/preservation degrees. The full requirements for each degree are met in this shortened time by allowing certain courses to count toward both degrees and by using electives from one program to meet requirements in the other.

Admission requirements for all programs must be met. Students may apply to both programs before matriculation by checking both of the appropriate boxes on the application form, or they may apply for the Master of Architecture or Master of Urban Planning after entering the Historic Preservation Program or vice-versa. Upon entering the Historic Preservation Program, those students who indicate to their adviser an interest in applying to either joint degree program are directed to take a special program of courses that allows them to fulfill appropriate historic preservation requirements.

At any time during the four years, students may elect to withdraw from one program and complete requirements for one degree only. Students in the School initially enrolled in one program may apply during their first year for admission to the other, and in normal circumstances can complete joint program requirements within three or four years. Because of the complexities of point sharing and scheduling, students applying after the first year must be prepared to spend additional time to complete requirements for both degrees.

Urban Planning and Architecture

The Graduate School of Architecture, Planning, and Preservation 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 138 points of credit, which may be earned in eight terms in residence in the School.

Urban Planning and Business

The Columbia Business School and the Graduate School of Architecture, Planning, and Preservation 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 Business School and three terms in the Graduate School of Architecture, Planning, and Preservation.

Urban Planning and International Affairs

The School of International and Public Affairs and the Graduate School of Architecture, Planning, and Preservation offer a joint program leading to the degree of Master of International Affairs and the degree of Master of Science in Urban Planning. A student must enroll for 90 points of credit, which may be earned in five terms in residence—at least two terms in the School of International and Public Affairs and three terms in the Graduate School of Architecture, Planning, and Preservation.

Urban Planning and Law

The School of Law and the Graduate School of Architecture, Planning, and Preservation 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, Planning, and Preservation.

Urban Planning and Public Health

The School of Public Health and the Graduate School of Architecture, Planning, and Preservation 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, Planning, and Preservation.

Urban Planning and Social Work

The School of Social Work and the Graduate School of Architecture, Planning, and Preservation 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, Planning, and Preservation.

Columbia-Dillard Joint Degree Program in Liberal Arts and Urban Planning

A five-year joint degree program was established in 1985 with Dillard University in New Orleans, leading to a Bachelor of Arts degree from Dillard and a Master of Science degree in Urban Planning from Columbia. It is the first joint degree program in urban planning in the nation between a historic black university and a graduate program in urban planning. Students spend three years as undergraduates at Dillard and two years as graduate students at Columbia.

The Shape of Two Cities: New York/Paris (Special Undergraduate Program)

DIRECTORS: Ms. Danielle Smoller, New York

Ms. Meredith Sykes, Paris

The Shape of Two Cities: New York/Paris Program is the School's program for undergraduate students from colleges and universities around the country. The program's first term is spent at the School on the Columbia University campus. The second term is spent at a studio and classroom facility located in the historic Marais district in Paris. The program's goals, achieved through an intensive, one-year curriculum, are to introduce the fields of architecture, planning, and preservation; encourage their exploration in the contexts of history, theory, and practice; and identify and analyze their interrelationships, especially in regard to the making of cities. All classes are conducted in English. The program offers a choice of academic schedules: autumn/spring or summer/autumn. Applicants should select carefully the schedule that best meets their requirements.

Students in the program enroll in either the Architecture Option or the Urban Studies Option and share in a core of courses while embarking on their specializations. In the first term the core courses are *A6769—History of the American city*, *A4028—Building New York*, and *A4027—Architecture, planning, and preservation: New York*. In the second term, the core courses are *A4030—The development of Paris*, *A4031—History of European cities*, *A4025—Freehand drawing*, and *A4029—Architecture, planning, and preservation: Paris*. These courses ground the program in the rigorous review of urban history and urban form, provide the academic structure for the students' comparative analysis of New York and Paris, and complement the liberal arts curricula of participating colleges.

The Architecture Option combines class and studio work to introduce design, architectural theory, and structural concepts. Through a series of increasingly complex projects that are focused on New York and Paris, design studios emphasize form and space-making and the formulation of public and private spaces as they relate to urban morphology. Representational and analytical drawings and model-making are woven into studio projects as a means of developing and criticizing design concepts.

The Urban Studies Option emphasizes workshop and seminar work to introduce its fields, which are placed in the contexts of urban and architecture history, historic and contemporary approaches to planning and preservation, and analysis of the social and cultural development of New York and Paris. The first term prepares students to embark on a major independent research project in Paris around a theme developed through discussion with the faculty. This Option emphasizes the combination of research and field analysis as a means for developing historic preservation and urban planning strategies.

Admissions

The program is designed for students who have completed their sophomore year at an accredited college or university. Previous study in architecture, planning, or preservation is not required. Applicants must have the written support of their home institution.

To apply for admission, the student should submit the following materials to the Office of Admissions: application form, official transcript of academic record, letter of recommendation from the major adviser or an academic dean supporting the application to the program and attesting to the student's ability to live and study abroad, and a \$50 nonrefundable application fee in a check or money order payable to Columbia University. On their applications candidates must indicate their choice of autumn/spring or summer/autumn academic schedules.

Admissions decisions are mailed out shortly after all application materials are received.

Program Requirements

All students applying to the program must choose either the Architecture Option or the Urban Studies Option. Each option provides 32 points of course work to be completed in two terms. Courses are taught by faculty members of the Graduate School of Architecture, Planning, and Preservation, and by professional architects, planners, and preservationists in both cities.

Core Courses

TERM I (SUMMER OR AUTUMN): NEW YORK

A4027	Architecture, planning, and preservation: New York	3 pts
A4028	Building New York	3 pts
A6769	History of the American city	3 pts
	Elective	3 pts

TERM II (AUTUMN OR SPRING): PARIS

A4025	Freehand drawing	3 pts
A4029	Architecture, planning, and preservation: Paris	3 pts
A4030	The development of Paris	3 pts
A4031	History of European cities	3 pts

Architecture Option Courses

TERM I (SUMMER OR AUTUMN): NEW YORK

A4000	Design studio	4 pts
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TERM II (AUTUMN OR SPRING): PARIS

A4010	Design studio	4 pts
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Urban Studies Option Courses

TERM I (SUMMER OR AUTUMN): NEW YORK

A4043	Workshop in urban studies	4 pts
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TERM II (AUTUMN OR SPRING): PARIS

A4044	Seminar in comparative planning and preservation	4 pts
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Introduction to Architecture: The Summer Studio Program at Columbia

DIRECTOR: Ms. Danielle Smoller

Introduction to architecture is a preprofessional program for those who are interested in architecture and may be considering it as a career, and for those students who have prior educational experience in design and may wish to complete an additional studio to prepare for application to graduate school. Students should request a Summer Session application from the Office of Admissions and return it with the \$35 application fee. An official transcript of the applicant's most recent work and a resume are required. Submission of examples of graphic, photographic, or other design work is encouraged but not required. Applicants should indicate on their application their preference for afternoon or evening studio. When the application is complete, the Office of Admissions will notify the applicant of the admission decision.

Architecture A1003 Introduction to architecture.

3 pts

Ms. Smoller and the staff.

A course comprising studio and lecture formats, presenting a comprehensive experience in architectural design. The course meets five days or evenings a week for five weeks. Utilizing New York City as a laboratory, the morning sessions develop an awareness of the relationships between the history, theory, practice, and design of architecture. Seminars, workshops, and field trips to the offices of prominent professionals, to museums, and to buildings focus on these issues. The afternoon or evening sessions take place in the architecture studio, the basic environment in which architectural education takes place. Students work with studio critics on a series of projects presented by the studio director, presenting their individual designs to juries comprised of faculty and practitioners. Although the studio is structured to allow the development of design skills for those with no prior education in architecture, it also presents the opportunity for students with some background to improve their skills and gain further studio experience. In addition to the seminar and studio portions of the course, there are weekly lectures given by prominent architects from the New York metropolitan area.

Computer-Aided Design (Summer)

Architecture A4535 Computer-aided design in architecture.

3 pts

Mr. Muir and Mr. O'Neill.

Introduces the concepts and methods of computer-aided design, with an emphasis on 3D design tools, solid modeling, and other CAD techniques that provide new ways to conceive and manipulate 3D form and space. Exposes students to a complete and integrated Macintosh CAD environment, providing an overview of emerging systems and applications and a theoretical framework for further CAD research. Lectures include discussion and demonstrations of the computer's impact on the profession and culture in such areas as Computer-aided Manufacturing, Robotics, Virtual Reality, Artificial Intelligence, Interactive Media, and the Digital Revolution.

Columbia/Barnard Undergraduate Architecture Majors

DIRECTOR, COLUMBIA COLLEGE ARCHITECTURE MAJOR:
Ms. Karen Fairbanks

DIRECTOR, BARNARD COLLEGE ARCHITECTURE MAJOR:
Ms. Peggy Deamer

Columbia and Barnard Colleges of Columbia University offer undergraduate architecture majors leading to the Bachelor of Arts degree. Students generally begin the architecture majors in their sophomore year after being admitted to one of the colleges, whose admissions criteria are detailed by their respective admissions offices and bulletins.

For information, bulletin, and application materials, applicants for Columbia College should call (212) 854-2521; for Barnard College, (212) 854-2014. **APPLICANTS SHOULD NOT USE THIS BULLETIN OR APPLICATION FOR ADMISSION TO COLUMBIA AND BARNARD COLLEGES.**

The undergraduate majors maintain their own studio and academic requirements that are related to Columbia and Barnard Colleges' respective liberal arts curricula. Although the majors differ in certain of their requirements, students in both majors are given the background to pursue architecture at the graduate level or move to other fields with a well-balanced preparation in the humanities and social sciences. While taking academic courses in architecture and related fields such as anthropology, art history, economics, history, mathematics, philosophy, political science, and sociology, etc., students take 14 points of drawing and studio courses that are developed around the themes of two- and three-dimensional representation and analysis of architecture and of space- and form-making. Design projects investigate a combination of abstracted, yet potentially quite real, situations of human habitation, place-making, and cultural interaction. Architecture, as both a discipline and a way of understanding experience, is examined through historical and contemporary relationships between physical, intellectual, and cultural forms and environmental contexts. In their combination of academic and studio work, the undergraduate majors encourage students to consider the multiple relationships one may have with architecture: as architect, historian, theorist, and critic.

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 and Applied Science; F, General Studies; G, Graduate School of Arts and Sciences; L, Law; P, Public Health; R, School of the Arts; S, Summer Session; T, Social Work; W, Inter-Faculty.

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

- 0 Course that 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 course or seminar

Two consecutive numbers joined by a hyphen indicate a course that runs through both terms (e.g., *Architecture A3121-A3122*). 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 of 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 Graduate School of Architecture, Planning, and Preservation are posted in Avery Hall at the time of registration. The University also publishes this information in a separate bulletin, which is distributed at registration.

Architecture

Design Studio: Master of Architecture Program

The following faculty members teach or have recently taught in the design studios: Diana Agrest, Stan Allen, Tadao Ando, Wiel Arets, Ben van Berkel, Neil Denari, Keller Easterling, Kenneth Frampton, Massimiliano Fuksas, Zaha Hadid, Thomas Hanrahan, Laurie Hawkinson, Klaus Herdeg, Steven Holl, Paola Iacucci, Toyo Ito, Sulan Kolatan, Greg Lynn, William MacDonald, Scott Marble, Robert Marino, Mary McLeod, Eric Miralles, Richard Plunz, James Stewart Polshek, Hani Rashid, Jessie Reiser, Robert Stern, Peter Testa, Bernard Tschumi, Lauretta Vinciarelli, and Lebbeus Woods.

Architecture A4001 Core studio, I. 9 pts

The staff.

Fundamental architectural issues are examined through a series of interconnected problems designed to develop a capacity for conceiving architectural form as a hierarchical spatial sequence and focusing on the elemental constructive forms of line, plane, and volume.

Architecture A4002 Core studio, II. 9 pts

The staff.

The intention of this studio is to investigate increasingly complex architectural problems, developing the issues of the first term (dwelling, movement sequence, spatial definition, fundamental elements, and craftsmanship) as they respond to specific sites and activities. Two projects are investigated in the second term: a small public building in an urban context and a small public building in a suburban context. Both projects seek to intensify awareness of multiple considerations in design and to expand conceptual capabilities for confronting and integrating competing demands.

Architecture A4003 Core studio, III. 9 pts

The staff.

The third term core studio focuses on the design of housing and the residential fabric of the city. Students develop designs from ideas of individual, social, and urban life. The housing project, as a design that both determines and is determined by a collective community, requires the student to explore the social and cultural consequences of his or her individual design decisions. Architecture as a presentation of cultural and social meaning will be emphasized, as well as the place of daily private life. The program of housing is investigated and redefined by each student; the cycles of daily life, the dynamics of the neighborhood, and the precedents of historical and contemporary housing projects will be investigated. A primary focus of the design effort involves the balance between unique, individual units and modular, repetitive housing groupings.

Architecture A4004 Advanced studio, IV. 9 pts

The staff.

During the first semester of the Advanced Studios (fourth semester, spring, for M.Arch. students; first semester, summer, for M.S. Building Design and M.S. Urban Design students), a student is expected to find imaginative and realistic solutions to a specific program proposed by the individual studio critic. This program normally entails a choice of medium-sized public buildings in the city and common presentation requirements for all students in the semester.

Architecture A4005 Advanced studio, V. 9 pts**The staff.**

In this semester, a form of specialization takes place. Instructors are encouraged to propose themes or programs with distinct emphasis in a particular area of architectural knowledge. These programs may coincide with the research of the individual faculty member. Hence, programs are offered with a focus on urban design, on historic preservation, on particular cultures or climates, on low-cost housing, etc.

Architecture A4006 Advanced studio, VI. 9 pts**The staff.**

The final semester (spring) provides students with a unique opportunity to make clear statements about their own attitudes toward the world they are about to enter. Within the general or specific theme of investigation proposed by the studio critic, the student is expected to design a key piece of work that addresses relevant architectural and urban issues.

History/Theory

Architecture A4229 Studies in tectonic culture. 3 pts**Mr. Frampton.**

An examination of the emergence of the tectonic idea in the evolution of modern architecture and the role played by structure and construction in the development of modern form; the autonomy of architecture from the standpoint of a poetics of construction as this has made itself manifest over the past 150 years.

Architecture A4303 Critical positions in contemporary architecture. 3 pts.**Ms. Ockman.**

Seminar analyzing the relationship between theory and practice in contemporary architecture and exploring the problems of critical discourse within the context of postmodern culture.

Architecture A4330 Urban history, I. 3 pts**Ms. Wright.**

Urban morphology and city life in Western cities from antiquity through the capital cities of mid-18th-century Europe, showing connecting trends in architecture and urban form; the discourse on cities; civic culture and civic ritual; public and private space; the role of the architect and urban planner; cultural and formal complexity; and adaptation to change.

Architecture A4331 Urban history, II. 3 pts**Ms. Wright.**

Continuation of *Architecture A4330*; examination of patterns in Western cities from 1850 to 1950.

Architecture A4336 Architecture culture: 1943–1968. 3 pts**Ms. Ockman.**

Seminar examining the post–World War II period from the standpoint of architecture's relationship to broader social, political, and cultural developments.

Architecture A4337 Politics of space: cities, institutions, and space. 3 pts**Ms. McLeod.**

This seminar explores the relations between space, power, and politics in the urban environment from the Enlightenment period to the present. The first third of the seminar is devoted to a general theoretical introduction, in particular examining the work of Henri Lefebvre and Michel Foucault. The following classes examine specific aspects of the urban environment—*institutions, public/private dichotomies, urban monuments, events*—to

consider the relation between space and power in actual situations. These case studies are roughly chronological, moving from those institutions that gained identity in the 18th century—prisons, asylums, clinics—to contemporary situations of spectacle and consumption, such as Disneyland and Los Angeles.

Architecture A4341 American architecture from 1876 to 1976. 3 pts
Mr. Stern.

A continuation of *Architecture A6730*. Guiding ideals in American architecture from the centennial to around 1960. The evolution of modernism in America is contrasted with European developments and related to local variants.

Architecture A4342 Modern Japanese architecture. 3 pts
Mr. Kudo.

A seminar on 20th-century Japanese architecture, examining how Japan imported Western technology and styles and how Western society responded to the minimalism of traditional Japanese culture. Critical perspectives of reciprocal influence in architecture. Introductory lectures by the professor, student presentations, and a research paper.

Architecture A4344 Traditional Japanese architecture. 3 pts
Mr. Kudo.

This seminar examines the contemporary validity of Japanese classic aesthetics through the study of ancient architectural design. Japan has developed her art depending on feeling rather than reason. This obsession has reached the ontological ground. Her goal of art was the realization of what nature desires to be. The intention in the course is to reexperience the unique structure of perception and signification in Japanese architecture and related arts. In the first part, basic knowledge about Japanese architecture is provided—its history, building typologies, and construction methods. In the second part, students read fundamental literature about Japanese aesthetics and ethics. In the last part, the formative analysis of the selected structures and spaces takes place.

Architecture A4348 History of architecture, I: 1750–1850. 3 pts
Ms. McLeod.

The two-term sequence *History of architecture* provides students with a basic critical understanding of significant developments in architecture history during the modern period. The emphasis is on moments of significant change in architecture, whether they be theoretical, economic, technological, or institutional in nature. Each lecture generally focuses on a theme, such as positive versus arbitrary beauty, enlightenment urban planning, historicism, structural rationalism, the housing reform movement, iron and glass technology, etc.

Architecture A4349 History of architecture, II: 1850–1930. 3 pts
Mr. Frampton.

Continuation of *Architecture A4348*; examination of transformations in Western architecture.

Architecture A4351 Formal structure in Central Asian architecture. 3 pts
Mr. Herdeg.

Research seminar on the nature of formal structures of Central Asian architecture, with emphasis on Islamic examples. Predominance of examples from Iran, Turkestan (ex-USSR and China), and India. Some contrapuntal examples of traditional Chinese architecture. Individual research within a small seminar group.

Architecture A4353 Le Corbusier and the evolution of modern architecture. 3 pts
Mr. Frampton.

Lectures relating the evolution of the work and thought of Le Corbusier to the development of European architecture as a whole. Projects and built works are examined in the context of Northern European and Mediterranean traditions, technological and cultural transformations, ideology and cultural critique, and antique forms and modern order, as well as through

more specific aspects of Le Corbusier's education, practice, and theory. Requirements include analytical models of selected buildings, papers on theoretical topics, and weekly readings.

Architecture A4357 Theory of architecture before the 18th century. 3 pts
Mr. Moore.

The principal themes of pre-modern architectural theory as formulated by the major Renaissance writers on architecture—Albert, Francesco di Giorgio, Palladio, et al. Issues of design method, professional status, materials, typology, urban planning, etc. are explored in relation to the history of ideas and in light of built works.

Architecture A4358 Renaissance architecture and urbanism. 3 pts
Mr. Moore.

A historical and topical presentation of 15th- and 16th-century architecture and urbanism, mainly in Italy. In addition to the major figures of the period—Brunelleschi, Alberti, Bramante, Michelangelo, Palladio, et al.—lectures will describe in diachronic fashion the formation of important types, such as the palace, the centralized church, the unified piazza, the villa and garden, new towns, etc., as well as theory, design method, architectural drawing, the orders, materials and techniques, and architectural symbolism. New approaches and areas of inquiry will also be described.

Architecture A4366 Historical evolution of housing in New York City. 3 pts
Mr. Plunz.

A historical survey of the design of housing in New York City including some reference to the interrelationship with other cities in the United States and Western Europe. Major emphasis is on the period after 1850. The architecture of housing is contrasted with a broad range of income groups and modes of development, with discussion of the underlying cultural, social, and political context. Examples trace the evolution of types, to include the early high-rise apartment, the tenement, the garden apartment, the urban and suburban single-family house, and the “tower-in-the-park.”

Architecture A4374 Contemporary theory and criticism of architecture: structuralism/poststructuralism 3 pts
Ms. McLeod.

Seminar on issues in architecture theory and criticism that have emerged in the past two decades. Topics discussed include semiology, postmodernism, typology, critical regionalism, deconstructionism, and Deleuzian poststructuralism.

Architecture A4382 Case studies in theory and practice. 3 pts
Mr. Allen.

A seminar devoted to the reading and analysis of key theoretical and critical texts of the recent past, serving as a point of departure for the student presentations of the work of contemporary architects in relation to theory/practice debates.

Architecture A4395 Modern architecture and critical form: 1935-1985. 3 pts
Mr. Frampton.

An introduction to the late modern tradition of critical theory and practice. Concentration on European works and movements that can be seen as resisting the current tendency to reduce architecture to little more than scenography. The post-avant-gardist line in the modern movement from Aalto's organic architecture approach of the mid-thirties to the more critical aspects of current architectural practice. At midterm and at the end of the term, students submit a course notebook comprised of typed notes and commentary on the required reading. An essay is optional.

Architecture A4398 Materia: architecture as material culture. 3 pts**Mr. Testa.**

A research seminar analyzing the emergence of spatial models in relation to transforming modes of material production within 20th-century architecture in Europe and the United States. Particular emphasis is placed on the convergence of the organic tradition and productivism from Wright to Fuller and Khan to Foster. The work of selected artists and filmmakers is also examined within the framework of the seminar. Lectures, readings, films, field trips, and discussion will support detailed study of buildings and assemblies.

Architecture A4402 Metropolis. 3 pts**Mr. Allen.**

Course examining the phenomena of life in the modern metropolis. Study undertaken through selected readings on the urban experience, from Benjamin and Simmel to Crary.

Architecture A4410 Design attitudes in European and American urbanism: 1750-1930. 3 pts**Mr. Plunz.**

A topical history of architectural approaches to urban form-making. Emphasis is placed on developments in the United States in relation to Europe and on the formation of design vocabulary in relation to political and cultural issues.

Architecture A4418 Venice, the Veneto, and Palladio: critical positions. 3 pts**Mr. Moore.**

The medieval, Renaissance, and early modern history of the lagoon city and its mainland dependencies is studied as a paradigm of the pre-industrial condition of architecture and urbanism—a domain with special characteristics inflected by transitional ideas. The architecture of Palladio is given particular emphasis in this investigation.

Architecture A4420 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 reveal also a particular historical development. The aim is threefold: (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 are drawn from either the 19th or the 20th century.

Architecture A4421 Avant-garde and tradition in 20th-century architecture. 3 pts**Mr. Frampton.**

Lecture analyzing 20th-century architecture as being composed of two opposed yet interrelated tendencies—the avant-garde, exemplified by the Russian Constructivists, the Italian Futurists, etc., and a more traditional continuation of certain aspects of Western humanist architecture, exemplified by Mies van der Rohe, Le Corbusier, Louis Kahn, etc. Both tendencies are conventionally read as being "modernist," while in fact the differences prove as significant as the similarities. Modern architecture seen as a continually self-critical and non-monolithic development. Research papers or models of selected projects.

Architecture A4471 Global modernism. 3 pts**Ms. Wright**

A comparative study of modern architecture and urban design during the decades immediately after World War II. The seminar will consider the forms and ideologies of modernism in such diverse situations as European reconstruction, American urban renewal, Latin American expansion, and national capitals: for newly independent countries of Asia and Africa.

Architecture A4473 The Americanization of modern architecture. 3 pts**Ms. Ockman.**

Seminar investigating the interchange between Europe and the United States in the development of modern architecture from the 1920s through the 1960s.

Architecture A4479 The culture of glass. 3 pts**Ms. Ockman.**

Seminar exploring multiple meanings and contexts of glass in architecture from the Crystal Palace through postmodernism.

Architecture A4480 Elements of landscape architecture. 3 pts**Mr. Quennell.**

Introduction to the various factors that contribute to the man-made landscape, whether it be the surroundings of a single building or the character of a region. Lectures cover three general areas of interest: the natural environment, development of landscape architecture, and techniques of landscape architecture.

Architecture A4498 Theorizing modernity: 1900–1940. 3 pts**Ms. McLeod.**

This course examines primary architectural texts associated with the formation and evolution of modern architecture. The focus of the course is on a dominant lineage of modernism from Austria to Germany to France, represented and culminating in the multinational organization CIAM. Among the texts are Otto Wagner's *Modern Architecture*, Adolf Loos's *Spoken into the Void*, Paul Scheerbart's *Glass Architecture*, Le Corbusier's *The Decorative Arts of Today*, *City of Tomorrow*, and *Precisions*, and *The Athens Charter*.

Architecture A4499 Desire, domination, and domesticity. 3 pts**Ms. Wright.**

An exploration of the ideological underpinnings of domestic space, affecting both experience and design, ranging from shelter to sexuality, from family violence to neighborhood homogeneity. Concentration on 19th- and 20th-century Europe and the United States.

Architecture A4529 Colonialism and post-colonialism. 3 pts**Ms. Wright.**

Contemporary post-colonial cities must inevitably respond to the formal, cultural, and economic imprint of previous regimes—not only those of colonial powers, but also those of early nationalist governments. Readings and discussions concentrate on broadly theoretical issues, while student presentations analyze succeeding stages in particular cities, including the ambiguous “colonial situations” in Latin America, Asia, Eastern Europe, and the Middle East.

Architecture A4547 Case studies in urban design. 3 pts**To be announced.**

A seminar examining the process of “inventing traditions” in response to rapid social and technological transformations of existing traditions between 1850 and 1920. The theoretical foundations of these “new” traditions in urban design are explored through an examination of writings and projects of major figures, among them E. Haussman, C. Sitte, T. Garnier, E. Howard, D. Burnham, and B. Taut.

Architecture A4573 Islamic architecture. 3 pts**To be announced.**

A seminar analyzing the evolution of urban form in major Islamic cities in the Middle East, North Africa, and Spain, with reference to social, economic, political, and cultural conditions. Individual case studies of each city are combined with discussion of more general issues. Student presentations and final collected paper.

Architecture A4585	APERITO: The opening in modern architecture.	3 pts
Mr. Testa.		
A research seminar investigating models of space within 19th- and 20th-century architecture. Using primary documentation, selected works from Soane to Siza will be examined in great detail, with particular attention to the liminal qualities of space and matter. Lectures, readings, films, field trips, and discussion will support individual research projects.		
Architecture A6704	Architectural biography.	3 pts
Ms. Wright		
This course seeks to problematize the romantic conventions of hagiographic biographies—the architect's will to form, "authorship" and the autonomous individual, continuity throughout a career—exploring both trends and individual trajectories of twentieth-century architects.		
Architecture A6730	American architecture before 1876.	3 pts
To be announced.		
Survey of American architecture from the 17th century to the centennial, with scrutiny of the relationship between social and cultural ideals and architectural style and form. Consideration of the influence of European high style on American building and the connection between high style and vernacular forms. Survey includes examples of domestic, religious, civic, commercial, and industrial architecture.		
Architecture A6734	The classical language and literature of architecture.	3 pts
Mr. Stubbs.		
A detailed review of the elements of the classical language of architecture and of the literature that propagated that language from the early 15th century through the mid-19th century. The classical orders as interpreted by architectural publications in Italy, Germany, France, England, and the United States, and architects and buildings influenced by these books.		
Architecture A6779	American urban design, 1920–1990: visions, texts, and realities.	3 pts
Ms. Wright.		
In-depth case studies of modern American urban design, taking account of drawings, texts, and realized and unexecuted projects. Sessions are organized around two contrapuntal themes: a concern for the environment, regionalism, social distinctions, and moderation on the one hand; a desire for monumental, universality, and formal extension on the other.		
Architecture A6785	Modernism in America.	3 pts
Ms. Wright.		
An exploration of <i>americanisme</i> among Europeans, together with the varied incarnations of American modernism, both conceptual and as realized, in different arts, regions, individual philosophies, and historical conjunctures.		
Planning A6769	History of the American city.	3 pts
Ms. Wright.		
The process of continuity and change in American cities from the colonial period through the 20th century, covering industrialization, political conflict, reform movements, geographical and ethnic diversity, bureaucratic rationalism, and urban culture—with focus on how physical form responded to or influenced social and political forces over time.		
Architecture A8904	Ph.D. colloquium, I.	3 pts
The staff.		
Architecture A8905	Ph.D. colloquium, II.	3 pts
The staff.		

Building Technologies

Architecture A4111 Structures, I.

3 pts

Mr. Galdi.

Introduction to the vocabulary, graphical and analytical tools, materials, and construction techniques of contemporary structural design. The central issues of structural design are presented, followed by an introduction to the physics of structures. The remainder of the course is devoted to a study of the uses and behavior of various components and materials. Field trips and laboratory demonstrations are included. Prerequisite: One semester of undergraduate physics or two semesters of undergraduate calculus.

Architecture A4123 Structures, II.

3 pts

Mr. Galdi.

This course builds on the introduction to structural components and materials provided in *Structures, I*. It is organized around an introduction to various structural systems, including: trusses, foundations, portal frames, diaphragms, bearing and shear walls, and platform, frame construction. Systems discussed are compared in wood, steel, or reinforced and pre-cast concrete, as applicable. The course includes lab, demonstrations, and field trips. Prerequisite: *Structures, I*.

Architecture A4220 Enclosures and environments, I.

3 pts

Mr. Webster and Ms. Pawlynsky.

The evolution of the building envelope is outlined in terms of: the functions it performs; atmospheric conditions it mediates between; its relationship to other building-perimeter systems; and the principles of physics and properties of materials it employs. The environmental forces acting on envelopes are outlined. The performance criteria of contemporary enclosures are presented, including the creation of tectonically striking structures. The course includes a field trip to a curtainwall manufacturer. Prerequisite: *Structures I*.

Architecture A4221 Enclosures and environments, II.

3 pts

Mr. Webster and Ms. Smoller.

Introduction to habitable environments and building conditioning systems. Human environmental needs and comfort levels are outlined, as well as sources of atmospheric chemistry, light, temperature, moisture content, etc. Next, atmospheric variables and the classical physics governing their behavior are described. The rest of the course is devoted to architectural strategies for conditioning space. Man-made systems are compared to natural (outdoor) climate-control mechanisms. Both historical examples and contemporary case studies are used to develop an understanding of environmental control systems and their relationship to the spaces they service. The course includes field trips to buildings with conventional and highly efficient conditioning systems. Prerequisite: *Enclosures and environments, I*.

Architecture A4125 Building systems, I.

3 pts

Mr. Webster.

An overview of structural systems designed to ensure satisfactory performance of an entire building in the face of gravity, wind, and earthquake loads is presented. Framed and walled structural systems are discussed, along with arches, domes, suspension structures, shells, space-trusses, and other special structures. The structural systems studied are compared in wood, steel, reinforced concrete, precast concrete, and masonry construction. During the last half of the course, students break up into three-person groups to analyze the structural, enclosure, and environmental conditioning systems of a case study building, both in terms of how these systems work and how they interact with each other and inform the building's form and expression. Engineer-architect teams advise the students throughout this six-week project. Student research is presented to a jury of engineers and architects in the form of drawings and a technical report. Prerequisites: *Structures, I and II; Enclosures and environments, I and II*.

Architecture A4610 Building systems, II.

3 pts

Mr. Webster and Mr. Heintges.

A brief history of the industrial loft building, from the emergence of the daylight factory through recently completed projects, focusing on advances in struc-

ture, cladding, and environmental control. The remainder of the course is devoted to the complete preliminary design and detailing of a tightly defined, eight-story industrial loft building. The nine-week problem is addressed by three-student groups working with engineering and architectural advisers. Basic code requirements for fire safety, egress, and structural integrity are satisfied. Structural skeleton-frame systems are developed (at the student's option) in reinforced concrete, steel, precast concrete, or some combination. Cladding schemes are designed in aluminum, steel, glass, stone veneer, or masonry block, as either frame and infill or curtain wall systems. HVAC requirements are clearly defined, and students are able to choose from among a few systems. Each group of students is responsible for describing their building in terms of a technical report (including structural, cladding, and HVAC calculations) and a set of drawings describing each technical building system and its relation to the building's spatial organization and formal expression. Prerequisites: *Structures, I and II; Enclosures and environments, I and II; and Building systems, I.*

Architecture A4621 Design of mechanisms and deployable structures. 3 pts

Mr. Hoberman.

A seminar and workshop on the design of mechanisms and composite structures. Mechanisms discussed include bar linkages, large displacement structures, and active structural control systems. Composite applications reviewed include aircraft and boat structures made of Kevlar, graphite reinforced resins, and mixed metals. The emphasis is on developing the student's mastery of materials and mechanisms for the design of building elements and sculptures. Enrollment is limited to 12 students. Prerequisites: *Structures, I and II, and Building systems, I.*

Architecture A6443 Technology transfer in architecture. 3 pts

Mr. Krueger.

A seminar course investigating advanced interactive technologies such as "Smart" structures and skins, active trusses, electrorheological fluids, shape memory alloys, variable translucent glasses, and piezoelectric ceramics. Technology transfer is presented as a technique that can be actively facilitated and managed. Emphasis is placed on developing research techniques for creative uses. Each student produces a research paper and proposal for the use of a selected technology in the field of architecture. Limited enrollment. Prerequisites: Completion of the required Building Technologies curriculum.

Architecture A4136 Computers and structures. 3 pts

Mr. McCormick.

Use of the computer to solve contemporary structural problems. Hands-on use of hardware and software employed by structural consultants and architects for analysis, representation, and design of elementary structural systems. Enrollment is limited to 24 students. Prerequisites: *Structures, I.*

Architecture A4647 Patterns and structure. 3 pts

Mr. Nordenson.

This seminar explores, through readings and discussion, the ideas of order, form, pattern, and structure, and their interrelation in a variety of fields. The readings include the origin of geometry and its relation to astronomy and physics, a review of symmetry and crystallography, biological form, structuralism, linguistics and its relation to critiques of political order, the relation of aesthetics and technology in the history of metals, post-war concrete shell design, structural rationalism, and chaos theory.

Architecture A4645 Philosophy of technology. 3 pts

Mr. Silman.

This course examines the history of structure and building form in the context of technology and its philosophical implications. Its intention is to assist the student in developing the capacity for critical observation and an appropriate attitude toward the application of technology. Case study analyses in a seminar setting will be used to explore various relevant topics. Appropriate reading on the philosophy of technology will be required.

Architecture A4627 Materials and methods in architecture. 3 pts**Mr. Massie.**

Materials and methods of construction through hands-on experience in a shop environment, supported by research and discussion. Traditional and innovative building methods using a variety of materials are studied. Readings, site visits, workshop labs, and presentations culminate in a final project to design and build a building component or furnishing in a specific exterior environment. Presentation and discussion sessions focus on construction and materials, while site visits and labs emphasize actual work methods. Demonstrations of metalsmithing, welding, woodworking, stone carving, and casting in resinous materials and concrete take place early in the term.

Architecture A4622 Advanced environmental systems. 3 pts**The staff.**

Building on concepts introduced in the *Enclosures and environments* series, this course compares standard building practice with design techniques that advance energy conservation, resource conservation, and user comfort. The early portion of the course explores systems and components that are rapidly changing due to environmental criteria. The latter explores design strategies that integrate the design of the architectural envelope with that of the electrical and mechanical systems, since such strategies offer the potential for greatest energy and other resource savings.

Architecture A4629 Architectural acoustics/Architectural lighting. 3 pts**Mr. Harris, Mr. Horton, and Mr. Lees.**

The first half of the course will cover architectural acoustics, including: 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, and studios; noise control methods in HVAC systems, electrical systems, and piping systems; control of airborne noise in buildings (walls, slabs, double-wall construction, doors and windows, enclosures, use of sound-absorptive materials); control of solid-borne noise in buildings. The second half of the course will cover architectural lighting, including: electrical light sources, their characteristics, uses, and misuses; principles and applications of optical design of lamps and luminaires; methods of controlling light sources, for example by lenses, louvers, screens, and dimmers; codes, standards, and specifications; lighting calculations and mockup tests; computer programs for lighting design; daylight and sunlight as sources of illumination for architectural interior spaces; predicting daylight availability; basic fenestration techniques and glazing materials; architectural materials and their effect on daylight quality; computer analysis for daylight design.

Architecture A4634 Curtain walls. 3 pts**Mr. Heintges.**

An in-depth exploration of the practical technical knowledge necessary to undertake in practice the design, detailing, specification, and construction administration of the building enclosure, with an emphasis on available and emergent technologies of the curtain wall. Topics include: advanced properties of materials and finishes, government and industry standards, derivation of performance criteria, prototype mock-up testing, fabrication, and installation. While discussion of specific technical issues and methodologies will focus on those aspects that directly inform architectural design, it is the intent of this course to prepare the graduating student for the pragmatic realities of implementing that design. Prerequisites: Completion of the required Building Technologies curriculum. Limited enrollment.

Visual Studies

Architecture A4509 Architectural drawing, I: basic. 3 pts**Mr. Blood, Ms. Iacucci, and Mr. Zwigard.**

Lectures with studio assignments each week.

Exercise of cognitive, technical, and aesthetic judgment in the development of skills of visual representation of three-dimensional space by selective use and drawing practice of lines, planes,

and solids. Topics: geometric generation of lines, orthographic projection on planes, stereometric representation and rotation of volumes, light on surfaces (shade and shadow), and perspective (one- and two-point).

Architecture A4511 Architectural drawing, II: advanced. 3 pts
Mr. Blood, Ms. Iacucci, and Mr. Zwigard.

Lectures with studio assignments each week. Analytical and representational freehand drawing techniques taught and utilized: shade and shadow, texture, perspective, etc., with the intention of using drawing as an analytical method of investigating structure and form, construction, the joint, material.

Methods/Practice

Architecture A4534 Advanced computer-aided design in architecture. 3 pts
Mr. Muir and Mr. O'Neill.

Prerequisite: *Architecture A4535*. This course covers advanced 3D modeling, rendering, and video production with a strong emphasis on architectural animation. Class discussions deal with the implications of new electronic media and their impact on the architectural profession. Students are required to produce animated sequences deliverable as videos or multimedia documents.

Architecture A4535 Computer-aided design in architecture. 3 pts
Mr. Muir and Mr. O'Neill.

A previous knowledge of computers is not required. An introduction to concepts, issues, and methods in computer-aided design. Topics include 3D modeling, rendering, digital image processing, and using the Internet for research and publishing navigable 3D worlds. This is not a course in 2D drafting; emphasis is placed on the use of the digital 3D tools in the architectural design process.

Architecture A4536 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, rehabilitation and renovation, and office building projects.

Architecture A4560 Professional practice. 3 pts
Mr. Segal.

Turning designs into buildings. A general introduction to the business of architecture, covering architects' services to owners, contractors' services to owners, financial management of office and projects, and public constraints such as zoning and building codes.

Architecture A6900-A6901 Research, I and II. 2 or 3 pts
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 or her chosen subject matter, and develops an adequate presentation of 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.

Advanced Architectural Design

Architecture A6853, A4005, and A4006 Design studios. 9 pts
The staff.

Provides an opportunity for qualified and experienced architects to bring design projects to a high degree of resolution and refinement. The procedure is one of continual design and redesign, while generally increasing the operative scale at which the study is progressively presented. Other short exercises are given during the three-term period.

Architecture A4303 Critical positions in contemporary architecture. 3 pts

Ms. Ockman.

An examination of some exemplary works of recent theory and practice in an effort to define and contrast a set of critical positions in architecture today.

Architecture A4402 Metropolis: avant-gardes and the city. 3 pts
Mr. Allen.

Course examining the phenomena of life in the modern metropolis and its impact on avant-garde art and architecture. Study undertaken through selected readings on the urban experience, from Walter Benjamin and Georg Simmel to Jonathan Crary.

Urban Design

Architecture A6849 Urban design studio, I. 9 pts
Ms. Kahn.

An introduction to issues and methods of the subsequent urban design. Three short projects form the basic studio structure: (1) Analytic introduction to the morphology of the city, from center to inner periphery to edge city. (2) *Esquisse* development urban design models in typical conditions explored above, with development of a single complex urban design thematic program. (3) Application of the program to a central city specific site.

Architecture A4005 Urban design studio, II. 9 pts
Mr. Shane, Coordinator.

A semester-long urban design project that explores at various scales proposals for rebuilding the abandoned inner-city neighborhoods. The project involves regional infrastructure, nodes of development, and diverse programmatic elements set in a large, deteriorated site condition (to be coordinated with various public agencies).

Architecture A4006 Urban design studio, III. 9 pts
Mr. Plunz, Coordinator.

A single project explores the making of urban fabric rather than urban monument. It also explores multifunctional programmatic invention which can reflect possible future urbanities. Emphasis is placed on developing the morphology for an urban block, together with a support infrastructure capable of directing repetition and transformation. The study of New York City is expanded to a comparative proposal for another world city.

Architecture A4714 Legislating aesthetics. 3 pts
Mr. Ferris.

A survey of the constitutional, social, and philosophical bases for legislation that achieves an aesthetic dimension in its control of real property. The legislation that achieves an aesthetic dimension in its control of real property. The legislative and administrative strictures of historic preservation, zoning and subdivision regulations, housing codes, environmental protection, and private covenants are examined through comparative case studies between the New York context and other large cities.

Architecture A6824 Reading New York urbanism. 3 pts**Mr. McGrath.**

Investigation of theoretical issues related to the contemporary city, using New York City as a laboratory and test case. The course provides critical, analytical, and graphic tools with which to undertake complex problems of urban design.

Architecture A6836 Urban design seminar, I. 3 pts**Mr. Shane.**

A survey of the general theories and practices of Urban Design set against the general background of the post-war suburbanization of America.

Architecture A6837 Urban design seminar, II. 3 pts**Mr. Plunz.**

Exploration of the language of autonomous urban fabric examined for a range of large cities in relation to comparable New York contexts. Emphasis is placed on housing form as a principal generator of indigenous urban texture and identity.

Architecture A6838 Urban design seminar, III. 3 pts**Ms. Kahn.**

Correlation of recent critical theory to contemporary urban questions and issues. Included will be approaches to understanding the city originating from outside of the design disciplines.

Historic Preservation**Architecture A4210 Basic principles of traditional construction. 3 pts****Mr. Pokorny.**

Designed to give the student an introduction to the construction principles and building materials employed in traditional American architecture. Lectures supplemented by required reading and graphic assignments. Students with architectural backgrounds are given more advanced tasks.

Architecture A4389 Vanishing cities: international fairs and expositions in the United States, 1853 to the present. 3 pts**Mr. Bentel.**

This course will examine the architectural design and site planning of the World's Fairs and International Expositions in the United States since the mid-19th century. Case studies will investigate the layout of fairgrounds and the design of pavilions for evidence of novel planning and design strategies and will seek to define the influence of new materials and construction techniques on the form of buildings. Emphasis will be given to the influence of fairs and expositions on contemporary architecture and urban design, both as corroborations of existing design conventions and as challenges to the dominant canons of style. In addition to this focused study, we will consider the broader historical context of which these events were a part, in an effort to understand the reasons for their proliferation and demise between the mid-19th and the late 20th centuries.

Architecture A4510 Design principles for preservation: studio, I. 4 pts**Ms. Bollack and Mr. Kendall.**

Basic design for preservationists, including examination of existing architectural examples in terms of their physical, historical, and cultural context; 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; the analysis of these phenomena to discover the underlying concepts; and the architectural design principles and means employed to express these concepts.

Architecture A6710 Building systems integration. 3 pts**Mr. Pokorny.**

The introduction of new systems into old fabric, including structural, mechanical, electrical, fire detection, and suppression systems. Problems of management and coordination, and analysis of existing systems as a basis for new work.

Architecture A6712 Architectural finishes in America from**1650 to 1950.**3 pts**Mr. Weiss.**

Limited enrollment.

Prerequisite: *Architecture A6764* or the instructor's permission.

A study of historic architectural paints and related finishes employed in America. Emphasis on materials and application techniques as well as on practical analytical methods for the identification and restoration of historic architectural finishes. Field trips and individual research projects required.

Architecture A4339 American architecture and urbanism**before 1876.**3 pts**Mr. Bentel.**

Survey of American architecture and urbanism from early settlement to the end of the 19th century. Special emphasis will be given to the growth of cities and changes in urban form, the appearance and proliferation of indigenous and European building types, vernacular and regional architectural traditions with emphasis on their cultural variety, and the accession of "high" styles.

Architecture A4341 American architecture after 1876.3 pts**Mr. Stern.**

A continuation of *Architecture A6730*. Guiding ideals in American architecture from the centennial to around 1960. The evolution of modernism in America is contrasted with European developments and related to local variants.

Architecture A4396 Seminar: planes, trains, and autos: modern**American architecture and the transportation industry.**3 pts**Mr. Bentel.**

This seminar will examine the building program of the transportation industry in the late 19th and 20th centuries, its influence on architectural design conventions, and its historical role within the American modern movement. The course will review the impact of an expanding transportation infrastructure on urban form, building production, and construction technology. It will also analyze the range of stylistic and formal vocabularies employed by architects working in the service of the industry and, in particular, the popular iconographies depicting industrial power and social independence through images of transportation media such as the boat, locomotive, automobile, and airplane that were frequently invoked by American modernists.

Architecture A6732 American decorative arts.3 pts**Mr. Stayton.**

Exploration of the stylistic and social changes in the decorative arts in America from the 17th to the 19th century. Although concentration is on furniture, other media such as silver, pewter, ceramics, and glass are also considered. Lectures cover the colonial and early federal periods; student projects are concentrated on 19th-century material.

Architecture A6734 The classical language and literature of**architecture.**3 pts**Mr. Stubbs.**

A historical overview of the elements comprising classical architecture, its survivals and revivals, and the literature that propagated that language mainly from the 15th century through the 19th century. The course analyzes the classical orders from antiquity, as inter-

preted and expanded upon by key architects in their work and as described in architectural publications primarily in Italy, France, Germany, England, and the United States.

Architecture A6738 Investigative techniques for historic structures. 3 pts

Mr. Weaver.

Prerequisite: *Architecture A6764* or the instructor's permission.

An introduction to field and laboratory techniques as preservation tools for the investigation and analysis of historic structures. Specific study topics include techniques for *in-situ* and laboratory examination of historic paints and coatings; survey and measured drawing techniques and instruments; dendrochronology; x-ray and gamma-ray investigations; interior micro-climatic and environmental surveys; and recording structural and material defects. Individual contributions to a team research report and measured drawings are required.

Architecture A6739 Conservation seminar: stained glass. 3 pts

Ms. Sloan.

Introduction to the problems posed in the conservation of American stained glass. Covers history and technique of the craft, and deterioration and conservation processes. Also covers site inspections, report- and specification-writing, and conservation management issues. Includes visits to a working stained glass studio and area museums and churches to view historic stained glass and conservation projects.

Architecture A6740 Theory and practice of historic preservation. 3 pts

Mr. Stubbs.

Enrollment restricted to students of historic preservation. An introduction to theoretical and many of the practical issues governing the practice of historic preservation. Students are expected to develop an individual point of view based on lectures and group discussions on the principal facets of the field—namely, the history of the profession, past and present theory, basic research and documentation methodologies, technology, and professional practice. Such basic concepts as history and standards in the field are questioned, and selected examples of conservation, preservation design, and preservation planning are critically evaluated.

Architecture A6745 Documentation. 3 pts

Mr. Bentel.

Focusing upon the buildings within a neighborhood, this course explores the methods used to document and analyze architectural form and urban patterns. Drawing on such nongraphic sources for architectural research as building, census, land conveyance, and tax records, and on newspapers and manuscripts, as well as on maps and other graphic sources, the course cultivates a multifaceted understanding of site-specific architectural and urban history in its social, economic, and technological context.

Architecture A6750 Historic preservation studio, II. 4 pts

Ms. Bollack, Ms. Clark, Ms. Miner, et al.

Students in design, history, conservation, and planning options work in groups to analyze and solve preservation problems in selected areas. Work with communities and neighborhoods in and around New York City is stressed.

Architecture A6751-A6753 Thesis, I. 1 pt
Thesis, II. 9 pts

The staff.

Directed by an assigned faculty adviser, students prepare and defend a thesis in their area of major emphasis: history, conservation, planning, or design. Thesis guidelines issued during the spring term of the first year explain procedures in detail.

Architecture A6761 Conservation seminar: masonry. 3 pts

Mr. Weiss.

Current research in the identification, deterioration, and treatment of brick, stone, and

cement/lime composites. Chemistry of cleaners and consolidants. Development of patching and repair methods, with an emphasis on field techniques. Field work in the New York area coordinated with masonry suppliers, contractors, and craftsmen.

Architecture A6762 Building pathology. 3 pts
Mr. Prudon.

The deterioration of building materials and systems. Survey of methodologies for the investigation of physical conditions and structural configurations of historic and existing buildings. Analysis and discussion of available implementation techniques for repair and restoration.

Architecture A6764 Conservation science. 3 pts
Mr. Weiss.

Introduction to the physical and chemical characteristics of traditional architectural materials. Scientific study of the roles played by materials properties, processing methods, and environmental exposure in the durability of buildings. Survey of metals, brick, terra-cotta, stone, plaster, paints, and wood. Principles of atomic and molecular structure, porosity/permeability, solubility, and chemical equilibria are presented via an examination of the history of science.

Architecture A6790 Preservation colloquium: design with significant buildings and districts. 3 pts
Mr. Byard.

An assessment of a range of projects in which new design has added value to important pre-existing buildings and districts, intended to sharpen an appreciation of success and to suggest a principled basis for restrictive regulations. Examples from Bernini to Foster by way of Wren, White, Scarpa, Venturi, and others. Students' case studies may focus on comparable interventions in any program sector.

Architecture A6767 Preservation planning. 3 pts
Ms. Clark.

A comprehensive introduction to the field of preservation planning. The course examines the constitutional underpinnings of landmarks regulation and the emergence of historic preservation as an academic discipline. The course focuses on applying preservation planning tools, including local individual and historic district designations, *National Register* nominations, special zoning and conservation districts, easements, and restrictive covenants. Financial incentives for rehabilitation, including investment tax credits, property tax credits, property tax adjustments, revolving loan funds, and low-interest loan programs, are examined in detail. Guest speakers contribute case studies that describe aspects of the field as practiced in other cities and rural areas.

Architecture A6768 Conservation seminar: metals. 3 pts
Mr. Pieper.

A review of the structural and decorative uses of metals in architecture and monuments. Metals to be studied include iron and steel; copper, bronze, and brass; zinc; lead; and tin, aluminum, and nickel. Seminar will examine history of manufacture and use; mechanisms of deterioration; and cleaning, repair, and conservation. Participants will prepare a short paper including an annotated bibliography.

Planning A6769 History of the American city. 3 pts
Ms. Wright.

For a complete description, see course listings under Architecture-History/Theory.

Architecture A6772 Vernacular architecture. 3 pts
Ms. Wright.

Special problems in the history and preservation of vernacular architecture, such as the architectural evolution of the typical American "Main Street" from 1800 to 1950. Emphasis on the material history of a particular type, such as commercial buildings, and relation of this type to contemporary preservation practice.

Architecture A6777 Conservation science laboratory. 3 pts**Mr. Weiss.**

Techniques for the study of building materials, including binocular and polarized light microscopy, water absorption testing, and qualitative microchemistry. Hands-on exercises include spot testing of metals, rock identification, immersion and capillary suction measurements, mortar analysis, pigment synthesis, and color matching. Graphic and written methods of data presentation are reviewed, as are sampling techniques and statistical analyses.

Architecture A6782 Conservation seminar: wood. 3 pts**Mr. Weaver.**

Current research in the identification, deterioration, and treatment of wood. Lectures on conservation case studies and student seminar presentations on conservation techniques.

Architecture A6785 Modernism in America. 3 pts**Ms. Wright.**

The distinctive intellectual, cultural, and formal climate of modernism in the American setting—covering architecture, design, and urbanism, as well as seminal texts, exhibitions, and public reaction.

Architecture A6790 Preservation colloquium. 3 pts**Mr. Byard.**

An assessment of the expressive impacts of new design work in a range of projects involving important pre-existing buildings and districts, intended to sharpen an appreciation of success and to suggest a principled basis for restrictive regulation. Examples from Bernini to Foster by way of Wren, White, Scarpa, Venturi, and others. Students' case studies may focus on comparable interventions in any program sector.

Architecture A6795 Preservation law. 3 pts**Ms. Miner.**

An introduction to legal mechanisms to protect historic resources in the built environment. The focus is on the legal principles underlying preservation laws, including the constitutional issues relating to governmental regulation of real property. Federal, state, and local historic preservation laws and their complementary relationship will be studied in the context of relevant environmental and other land-use laws.

Architecture A8790 Research problems. 2 or 3 pts**The staff.**

Independent research in history, conservation, or planning.

Urban Planning

Core Courses

Planning A6001 Theory of urban planning. 3 pts**Mr. Sclar.**

Lectures and discussions on the history and role of planning as a profession, history and planning theory, urban theory, and professional ethics.

Planning A6290 Workshop in planning skills. 3 pts**Mr. McIntyre.**

Through a weekly series of lectures, readings, discussions, and assignments, the members of the workshop: (1) learn the techniques of the planning practitioner (including land-use surveys, zoning analysis, mapping and graphic representation, data gathering and analysis, report writing and public presentation), and (2) study the public view process of New York City and its implications for the physical planning of the city.

Planning A6911	Planning studio.	6 pts
The staff.		
Work on actual planning projects in collaboration with and under the supervision of faculty members. 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. Usually the entire planning process is covered, from data collection to client contacts.		
Planning A6225	The planning process.	3 pts
The staff.		
This course provides a focused summary of the planning curriculum, explores selected urban issues in some depth, and offers a bridge to practice for graduating students. A seminar format, with invited guests as appropriate, is employed to probe important questions in contemporary urbanization, where professional planners have a role to play. Topics change each year and are determined jointly prior to each term.		
Planning A4208	Quantitative techniques.	3 pts
Mr. Ifcher.		
An introduction to quantitative research methods used in urban planning and policy analysis. The course concentrates on basic statistical concepts, data organization, measurement of central tendencies, and statistical techniques. The software package SPSS is the working tool of the class, and there is a lab hour.		
Planning A4112	History of urbanization and physical structure of cities.	3 pts
Mr. Sclar.		
A discussion devoted to an understanding of the urban physical system, what it is, how it came about, and some of the general theories that purport to explain its form and function. Historical comparative analysis of the form of cities—from Paleolithic villages to the new town movement—as a product of political, economic, and social forces. Discussion of some major theorists on urban form and design. An exploration of the basic concepts of urban morphology and their relationships to the contemporary urban/metropolitan situation. A review of planning tasks for selected types of city districts. The planning approaches in some countries not following the American model.		
Planning A4151	Foundations of urban economic analysis.	3 pts
Mr. Jeffries.		
Formal background in economics is not required. A review of the basic concepts and methods of urban economics, with a major emphasis on location and land-use economics. Examination of both equilibrium-based models and the new critical models derived from analyses of the production process and spatial organization.		
Planning A4670	Planning research and evaluation methods.	3 pts
Mr. Lee.		
The objective of this course is to provide graduate students with a basic grounding in research methods and their application in planning and practice. Emphasis is given to the theory of “rational inquiry.”		
Planning A6850	Research design.	3 pts
Mr. Lee.		
Objective is to guide students through the preliminary stages of thesis preparation. A series of lectures and discussions assist in selecting a thesis topic, forming a researchable hypothesis, and devising a suitable research design. Assignments are carefully tailored to meet individual needs.		

Planning A6918 Thesis. 3 pts**The staff.**

Objective is to guide students through the final stages of thesis preparation and defense, through reviews by peers, faculty members, and practicing professionals, to assist in presenting and synthesizing research findings.

(*Planning A6850 and A6918 together constitute the master's thesis requirement.*)

Planning A6052 Planning law. 3 pts**To be announced.**

The constitutional and other legal basis for the various land-use controls, studied through judicial decisions. The common law tradition; the police power, taxing power, and power of eminent domain; and limitations imposed by the First, Fifth, and Fourteenth Amendments. The approach of lawyers and courts (as differentiated from that of planners) is considered.

Planning A6060 The institutional structure of planning. 3 pts**Mr. Marcuse.**

The institutions and formal procedures of planning influence the content of plans and are themselves influenced by the politics of planning. This course examines these reciprocal relationships. Topics include: composition and powers of planning commissions, relationship of planning to zoning, master plans, appeals procedures, quasi-public corporations, professional roles, and the role of the courts. New York City will provide immediate case material for the discussions. The course is an appropriate foundation for *Pl A6052*, although the two may be taken independently of each other.

Sectors**INTERNATIONAL****Planning A4546 Theories of urban economic and spatial development. 3 pts**

(*Not given every year.*)

An examination of the major theories and the relevant evidence. A major focus is on the new spatial division of labor and on the place of different types of cities in global and regional economic systems. Issues discussed include changes in the economic bases of cities in the United States and in Third World countries, changes in the linkages within urban systems, regional growth models, the migration of capital and labor, and uneven development.

Planning A4609 Planning in developing countries. 3 pts

(*Not given every year.*)

The impact of urban population growth and rapid urbanization on housing and urban development; the demand for shelter and services for the urban poor; the phenomenon of squatting and squatter-built housing; comparison of government policies and programs addressing urbanization and housing conditions.

Planning A4750 Infrastructure of cities in the Third World. 3 pts

(*Not given every year.*)

Objective is to explore advanced and traditional technical systems that are useful in making cities—particularly large ones—in developing countries more healthful, tolerable, livable, and perhaps pleasurable. Discussion encompasses settlement patterns, energy and communications, streets, paratransit and regular transportation services, water supply, sewerage, solid waste disposal, and other services. The operations of several cities and metropolitan areas are analyzed. The orientation is to match service capabilities of systems with local resources and perceived needs.

HOUSING

This course or the equivalent is prerequisite to other courses in housing and community development.

A fundamental understanding of housing in its social and economic aspects. Emphasis 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 A4308 The determinants of housing policy. 3 pts
(Not given every year.)**

Prerequisite: *Planning A4304* or the instructor's permission.

How governmental housing policy is formed: political, social, economic, physical, technological, ideological components. Alternative explanations of policy formation: philanthropic, fiscal, interest group, structural, and other theories. Emphasis on history of housing policy in the United States and comparisons with other countries' policy evolution.

Planning A4312 Real estate finance, I: capital markets. 3 pts
For a complete description, see listing under Real Estate Development.

Planning A4345 Comparative housing problems and policies. 3 pts

An exploration of alternative theories of how and why housing policy is formed and with what results tested against the experiences of a number of different countries. The focus will be on current housing problems and policies in Western and Eastern Europe. The historical evolution and political, social, and economic context of the housing policies are examined and contrasted with policies in the United States.

Planning A6344 Seminar in housing policy. 3 pts
(Not given every year.)

Prerequisite: *Planning A4304* or the instructor's permission.

Exploration of the major social, economic, and political issues confronting contemporary American 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.

Planning A4538 Real estate opportunities. 3 pts
For a complete description, see listing under Real Estate Development.

Analysis of the main issues in national housing policy. Topics include: current legislation, Mr. Coleman.

Analyses of the main issues in national housing policy. Topics include: urban regeneration, policy studies, administrative reform, public-private partnerships, home ownership, financial markets and regulation, taxation, housing affordability, nonprofit development, rental housing, and homelessness.

PHYSICAL PLANNING AND INFRASTRUCTURE DEVELOPMENT

Planning A4404 Urban transportation planning. 3 pts
(Not given every year.)

Review of contemporary urban transportation issues and suggested solutions. Examination of the characteristics of various modes of movement and the interdependencies among 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 the core of the course. Selected transportation facilities are reviewed.

Planning A4518 New patterns of metropolitan development. 3 pts
Mr. Yaro.

Planning for decentralized metropolitan regions and edge cities, including preservation of community and environmental systems, infrastructure and transportation planning, and the public and private institutions needed to implement plans.

Planning A4540 Environmental planning. 3 pts
Ms. Allee.

Objective is to provide means for understanding the environmental, regulatory, and planning process, and its relationship to development planning and design. Through actual preparation of an EIS under New York City regulations, students learn how environmental concerns compete with developer objectives and public policy—and what trade-offs or compromises must be made before the project is completed.

Planning A4714 Legislating aesthetics. 3 pts
Mr. Ferris. (Given every other year.)

Focus on the issues concerning the constitutional, social, and philosophical bases for legislation that achieves aesthetic purposes in its regulation of real property. The legislative and administrative structures of historic preservation, zoning and subdivision regulations, housing codes, environmental protection, and private covenants are examined through case studies and case law.

Planning A6108 Land use planning. 3 pts
Mr. Turner.

Examination of the land use elements of the comprehensive planning process, including contemporary land use and environmental and developmental issues. Covers the factors influencing land-use decision-making processes, the land-use elements of the comprehensive plan, as well as neighborhood, project, and site planning procedures and techniques. While theoretical foundations of planning are addressed, the course emphasizes practical approaches to physical planning issues. Case studies, guest speakers, and practical exercises are utilized.

Planning A6434 Transportation issues seminar. 3 pts
(Not given every year.)

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.

Planning A4533 Waste and efficiency in the design of urban systems. 3 pts
(Not given every year.)

Examines the contemporary American lifestyle and habits, the recent (1950 to the present) history of land use, and transportation and environmental problems of cities. Focuses on the tremendous growth of consumption and waste in America, documents the type and amount of waste, the costs (actual, environmental, and sociological), the effects of government policies, and the failure of traditional approaches to solving these problems. Attempts to define new solutions for growth and adjustment in American cities.

URBAN ECONOMIC DEVELOPMENT

Planning A4312 Real estate finance, I: capital markets. 3 pts
 For a complete description, see listing under Real Estate Development.

Planning A4507 Urban economic development. 3 pts

(Not given every year.)

Prerequisite: *Planning A4151* or the instructor's permission.

Examination of the political economy of urban economic development in large, mature American cities, including the history of urban economic development, alternative theories and analytic techniques, the role of federal and local public policies, and prospects for the economic future of older cities in an increasingly interdependent world economy.

Planning A4560 The economics of urban land use. 3 pts

Mr. Sclar.

Prerequisite: *Planning A4151* or the instructor's permission.

A detailed review of the economics of land use in urban areas, with particular emphasis on the relationship between land-use controls and real estate development. Topics include the economics of land value, zoning, development rights transfers, historic designation, real property taxation, and the economic impacts of alternative transportation policies.

Planning A6550 Urban labor markets. 3 pts

Training in

Examination of theories of the labor market, their policy implications, and the evidence. A major focus is on current developments in large cities, including the growth of immigrant labor markets, informalization, and new forms of regulating labor market attachment. Examination of evidence for both the United States and Third World cities.

Electives

(NOTE: For any student, planning courses listed under any other sector may be taken as electives. They may also be drawn from other programs and other schools of the University, with the approval of the student's adviser.)

Planning A4230 Computer applications for planners. 3 pts

Training
Mr. Miller

MR. MILNER
Focus on data preparation, manipulation, and the visual display of quantitative information. An approach to the navigation of technical environment through the use of the Planning Department's networked microcomputer system. Spatial analysis using New York City geography. Preparation for computer use for the studios and for the thesis.

Planning A4335 Planning New York City. 3 pts

To be announced.

Focus on the major institutional entities in the public sector that plan the built environment of New York City, including the City Planning Commission and other municipal agencies, neighborhood bodies such as community boards, and regional public authorities such as the Port Authority of New York and New Jersey. The historical origins, current operations, and future roles of each institutional entity are examined. Emphasis is on the public-private interactions that determine the shape of New York City.

Planning A4340 Comparative European urban social policy. 3 pts

Planning the Mr. Marcuse.

Social policies in advanced industrialized private-market countries have shown striking parallels and significant divergences. This course is an examination of the reasons for each, with an attempt to understand the causes for the adoption of specific policies. Topics include issues of unemployment, welfare, housing, urban development, and social security.

Planning A4570 Inner-city planning and development strategies. 3 pts

Planning H.E.T.
Mr. McIntyre.

The restructuring of major American cities has presented the planning profession with new conditions and challenges in the redevelopment of the city center. The older low-income, inner-city neighborhoods have posed the planning profession with a different set of problems

and conditions resulting from urban restructuring. The objective of the seminar is to provide planning students with a framework for exploring the issues and strategies that result from the dynamic relationship of physical/social decline and development within the inner city.

Planning A6217 Techniques of project evaluation. 3 pts
Mr. Grava.

Introduction to systems analysis and systemic planning. A selective review of major evaluation techniques in the fields of urban planning and urban policy analysis; cost-benefit and cost-effectiveness analysis; PPBS; optimization, goal achievement, scenarios, and delphi procedures; simulation; and sensitivity analysis. Examination of theoretical issues and of the context and problems that define and constrain urban planning and program evaluation. Review of evaluation studies of various public works projects, development efforts, and services delivery.

Planning A6060 The institutional structure of planning. 3 pts
Mr. Bach.

The institutions and formal procedures of planning influence the content of plans and are themselves influenced by the politics of planning. This course examines these reciprocal relationships. Topics include: composition and powers of planning commissions, relationship of planning to zoning, master plans, appeals procedures, quasi-public corporations, professional roles, and the role of the courts. New York City will provide immediate case material for the discussions. The course is an appropriate foundation for *PI A6052*, although the two may be taken independently of each other.

Planning A6354 Political environment of development. 3 pts
 For a complete description, see listing under Real Estate Development.

Planning A6555 Advocacy, equity, and social policy. 3 pts
The staff.

This course is concerned with equity and justice in public professional life. Using urban planning as a paradigm, students weigh specific responses to inequity, tension, and competing interests: negotiation, mediation, community organization and advocacy, political activity, legislation, and action. Guest speakers from the urban arena address such issues as race, class, gentrification, and the feminization of poverty.

Planning A6557 Race and ethnicity in the city. 3 pts
(Not given every year.)

Designed to investigate explicitly how race and ethnicity have been situated, in a methodological sense, within those disciplines that focus on the socioeconomic, physical, spatial, and/or political aspects of urban environments. Among the principal topics discussed are: the origins of the social and scientific definitions of race and ethnicity; how those definitions influence public policy formation and debate; and divergent interpretations of the effects of planning, public policy, and urban design on different racial and ethnic groups.

Planning A6559 Economy and space in the city. 3 pts
Ms. Sassen.

This seminar is about new directions in urban sociology. Concepts to be covered are political economy, visual order of cities, and concepts of urban ecology.

Planning A6570 Community design workshop. 3 pts
Mr. McIntyre.

The Community Design Workshop has been developed as an outreach course to provide design, research, and development assistance to community-based organizations and agencies. It provides students from architecture, planning, and historic preservation with an opportunity to work in an interdisciplinary setting with an actual project client from the surrounding neighborhoods.

Planning A6769 History of the American city. 3 pts
Ms. Wright.

The process of continuity and change in American cities from the colonial period through the 20th century, covering industrialization, political conflict, reform movements, geographical and ethnic diversity, bureaucratic rationalism, and urban culture—with focus on how physical form responded to or influenced social and political forces over time.

Planning A6925-A6926 Advanced research, I and II. 3 pts
The staff.

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.

Architecture A4330-A4331 Urban history, I and II. 3 pts
For a complete description, see listing under Architecture—History/Theory.

Ph.D. Program

Planning A8900-A8901, A8902-A8903. Doctoral colloquium I, II, III, IV. 3 pts
Ms. Sassen.

Open only to Ph.D. candidates in planning or in closely related fields. In the first or second year, depending on advanced standing, each Ph.D. student will take a two-semester doctoral colloquium. The intellectual organizing mechanism of the program, the colloquium, brings together all students at the same level within the Ph.D. program and enriches the work of defining the dissertation topic and subsequent research and writing.

Planning A8930-A8931. History and theory of planning. 3 pts
To be announced.

Designed to satisfy two out of a minimum of three courses in the history and theory of planning. The genesis and structure of planning thought and methods; economic, political, and social factors influencing the development of planning theories and policies; the theory and development of urban structures; the history of cities.

Real Estate Development

Planning A4311 Housing finance. 3 pts
Mr. Reiss.

A comprehensive overview of the U.S. housing financial system, focusing on the interaction between secondary mortgage markets, government agencies, and private capital markets. An analysis of the financial techniques in evaluating specific housing models, with an emphasis on subsidized financing.

Planning A4312 Real estate finance, I: capital markets. 3 pts
Mr. Reiss.

Introduction to capital markets and methods of financial analysis of real estate investments. Topics include measures of value, capitalization rates, capital budgeting, debt and equity markets, taxation, and cash flow and appraisal techniques. Emphasis is on case study technique.

Planning A4314 Real estate finance, II: advanced financial packaging. 3 pts
Mr. Reiss.

Advanced financial analysis and appraisal techniques for real estate development. Topics include complex deal structuring, innovations in debt financing, syndications, tax shelters, tax-exempt financing, and microcomputer applications.

Planning A4538 Real estate opportunities. 3 pts**Mr. Bell.**

Detailed analysis of the components of the real estate development process and the functions of the key participants. Topics include techniques for selecting, organizing, and managing the development team; scheduling and risk management; negotiating strategies; utilizing government financing and subsidy programs; and marketing and managing completed projects.

Planning A6330 Site planning and support systems for development. 3 pts**Mr. Grava.**

Basic techniques of site planning and review of infrastructure systems such as access, utilities, telecommunications, and pedestrian amenities. Topics include the physical contexts of development sites, feasibility studies, and infrastructure requirements.

Planning A6332 Land-use law. 3 pts**Ms. Meyer.**

Overview of the legal parameters affecting governmental regulation and control of property. Topics include zoning and modifications to zoning, comprehensive planning, takings jurisprudence, exclusionary zoning, governmental exactions and assessments, environmental review of proposed development, and historic preservation.

Planning A6333 Real estate development law. 3 pts**Mr. Gold.**

This course covers contractual aspects of real estate development, finance, and management. Topics will include structural organization and tax considerations, environmental risk allocation, sale agreements, architect and construction contracts, financing alternatives (including securitization), ground leases and commercial space leases, affordable housing projects, and public-private development agreements.

Planning A6348 Architectural design. 3 pts**Ms. Ramati.**

Introduces the student to the notion that "Good design is good business." Through the study of basic architectural thinking, the student learns how to read plans and appreciate architecture and urban design as it relates to housing, hotel, office, and retail design. Many visits are made to architects' offices and to a variety of projects in New York City.

Planning A6350 Design for development. 3 pts**Mr. Buckley.**

Basic principles of architectural and urban design and the relationship between the developer and the architect. Topics include building subsystems, relationship between form and function, special zoning techniques, and large-scale project design.

Planning A6352 Market analysis for development. 3 pts**Mr. Shorter.**

Critical factors in national, regional, and urban real estate markets that determine development opportunities. Topics include business and construction cycles, regional and urban growth trends, restructuring of urban space, commercial and industrial location theories, and demographic analysis and projection techniques.

Planning A6354 Political environment of development. 3 pts**Mr. Weisbrod.**

Analysis of the political issues and conflicts influencing development. Topics include case studies, public laws influencing development, interest group politics, public approval processes, impacts of development on population groups and communities, and the competing equity claims of different members of society.

Planning A6356 and Planning A6357 **Construction technology and management, I and II.** **3 pts**

Mr. Fischer and Mr. Silverman.

An overview of alternative technologies, the construction process, and construction management. Topics include cost estimating; scheduling and management techniques; contract documents; bidding; changes, extras, and claims; and community, public agency, and labor relations.

Planning A6795 **Research problems (independent study)**

Mr. Gallagher.

This course is structured as an internship. Students will have the opportunity to select from a group of public agencies, financial institutions, private developers, and nonprofit organizations actively involved in real estate. The course is designed to provide participants hands-on experience working with real estate and real estate-related issues. Internship responsibilities can include development feasibility, financial analysis, market research, project management, asset management, policy review, and industry studies.

The Shape of Two Cities: New York/Paris

TERM I: NEW YORK

Urban Studies A4043 **Workshop in urban studies.** **4 pts**

Mr. Conard and Mr. Marcotullio.

Reading and discussions focused on issues and theories of urban planning. Data and site analyses of the New York City district toward planning intervention.

Architecture A4000 **Design studio.** **4 pts**

Ms. Smoller.

Introductory studio on the analysis, representation, and design of architectural projects for New York City. The studio combines long-term projects with sketch problems. Tutorials and lectures on graphics skills.

Architecture A4027 **Architecture, planning, and preservation:**

New York.

3 pts

Ms. Buttenwieser and Ms. Willis.

A survey of past and present work in the three disciplines that emphasizes their interdisciplinary nature. Guest lecturers representing public and private efforts in New York's planning, design, and historic preservation. Special attention is paid to the theories of design, planning, and historic preservation that have shaped the 20th-century city. Class projects by teams that include members from both options of the program.

Architecture A4028 **Building New York.** **3 pts**

Mr. Dokart.

The evolution of building form and urbanism in New York City as demonstrated by a survey of the city's building types, 19th century to the present, and including residential, commercial, and institutional architecture. Lectures and tours.

Planning A6769 **History of the American city.** **3 pts**

Ms. Wright.

The process of continuity and change in American cities from the colonial period through the 20th century, covering industrialization, political conflict, reform movements, geographical and ethnic diversity, bureaucratic rationalism, and urban culture, with focus on how physical form responded to or influenced social and political forces over time.

TERM II: PARIS

Architecture A4010 Design studio. 4 pts

Mr. Biecher and Mr. Salomon.

Architectural and urban design projects for sites in Paris; portfolio workshop.

Architecture A4025 Freehand drawing. 3 pts

Mr. Bouchand.

Drawings from nature and the architecture of Paris; exercises in light and shade, line and perspective drawing, and color.

Architecture A4029 Architecture, planning, and preservation:

Paris.

3 pts

Ms. Sykes.

Continuation of the New York course, with focus on Paris.

Architecture A4030 The development of Paris. 3 pts

Ms. Sykes.

A discussion of the 2,000-year development of Paris through a combination of lectures and site visits. Emphasis on the interrelationship between urban and architecture history.

Planning A4031 History of European cities. 3 pts

To be announced.

Focus is on the historical development of European cities and their physical form, architecture, and infrastructure. Cultural, social, and political contexts of the development of European cities are reviewed, as are the interventionary procedures used to reorganize the cities' forms over time.

Planning A4044 Seminar in comparative planning and

preservation.

4 pts

Ms. Sykes.

Comparison of the theory and practice of urban planning and historic preservation in New York and Paris. Presentation of final research projects by students.

Faculty of Architecture, Planning, and Preservation

George Rupp, Ph.D. *President of the University*

Jonathan R. Cole, Ph.D. *Provost of the University*

Bernard Tschumi *Dean of the Faculty of Architecture, Planning, and
Preservation*

Stanley Allen *Assistant Professor of Architecture; Director, Advanced
Architectural Design Program*

B.A., Brown, 1978; B.Arch., Cooper Union, 1981; M.Arch., Princeton, 1988. Registered architect. Projects Editor, *Assemblage*. Fellow in Architecture, New York Foundation for the Arts, 1986, 1990. Fellowship in Design Arts, NEA, 1990. Graham Foundation Fellowship, 1993.

Paul L. Bentel *Assistant Professor of Architecture and Historic
Preservation*

B.A., Harvard, 1979; M.Arch., 1983; Ph.D., M.I.T., 1992. National Trust for Historic Preservation Grant, 1978; Graham Foundation Grant, 1981; A.I.A. Medal, 1983; Municipal Arts Society Design Award, 1986; Association of American Publishers Award, 1985; Harvard Architecture Review; Trustee; Registered Architect; A.I.A.

Joseph Connors *Professor of Art History*

B.A., Boston College, 1966; B.A., Clare College (Cambridge), 1968; M.A., Harvard, 1972; Ph.D., 1978.

Keller Easterling *Assistant Professor of Architecture*

B.A., Architecture, Princeton, 1981; M. Arch., 1984. Research fellowship, National Endowment for the Arts, Design Arts, 1985 and 1989; Grant, Graham Foundation for Advanced Studies in Architecture and the Fine Arts, 1991; Macdowell Fellowship, 1992 and 1995.

Kenneth Frampton *Ware Professor of Architecture*

Dipl. Arch., Dipl. Trop., Architectural Association (London), 1956; A.R.I.B.A., 1957. Honorary Doctorate of Technology, Royal Institute of Technology, Stockholm, 1991; Associate of the American Institute of Architects, 1993; Honorary Doctorate in Environmental Studies, University of Waterloo, 1995. Medaille d'Or from the Academie d'Architecture Paris; ACSA Topaz Medal for excellence in architectural education, 1990. Fellow of the American Academy of Arts and Sciences, 1993.

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 F. Kinne Fellows Traveling Fellow, 1958. Member, American Institute of Certified Planners; American Planning Association; American Society of Civil Engineers; Latvian Academy of Sciences. Licensed professional planner; Fulbright Lectures, 1994.

Thomas Hanrahan *Assistant Professor of Architecture*

B.S., Illinois, 1978; M.Arch., Harvard, 1982. Wheelwright Fellow, Harvard, 1985-1986. Eugene McDermott Award, M.I.T. Council for the Arts, 1993. Registered architect.

Cyril M. Harris *Special Lecturer in Architecture; Professor Emeritus of
Architecture and Charles Batchelor Professor Emeritus of Electrical Engineering*
B.A., California (Los Angeles), 1938; M.A., 1940; Ph.D., M.I.T., 1945; Sc.D. (hon.), New

Jersey Institute of Technology, 1981; Sc.D. (hon.), Northwestern, 1989. Franklin Medal, 1977; Wallace Clement Sabine Medal, 1979; A.I.A. Medal, 1980; gold medal, Audio Engineering Society, 1984; gold medal, Acoustical Society of America, 1987. Member, National Academy of Engineering; National Academy of Sciences.

Laurie Hawkinson *Associate Professor of Architecture*

B.A., California (Berkeley), 1974; M.A., 1975; B.Arch., Cooper Union, 1983. Grant Recipient, New York State Council on the Arts; Board of Directors, The Architectural League; N.C.A.R.B. certificate. Registered architect.

Klaus Herdeg *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.

Steven Holl *Associate Professor of Architecture*

B.Arch., Washington (Seattle), 1971. Architectural Association (London), 1976. Registered architect. N.C.A.R.B. certificate. New York State Council on the Arts Fellowship, 1979.

Kenneth T. Jackson *Jacques Barzun Professor of History and the Social Sciences*

B.A., Memphis, 1961; M.A., Chicago, 1963; Ph.D., 1966. Fulbright Professor, 1974 and 1992; Guggenheim Fellow, 1983–1984; Fellow, Society of American Historians. Bancroft Prize, 1986; Francis Parkman Prize, 1986; Mark Van Doren Award, 1989.

Peter Marcuse *Professor 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, American Institute of Certified Planners; Connecticut Bar Association; National Association of Housing and Re-development Officials; Housing Committee, Community Board 9 of Manhattan.

Lionel C. McIntyre *Assistant Professor of Urban Planning; Director, Urban Planning Program*

B.A., Dillard, 1987; M.S., Urban Planning, Columbia, 1988. Director, Urban Technical Assistance Project. Honorary Fellow, Municipal Arts Society, 1989–1990.

Mary McLeod *Associate Professor of Architecture*

B.A., Princeton, 1972; M.Arch., 1975; M.A., 1976; Ph.D., 1985. Social Science Research Council Fellow, France, 1977; Fulbright/Hayes, France, 1977. National Endowment for the Humanities, 1987.

Richard A. Plunz *Professor of Architecture; Director, Urban Design Program*

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

Jan Hird Pokorny *Special Lecturer in Architecture; Professor Emeritus of Architecture*

Engineer-Architect, Polytechnical University of Prague, 1938; M.S., Columbia, 1941. Fellow, American Institute of Architects; Member, National Academy of Design. Registered architect.

James Stewart Polshek *Professor of Architecture*

B.S., Case Western Reserve, 1951; M.Arch., Yale, 1955. Fulbright/Hayes Fellow, Denmark, 1956. Fellow, American Institute of Architects. Registered architect. D.F.A. (hon.), Pratt, 1995. Member, Board of Directors, Van Alen Institute. Trustee, Cathedral of St. John the Divine. Member, National Academy of Design.

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

D.C.E., Rome, 1930; D.Math., 1933; Libero Docente in Theory of Structures, 1937. Honorary Member, American Society of Civil Engineers; American Institute of Architects.



Fellow, American Society of Mechanical Engineers; New York Academy of Sciences; American Concrete Institute. Member, International Association of Shell Structures; International Association of Bridge and Structural Engineering. Pupin Medal, 1991. Registered professional engineer.

Saskia Sassen *Professor of Urban Planning*

Maîtrise, Poitiers, 1974; Ph.D., Notre Dame, 1974. Postdoctoral Fellow, Harvard, 1974–1975; Ford Foundation Fellowship, 1972–1973; James P. Warburg Fellow, 1974–1975; Social Science Research Council Fellowship, 1977–1978; Tinker Foundation Fellowship, 1980–1981; New York Institute for the Humanities Fellow, 1983–1985; Chicago Institute for Architecture and Urbanism Fellowship, 1988–1989; Russell Sage Fellow, 1992–1993; Woodrow Wilson Fellow, 1993.

Elliott D. Sclar *Professor of Urban Planning*

B.A., Hofstra, 1963; M.A., Tufts, 1966; Ph.D., 1972. Research Associate, Economic Policy Institute, Washington, D.C. Project Director, Twentieth Century Fund, New York. Member, American Planning Association. Society for American City and Regional Planning History.

Robert A. M. Stern *Professor of Architecture; Director, Historic Preservation Program*

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

Peter Testa *Associate Professor of Architecture*

S.M. Arch. S. (History/Theory), M.I.T., 1984; B.Arch., Carleton, 1978. Research Fellowship, Gulbenkian Foundation, 1985; Individual Fellowship, Graham Foundation Fellowship, 1985; National Endowment for the Arts, 1986.

Bernard Tschumi *Professor of Architecture; Dean of the Faculty of Architecture, Planning, and Preservation*

Dipl. Arch. E.T.H., Zürich, 1969. Arts Council of Great Britain, 1975. National Endowment for the Arts, 1979. Member, College International de Philosophie, Chevalier des Arts et des Lettres, and Legion of Honor, France. Registered architect.

Anthony C. Webster *Associate Professor of Architecture*

B.S. Eng., summa cum laude, Rutgers, 1980; M.S. Structural Eng., Columbia, 1984; C.E. Structural Eng., 1987. National Endowment for the Arts, 1992. National Science Foundation, 1995. N.Y. State Council on the Arts, 1992. Tau Beta Pi; American Society for Civil Engineers.

Gwendolyn Wright *Professor of Architecture, Planning, and Preservation*

B.A. New York University, 1969; M.Arch., California (Berkeley), 1974; Ph.D., 1978. Woodrow Wilson Fellowship, 1977; Ford Foundation Fellowship, 1979–1980; National Endowment for the Humanities Fellowship, 1980–1982; Stanford Humanities Center Fellowship, 1982–1983; Univ. of Michigan, Institute for the Humanities Fellowship, 1991; Getty Center for the History of Art and the Humanities Fellowship, 1992–1993. New York Institute for the Humanities Fellow 1983–1992; Society of American Historians Fellow and executive committee, 1985–present.

Other Officers of Instruction

Philip E. Aarons *Adjunct Associate Professor of Real Estate Development*
B.A., Columbia, 1973; J.D., 1976.

Diana Agrest *Visiting Professor of Architecture*

Dipl. Arch., University of Buenos Aires, 1967. Centre de Recherche d'Urbanisme; École Practique des Hautes Études, Paris, 1967–1969. Registered architect.

Debra C. Allee *Adjunct Associate Professor of Urban Planning*
B.A., Radcliffe, 1959. Member, American Institute of Certified Planners.

John Alschuler, Jr. *Adjunct Assistant Professor of Real Estate Development*
A.B., Wesleyan University, 1971; Ed.D., University of Massachusetts, 1973.

Victor Bach *Adjunct Professor of Urban Planning*
R.S., Brooklyn College, 1953; M.A., Yale, 1954; Ph.D., M.I.T., 1977.

Mojdeh Baratloo *Adjunct Assistant Professor of Architecture*

M.Arch., University of Michigan, 1978. Registered architect. Project and Interiors Awards, New York Chapter, A.I.A., 1990. Fellow in Architecture, New York Foundation for the Arts, 1990. NYSCA Research Grant, 1990. NEA Arts in Public Places, Design Arts/Visual Arts Collaboration Grant, 1989, and Project Grant, 1993.

Karen Bausman *Adjunct Assistant Professor of Architecture*

B.Arch., Cooper Union, 1982. Fellowship, New York Foundation for the Arts, 1988. Registered architect. Fellow, American Academy in Rome. Fellow, New York Foundation for the Arts.

Harold K. Bell *Special Lecturer in Architecture, Urban Planning, and Real Estate Development*

B.B.A., College of the City of New York, 1947. H.U.D. "Operation Breakthrough" award winner. Member, Steering Committee, National Urban Planning and Design Committee; A.P.A. Urban economist, A.I.A., Regional Urban Design Assistance Teams.

Victoria Benetar Urban *Instructor in Architecture*

Dipl. Arch., Universidad Central de Venezuela, 1983; M.S. in Architecture and Urban Design, Columbia, 1994. Registered architect, Colegio de Ingenieros de Venezuela, 1984.

Paul L. Bennett *Lecturer in Architecture*

B.Arch., Texas Tech., 1982; B.S.C.E., Texas Tech., 1982. Registered architect. Member, American Institute of Architects.

Wayne Berg *Adjunct Assistant Professor of Architecture*

B.Arch, Montana State University, 1969. Distinguished Architecture Award, New York Chapter, American Institute of Architects, 1984, 1989, 1994, 1995; American Institute of Architects Interior Award, 1987; "Young American Architects," Ottogono, Milan, Italy, 1988; 40 under 40. Emerging Voices.

Frederick Biehle *Adjunct Assistant Professor of Architecture*

B.S. Architecture, Virginia, 1977; M.Arch., Harvard, 1982. Rome Prize Fellowship, 1986–1987. Registered architect.

Françoise Bollack *Adjunct Associate Professor of Architecture*

Diplôme d'Architecte, École Spéciale d'Architecture, Paris, 1969. Co-author, "Everyday Masterpieces—Memory and Modernity"; Certificate of Merit Award, Landmarks Preservation, 1992. Registered architect.

Lynne Breslin *Adjunct Associate Professor of Architecture*
A.B., Radcliffe, 1974; M.Arch., Princeton, 1978; M.A., 1982.

Laura Briggs *Adjunct Assistant Professor of Architecture*
B.Arch., B.F.A., Rhode Island School of Design, 1982; M.Arch., Columbia, 1991.
Mushenheim Fellow, Univ. of Michigan, 1992.

Paul Buckhurst *Adjunct Associate Professor of Real Estate Development*
Dipl. Arch., Canterbury (England), 1959; M.Arch. U.D., Harvard, 1966; Dipl. in Urban
Planning, London, 1968. Member, A.I.C.P.; A.R.I.B.A.

Michael P. Buckley *Adjunct Professor of Real Estate Development*
B.A., Rice, 1963, B.S.Arch., 1964; M.A.S., M.I.T., 1972. Fellow, American Institute of
Architects.

Ann L. Buttenwieser *Adjunct Associate Professor of Urban Planning*
B.A., Swarthmore, 1957; M.S., Columbia, 1977; Ph.D., 1984. President, The Park
Council; Visiting Committee, Graduate School of Management, New School. Associate
Director, New York/Paris Program. Member, American Planning Association. Regional
Plan Association.

Paul Byard *Adjunct Associate Professor of Historic Preservation*
B.A., Yale, 1961; B.A., Cambridge, 1963; L.L.B., Harvard, 1966; M.A., Cambridge, 1968;
M.Arch., Columbia, 1977. Director, Architectural League of New York; New York
Landmarks Conservancy; Vinmont Foundation; American Friends of Cambridge
University. Fellow, American Institute of Architects. Registered architect.

Perry Y. Chin *Associate in Architecture*
B.S., Architectural Technology N.Y.I.T., 1972; M.Arch., University of Illinois, 1976. Paris
Prize Fellowship, 1972. Registered architect, 1979.

John Chow *Adjunct Assistant Professor of Urban Planning*
A.B., Harvard, 1979; M.S.C.E., M.I.T., 1981.

Carol Ann Clark *Adjunct Associate Professor of Historic Preservation*
B.A., University of Michigan, 1974; M.S., Columbia, 1977. Revson Fellow, 1982-1983.
Member, American Planning Association, National Trust for Historic Preservation, Society
of Architectural Historians. Director, Frank Lloyd Wright Building Conservancy and the
Historic District Council.

Val Coleman *Adjunct Professor of Urban Planning*
B.A., Antioch College, 1955. Director of Public Information of the New York City
Housing Authority, 1970-1992.

Michael Conard *Adjunct Assistant Professor of Architecture*
B.S., Rensselaer Polytechnic Institute, 1980; B.Arch., 1981; Architectural Association,
1991; M.S., Architecture and Urban Design, Columbia, 1993. Independent Project Grant,
New York State Council on the Arts, 1994; Grant Recipient, National Endowment for the
Arts, 1995. N.C.A.R.B. certificate. Registered architect.

Lise Anne Couture *Adjunct Assistant Professor of Architecture*
B.Arch., Carleton, 1983; M.Arch., Yale, 1986. Fellowship, New York Foundation for the
Arts, 1992. Registered architect.

Kathryn Dean *Adjunct Assistant Professor of Architecture*
B.A., North Dakota State University, 1981; M.Arch., Oregon, 1983. Rome Prize, 1987.
Registered architect.

Andrew Dolkart *Adjunct Associate Professor of Historic Preservation*
B.A., Colgate, 1973; M.S., Columbia, 1977.

Evan Douglis *Adjunct Assistant Professor of Architecture*
B.Arch., Cooper Union, 1983; M.Arch., Harvard, 1989. Adjunct Assistant Professor of Architecture, Cooper Union, 1991–present.

Karen Fairbanks *Adjunct Assistant Professor of Architecture; Program Coordinator, Columbia College Architecture Program*
B.S., Michigan, 1981; M.Arch., Columbia, 1987. Registered architect.

Dennis Ferris *Adjunct Associate Professor of Urban Planning*
B.A., Michigan, 1970; M.Arch., 1980; M.S., Urban Planning, Columbia, 1985.

Irving Fischer *Adjunct Associate Professor of Real Estate Development*
B.S., Purdue; M.B.A., New York University. Gulf and Western Board Member; Member of the Board of the Holocaust Commission; National Black Theater.

Meyer S. Frucher *Adjunct Associate Professor of Real Estate Development*
B.S., Columbia, 1972; M.P.A., Harvard, 1974.

Peter J. Galdi *Adjunct Assistant Professor of Architecture*
B.S., Rutgers, 1969; M.S., California (Berkeley), 1970; M.Arch., Carnegie-Mellon, 1980.

Brian Gallagher *Adjunct Assistant Professor of Real Estate Development*
B.A., Queens College, 1981; Certificate in Real Estate Studies, New York University, 1989; M.S., Real Estate Development, Columbia, 1990.

Leslie Gill *Adjunct Assistant Professor of Architecture*
B.Arch., Cooper Union, 1982. Fellowship, New York Foundation for the Arts, 1986. Registered architect. Emerging Voices Award, Architectural League, 1992. The Cooper Union Citation for Contribution to the Field of Architecture, 1992, 1994.

Martin E. Gold *Adjunct Associate Professor of Real Estate Development*
B.A., Cornell, 1967; J.D., Harvard, 1970; M.P.A., Harvard, 1971. Fellow, Center of Law and Development (Sri Lanka), 1971–1973; New York City Law Department, Director of Corporate Law, 1980–1985; Member, Real Property, Energy and Environmental Law Committees of the Bar Association of the City of New York.

Gisue Hariri *Adjunct Assistant Professor of Architecture*
B.Arch., Cornell, 1980. Young Architects Award, New York Architectural League, 1990.

Robert Heintges *Adjunct Associate Professor of Architecture*
B.A., Rice, 1970; B.Arch., 1971. Member, A.I.A. Registered architect.

A. Jay Hibbs *Adjunct Assistant Professor of Architecture*
B.Arch., Cooper Union, 1980. Registered architect.

Christian Hubert *Adjunct Assistant Professor of Architecture*
B.A., Columbia, 1974; M.Arch., Harvard, 1978. Fellow, Institute for Architecture and Urban Studies, 1982–1984.

Paola Iacucci *Adjunct Assistant Professor of Architecture*
Doctorate, Architecture and Planning, University of Rome, School of Architecture, 1967. Registered architect, 1967; Architect Association, 1971, Rome; 1976, Milan.

John Ifcher *Adjunct Assistant Professor of Urban Planning*
B.S., University of Michigan, 1989; M.P.A., Columbia, 1993.

Andrea Kahn *Adjunct Associate Professor of Architecture*

B.A., Bennington, 1975; M.Arch., Princeton, 1983. Graham Foundation Individual Project Grant, 1989; Butler Traveling Fellowship Award for Thesis Research. N.Y.F.A. Fellowship in Architecture, 1994.

Edward J. Keller *Associate in Architecture*

B.A., Simon's Rock of Bard College, 1985; M.Arch., Columbia, 1994.

Harry Kendall *Adjunct Assistant Professor of Historic Preservation*

B.A., Washington (St. Louis), 1976; M.Arch., Columbia, 1981. Registered architect.

Sulan Kolatan *Adjunct Assistant Professor of Architecture*

Dipl. Ing., Technische Hochschule Aachen Universitat, 1982; M.S., Building Design, Columbia, 1983. Young Architects Award, New York Architectural League, 1986. Emerging Voices, New York Architectural League, 1992. 40 under 40, 1995. Registered architect.

Theodore Krueger *Adjunct Assistant Professor of Architecture*

B.A., Wisconsin (Madison), 1976; M.Arch., Columbia, 1985. Young Architects Award, New York Architectural League, 1986. Fellowship, New York State Council on the Arts, 1987; New York Foundation for the Arts, 1988, 1992.

Kunio Kudo *Adjunct Associate Professor of Architecture*

B.Eng. in Arch., 1963; M.Eng. in Arch., 1965; Dr.Eng. in Arch., 1969, Tokyo Institute of Technology; M.A.U.D., Harvard, 1978. Regional Science Research Fellow, Pennsylvania, 1969-1971; American Study Fellow, Brown, 1977-1978; Associate Professor of Architecture, Nagoya Institute of Technology 1972-1981; Visiting Professor, Nova Scotia Technical College, Canada, 1980. Registered architect, Japan and U.S.A.

Rayme Kuniyuki *Adjunct Assistant Professor of Architecture*

A.B.Arch., California (Berkeley), 1984; M.Arch., Columbia, 1986. Registered architect.

Moon Wha Lee *Adjunct Associate Professor of Urban Planning*

M.U.P., New York University, 1976; M.P.H., Columbia, 1980; Ph.D., 1983. Assistant Commissioner for Policy Analysis and Research, New York City Department of Housing Preservation and Development.

Frederic Levrat *Adjunct Assistant Professor of Architecture*

Dipl. Arch., École Polytechnique Federale de Lausanne, 1990.

Greg Lynn *Adjunct Assistant Professor of Architecture*

B.Phil., Miami University of Ohio, 1986; B.Arch., 1986; M.Arch., Princeton, 1988.

William J. MacDonald *Adjunct Associate Professor of Architecture*

B.Arch., Syracuse, 1979; Architectural Association (London), 1978; M.S., Architecture and Building Design, Columbia, 1982.

Grant Marani *Adjunct Assistant Professor of Architecture*

B.Arch. University of Melbourne, 1979; M.Arch., Cornell, 1984. Registered architect. Member, A.I.A., F.R.A.I.A.

Scott Marble *Adjunct Assistant Professor of Architecture*

B.Ed., Texas A&M, 1983; M.Arch., Columbia, 1986. A.I.A. Design Award, 1994; N.Y.F.A. Fellowship, 1994; 40 under 40, 1995. Registered architect.

Peter J. Marcotullio *Adjunct Assistant Professor of Urban Planning*

B.A., University of Pennsylvania, 1979; M.A., Biology, University of Pennsylvania, 1983; M.A., Geography, Columbia, 1989.

Robert Marino *Adjunct Assistant Professor of Architecture*

B.E., Stevens Institute of Technology, 1971; M.Arch., Princeton, 1982. Registered professional engineer, New Jersey. Registered architect.

Sandro Marpiller *Adjunct Assistant Professor of Architecture*

M.Arch., Architecture Institute of Venice (IAUV), 1979; M.Sc., Architecture and Building Design, Columbia, 1983. Fulbright Fellowship, 1982-1984; New York Foundation for the Arts Fellowship, 1988; Honor Award for Urban Design, Boston Society of Architects, 1993. A.I.A. Registered architect.

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.

Brian McGrath *Adjunct Assistant Professor of Architecture*

B.Arch., Syracuse, 1979; M.Arch., Princeton, 1981. Institute for Architecture and Urban Studies, 1979. Registered architect, New York.

Melanie Meyers *Adjunct Assistant Professor of Real Estate Development*

B.S.A.D., M.I.T., 1982; J.D., Columbia, 1987. Member, Land Use and Zoning Subcommittee of the Bar Association for the City of New York.

Victoria Meyers *Adjunct Assistant Professor of Architecture*

A.B., Civil Engineering/Art History, Lafayette College, 1975; M.Arch., Harvard, 1982. A.I.A. Design Awards, 1989-1993, 1995; Progressive Architecture Design Award, 1993. Registered architect.

Dorothy Marie Miner *Adjunct Associate Professor of Historic Preservation*

B.A., Smith, 1958; LL.B., Columbia, 1961; M.S.U.P., Columbia, 1972, Attingham, England, 1977.

Derek Moore *Adjunct Assistant Professor of Architecture*

B.A., Amherst, 1978; M.A., 1980; Ph.D., Institute of Fine Arts, 1988; M.Arch., Columbia, 1988. Fellow, American Academy in Rome, 1984.

Eden Greig Muir *Adjunct Assistant Professor of Architecture*

B.S. Arch., City College of the City University of New York, 1983; M.Arch., Columbia, 1986. Registered architect.

Eric Paul Mumford *Adjunct Assistant Professor of Architecture*

A.B., Harvard, 1980; Architectural Association, 1981; M.Arch., M.I.T., 1983; Ph.D. candidate, Princeton. Registered architect.

Taeg Nishimoto *Adjunct Assistant Professor of Architecture*

B.Arch., Waseda University, 1978; M.Arch., Cornell, 1985. Fellowship in Architecture, New York State Foundation for the Arts, 1987. Grant, New York State Council of the Arts, 1988. Registered architect.

Joan Ockman *Adjunct Associate Professor of Architecture; Director, Temple Hoyne Buell Center for the Study of American Architecture*

B.A., Radcliffe, 1974; B.Arch., Cooper Union, 1980. Fellow, Institute for Architecture and Urban Studies, 1981-1982.

Liam O'Hanlon *Lecturer in Architecture*

B.A., Queens College, 1972; M.S.C.E., Columbia, 1984.

Rory O'Neill *Adjunct Assistant Professor of Architecture*

B.S., Engineering, NC State University, 1985; M.Arch., Columbia, 1991.

Areta Pawlynsky *Adjunct Associate Professor of Architecture*

B.S. Arch., University of Illinois, 1983; M.Arch., M.S., Historic Preservation, Columbia, 1990. Registered architect.

Theodore H. M. Prudon *Adjunct Associate Professor of Historic Preservation*
M.A., Delft University of Technology, 1969; M.S., Columbia, 1972; Ph.D., 1981. William F. Kinne Fellows Traveling Fellow, 1972. Member, Royal Dutch Society of Architects. N.C.A.R.B. Certificate.

Nicholas Quennell *Adjunct Associate Professor of Architecture*

Dipl.Arch., Architectural Association (London), 1957; M.L.A., Harvard, 1969. Fellow, American Society of Landscape Architects; Architectural Association (London). Registered architect, New York, New Jersey, Pennsylvania, United Kingdom. Registered landscape architect, New York, Massachusetts, Connecticut, North Carolina. N.C.A.R.B. certificate. C.L.A.R.B. certificate. Member, New York City Art Commission.

Raquel Ramati *Adjunct Professor of Real Estate Development*

B.A. Arch., Pratt Institute. Loeb Fellow, Harvard, 1975. Director of Urban Design Group, New York Dept. of City Planning, 1971–1981. Member, American Institute of Architects; Vice Chair, International Council, Urban Land Institute.

Hani Rashid *Adjunct Associate Professor of Architecture*

B.Arch., Carleton, 1983; M.Arch., Cranbrook Academy of Art, 1985.

Jesse Reiser *Adjunct Assistant Professor of Architecture*

B.Arch., Cooper Union, 1981; M.Arch., Cranbrook Academy of Art, 1984. Fellow in Architecture, American Academy in Rome, 1984–1985. Fellowship in Architecture, New York Foundation for the Arts, 1988. Design Arts Grant, NEA, 1990.

Charles P. Reiss *Adjunct Associate Professor of Real Estate; Director, Real Estate Development Program*

B.Arch., Cooper Union, 1965; M.U.P., New York University, 1968. Member, A.I.C.P.

Richard L. Schaffer *Visiting Professor of Urban Planning*

B.S., University of Pennsylvania, 1969; Ph.D., New York University, 1972. Director, Empowerment Zone Monitoring and Assistance Project. Former chairman of the New York City Planning Commission.

Tony Schuman *Visiting Associate Professor of Architecture*

B.A., Wesleyan University, 1965; M.A., Columbia, 1966; M.Arch., 1970. Registered architect.

Harry Schwartz *Adjunct Professor of Urban Planning*

B.A., Columbia, 1956; M.C.P., University of Pennsylvania, 1960; Fulbright Scholarship, University of Rome, 1963; Member, American Planning Association. Planning Consultant.

Madeline Schwartzman *Adjunct Assistant Professor of Architecture*

B.A., Barnard, 1983; M.Arch., Yale, 1986. John Dinkeloo Traveling Fellowship, American Academy in Rome/National Institute for Architectural Education, 1988. Artist's Grant, Connecticut Commission on the Arts, 1989. Registered architect.

Paul Segal *Adjunct Associate Professor of Architecture*

M.F.A., Princeton, 1969. Fellow, American Institute of Architects. N.C.A.R.B. Certificate. President, New York Chapter, A.I.A., 1985–1986; Trustee, Preservation League of New York State. Registered architect.

David Grahame Shane *Adjunct Professor of Architecture*

Dipl.Arch., Architectural Association (London), 1968; M.Arch., Cornell, 1971; Ph.D., 1978.

David H. Sherman *Adjunct Assistant Professor of Architecture*

B.S. Arch., University of Virginia, 1981. Architecture Project Award, New York Chapter, A.I.A., 1992.

Charles Shorter *Adjunct Associate Professor of Real Estate Development*
 B.A., Princeton, 1962; M.A., Columbia, 1970. Board Member, The New 42nd Street Corp.; Board Member, Harlem Community Development Corp.; Board Member, Executive Committee, African-American Real Estate Professionals of New York.

Robert Silman *Adjunct Professor of Architecture*
 B.A., Cornell, 1956; B.C.E., New York University, 1960; M.C.E., 1963. Fellow, Institute for Architecture and Urban Studies; Honorary member, New York Chapter, A.I.A. Fellow, American Society of Civil Engineers. Professional engineer.

Joel M. Silverman *Adjunct Associate Professor of Real Estate Development*
 B.E. (E.E.), City College of New York, 1971; P.E. (N.Y.), 1976; N.J., 1988; P.A., 1995. Member, Institute of Electrical and Electronics Engineers; New York State Society of Professional Engineers.

Julie L. Sloan *Adjunct Assistant Professor of Historic Preservation*
 B.A., New York University, 1980; M.S., Columbia, 1982.

David Smiley *Adjunct Assistant Professor of Architecture*
 B.A., Vassar, 1980; M.Arch., Columbia, 1986; M.S., Historic Preservation, Columbia, 1986. Registered architect.

Danielle Smoller *Adjunct Assistant Professor of Architecture; Coordinator of Special Programs*
 B.A., Skidmore, 1987; M.Arch., Columbia, 1991.

John H. Stubbs *Adjunct Associate Professor of Historic Preservation*
 B.S., Louisiana State, 1972; M.S.H.P., Columbia, 1974. ICCROM (Rome); Attingham (London). UNESCO Fellow; Preservation Alumni Inc. President ex officio; Salzburg Seminar Fellow/Faculty. Program Director, World Monuments Fund.

Erik D. Sun *Adjunct Assistant Professor of Urban Planning*
 B.Arch., Cornell, 1993; M.S., Urban Planning, Columbia, 1995.

Meredith H. Sykes *Adjunct Associate Professor of Historic Preservation; Co-Director, New York/Paris Program*
 B.A., New York University, 1962; M.A., Columbia, 1964. Director, Urban Cultural Resources Survey, New York City Landmarks Preservation Commission.

Abba Tor *Adjunct Associate Professor of Architecture*
 Civil Eng., Israel Institute of Technology, 1946; M.S., Civil and Structural Eng., Columbia, 1953. Fellow, American Society of Civil Engineers. Director, American Consulting Eng. Council. Registered professional engineer.

Christos Tountas *Adjunct Research Scholar*
 B.A., Harvard, 1968; M.S., Columbia, 1971; M.Phil., 1976.

Stuart Turner *Adjunct Assistant Professor of Urban Planning*
 B.A., Rutgers, 1961; M.A., 1965. Member, American Institute of Certified Planners, Urban Land Institute. Licensed professional planner, New Jersey.

Lauretta Vinciarelli *Adjunct Associate Professor of Architecture*
 Arch., Urban Planning Doctorate, Rome, 1970. Member, Italian Institute of Architects. Registered architect.

Mark C. Walker *Adjunct Assistant Professor of Urban Planning*
 B.S., University of Oregon, 1982; M.S., Urban Planning, Columbia, 1986. William Kinne Fellow, 1986. Member, American Planning Association, American Institute of Certified Planners.

Martin Weaver *Adjunct Associate Professor of Historic Preservation; Director, Center for Preservation Research*

Dipl., Architectural Association (London), 1961. Life member, Association for Preservation Technology.

Michael Webb *Adjunct Assistant Professor of Architecture*
Poly Diploma, Polytechnic of Central London, 1972.

Carl Weisbrod *Adjunct Assistant Professor of Real Estate Development*
B.S., Cornell, 1965; J.D., New York University School of Law, 1968.

Norman R. Weiss *Adjunct Associate Professor of Historic Preservation*
B.A., New York University, 1968. President, Center for Building Conservation. Senior lecturer, RESTORE. Fellow, American Institute for Conservation. Life member, Association for Preservation Technology.

Carol Willis *Adjunct Assistant Professor of Architecture*
B.A., Boston University, 1971; M.A., 1976; M.Phil., Columbia, 1979. Smithsonian Fellow, 1983-1984; Design Arts Grant, National Endowment for the Arts; Vice-President, New York Chapter, Society of Architectural Historians.

Charles Wolf *Adjunct Assistant Professor of Architecture*
B.A., Washington University, 1979; M.Arch., Oregon, 1983. Dinkeloo Fellow, 1986. Registered architect.

Anthony C. Wood *Adjunct Assistant Professor of Historic Preservation*
A.B., Kenyon College, 1976; Historic Deerfield Fellow, 1976; M.U.P., University of Illinois, 1978. Chairman, Historic Districts Council; President, Friends of the Upper East Side Historic Districts; New York State Advisor, National Trust for Historic Preservation.

Deborah Wright *Adjunct Assistant Professor of Real Estate Development*
A.B., Harvard, 1979; J.D., M.B.A., Harvard, 1984. Member, New York Bar Association; African-American Real Estate Professionals of New York; New York City Planning Commission.

Robert D. Yaro *Adjunct Professor of Urban Planning*
B.A., Wesleyan, 1971; M.C.R.P., Harvard, 1976. Senior Vice President, Regional Plan Association.

Todd Zwigard *Adjunct Assistant Professor of Architecture*
B.Arch., Cornell, 1982.

Emeriti and Retired Officers

James Marston Fitch *Professor Emeritus of Architecture*

Romaldo Giurgola *Ware Professor Emeritus of Architecture*

Cyril Harris *Professor Emeritus of Architecture and Electrical Engineering*

Alexander Kouzmanoff *Professor Emeritus of Architecture*

Jan Hird Pokorny *Professor Emeritus of Architecture*

Charles J. Rieger *Professor of Architecture, Retired*

Theodor K. Rohdenburg *Professor Emeritus of Architecture*

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*

Administrative Officers and Staff

Office of the Dean

Dean of the Graduate School of Architecture, Planning, and Preservation

Bernard Tschumi

402 Avery; 854-3473

The dean is the principal representative of the School to the University, the public, and other institutions. The dean serves as the School's chief executive officer and is immediately responsible for its academic programs, including maintaining a faculty of academic excellence, overseeing its curriculum, its rules and regulations, and insuring a smooth administrative operation. He is also responsible for financial budgeting and development of the School and its centers. He oversees alumni relations.

Executive Assistant to the Dean, Director of Alumni Relations

David Hinkle

401 Avery; 854-3473

The executive assistant to the dean coordinates the activities of the Office of the Dean. Appointments with the dean should be scheduled with him. He maintains all records of the dean's office, as well as those of the faculty of the GSAPP, and handles affirmative action. He is responsible for scheduling all schoolwide meetings and events and handles the assignment of teaching assistantships and readerships. He coordinates all school special events.

Administrative Aide, Dean's Office

Selina Hedigan

402 Avery; 854-3473

The administrative aide provides assistance to the dean and the executive assistant to the dean. Facilities and maintenance problems should be reported to this office. She coordinates the mailing of School publications.

Associate Dean for Admissions, Financial Aid, and Student Affairs

Loes Schiller

400 Avery; 854-3510

The associate dean for admissions, financial aid, and student affairs is responsible for all matters pertaining to admissions, registration, student records, class schedules, financial aid, and administration of Kinne Awards. Her office handles all questions pertaining to student affairs: loan and work-study applications, course and program requirements, graduation, etc. The associate dean also participates in certain schoolwide committees. She is responsible for the management of all office personnel, and liaison with the University Personnel Office regarding grading, salary, and negotiating for work-study personnel. She advises students throughout the year about their academic course requirements. She reviews and authorizes transcripts for graduation.

Student Affairs Officer

Regine Temple
400 Avery; 854-3510

The student affairs officer assists the associate dean for admissions in all matters pertaining to admissions, financial aid, and student affairs. She is responsible for all student records and course information. Students should go to her with all problems about academic affairs: change of grades, registration problems, housing, course information, etc. The student affairs officer also handles all admissions information.

Business Officer

Barbara Jones
406 Avery; 854-3511

The business officer handles budget and finance for the School. Students should go to her about payroll and fees (blueprint, darkroom, and class handouts such as readers).

Director, Temple Hoyne Buell Center for the Study of American Architecture

Joan Ockman
300-level, Buell Hall; 854-8165

The director of the Buell Center is responsible for guiding and coordinating programs of symposia, seminars, dissertation fellowships, exhibitions, and fundraising for the Center as they are developed in conjunction with the dean and the Center's board of advisers.

Editor, *Newsline*

Stephen Perrella
400 Avery; 854-3414

The editor of *Newsline* oversees the production of the School's newsletter. He also serves as managing editor of the School's publication, *Documents*.

Managing Editor, Publications Office

Tony Wong
403 Avery; 854-5885

The managing editor serves as managing or assistant editor for various School publications, including *Newsline* and *Documents*. He oversees the day-to-day activities of the publications office.

Development Officer

Mary Jacobs
405 Avery; 854-1821

The development officer is responsible for fundraising in the School, is the liaison between the School and the University Office of Development, and coordinates the writing of grant proposals, publicly funded research, and scholastic fund drives.

Receptionist

Dana Weed

400 Avery; 854-3414

The receptionist has information on how best to get in touch with faculty and staff (telephone numbers and addresses of offices and residences, office hours, etc.). The receptionist is also in charge of audio-visual equipment and miscellaneous items such as first-aid materials. Audio-visual equipment must be reserved in advance with the receptionist, who also handles room reservations for reviews, special lectures, etc., and is in charge of locks and keys.

Directors

Aside from general administrative and teaching duties, directors advise the dean on overall policies, program planning, admissions, and pedagogical matters. They are responsible for coordinating and supervising the curriculum for studio or courses, and for monitoring pass/fail procedures in consultation with the faculty. Directors also coordinate with other programs in the School, meet and advise faculty and students, and make recommendations to the dean for the employment of instructional staff. Each director belongs to the Director's Committee.

M.Arch. Core Studios: Thomas Hanrahan, 504 Avery, 854-1587

M.Arch. Advanced Studios: Stanley Allen, 407 Avery, 854-5021

M.S. in Advanced Architectural Design: Stanley Allen, 400 Avery, 854-5931

M.S. in Urban Design: Richard Plunz, 414 Avery, 854-1816

M.S. in Urban Planning: Lionel McIntyre, 413 Avery, 854-3513

M.S. in Historic Preservation: Robert Stern, 411 Avery, 854-3518

M.S. in Real Estate Development: Charles Reiss, 409 Avery, 854-3046

New York/Paris Program: Danielle Smoller, Meredith Sykes, 414 Avery, 854-4344

Sequence Directors (M.Arch. Program)

In addition to teaching, sequence directors are responsible for the organization and coordination of the courses given in their field.

History/Theory Sequence Director: Kenneth Frampton, 854-2444

Building Technologies Sequence Director: Anthony Webster, 854-3596

Computer Studies Sequence Director: Eden Muir, 854-3414

Administrative Assistants for Programs

Administrative assistants for programs are responsible to their program director(s) and for the daily operations of their program. They oversee the preparation of all course material, official notices, and memoranda, and assist faculty with regard to their classes and course handouts. The administrative assistants also deal with student and faculty inquiries, requests, complaints, etc., and monitor all appointments made by their director(s).

Administrative Assistant, Architecture Programs: Sylvia Garfinkle-Huff, 404A Avery, 854-2444

Administrative Assistant, Urban Planning: Sonia Park, 413A Avery, 854-3513

Administrative Assistant, Historic Preservation and Real Estate Development: Shirley Driks, 411A Avery, 854-3518

Shape of Two Cities: New York/Paris

Directors

New York: Danielle Smoller

Paris: Meredith Sykes, Atelier Columbia, 4 rue de Jarente, 75004 Paris, France

The directors develop the program's curriculum and admissions policies in consultation with the dean of GSAP and the program's faculty, and serve as academic advisers to the students.

Avery Architectural and Fine Arts Library

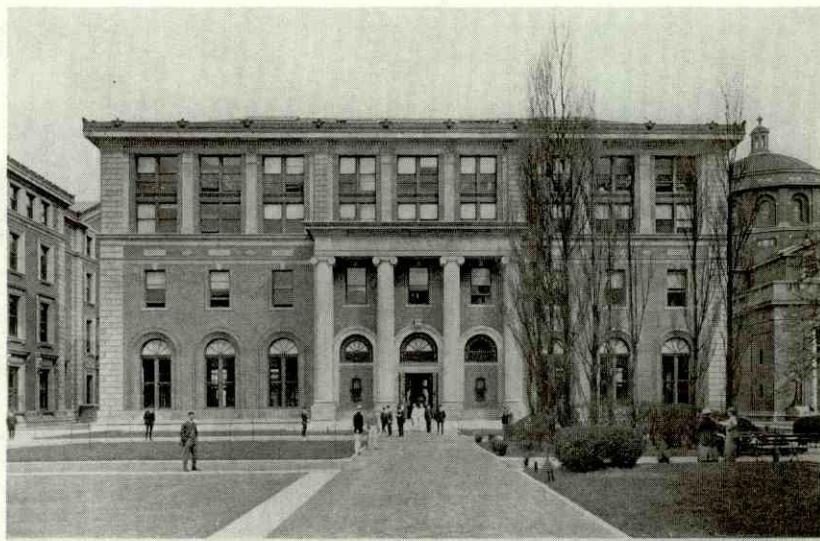
Name	Title	Office	Phone
Tony Arboleda	Evening and Weekend Desk Clerk	220B Avery	854-2425
Kitty Chibnik	Head of Access and Support Services	229 Avery	854-3506
Kate Chipman	Indexer/Reference Librarian	237 Avery	854-8408
Chris Dumas	Secretary to the Director	228 Avery	854-6746
Paula Gabbard	Fine Arts Bibliographer	232 Avery	854-6745
Angela Giral	Director	230 Avery	854-3068
Alvin Gonzalez	Monographs Assistant	231 Avery	854-8419
Ted Goodman	Avery Index General Editor	237B Avery	854-8407
Dan Kany	Assistant to the Curator of Drawings and Archives	121 Avery	854-4110
Katie Keller	Indexer/Reference Librarian	237 Avery	854-8406
Stephen Leeds	Access Services Supervisor	220B Avery	854-2425

100 ADMINISTRATIVE OFFICERS AND STAFF

William O'Malley	Architecture Bibliographer/Acting Rare Books Curator	232 Avery	854-3982
Sueyoung Park	Architectural Drawings Cataloger	121 Avery	854-6759
Janet Parks	Curator of Drawings and Archives	121 Avery	854-6738
Sviatoslav Podstavsky	Editorial Assistant/ Avery Index	237 Avery	854-8405
Christine Sala	Indexer/Reference Librarian	237 Avery	854-4629
Christopher Sawyer	Rare Books Assistant	234 Avery	854-8409
Charles Schultz	Serials Assistant	231 Avery	854-3501
Barbara Sykes-Austin	Indexer/Urban Planning Bibliographer	237 Avery 232 Avery	854-8907
To be announced	Daytime Desk Clerk	220B Avery	854-2425
Richie Walters	Shelving Supervisor	220B Avery	854-6199

At the School

1 Avery Hall, designed by
McKim, Mead and White, c. 1912
2 Avery Hall, 400 Level



1



2

3 Avery Library
4 Relaxing between classes
5 The Center for
Preservation Research



3



4





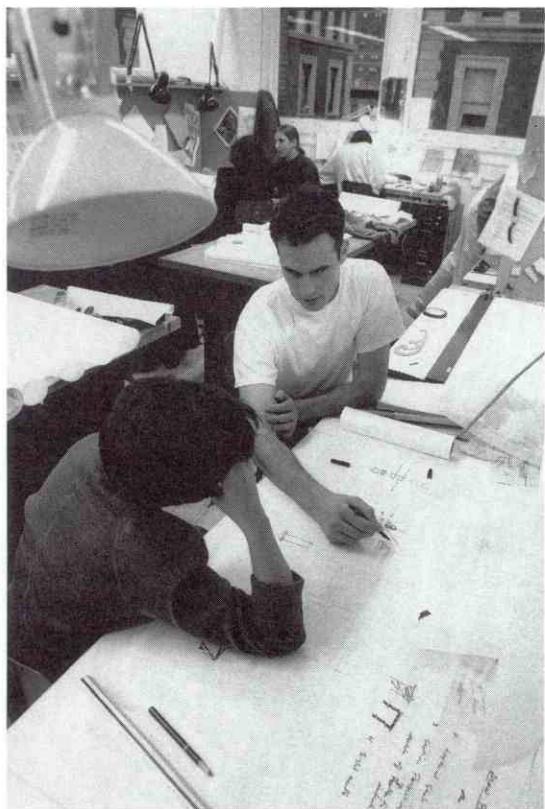
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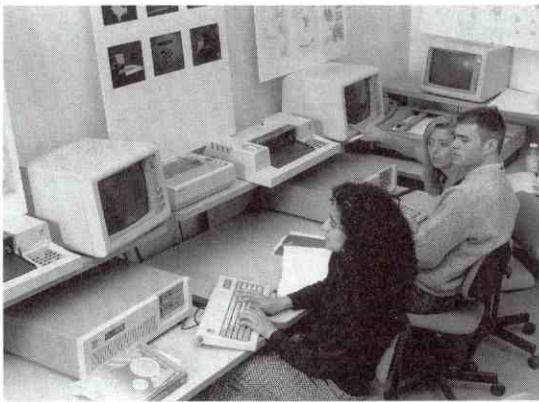
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9 Avery Hall, work in the studios
10 The Computer Laboratory



9



10

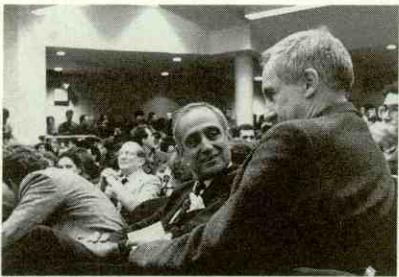
11 Final Design Studio Juries
12 Avery Hall, the studios
13 Avery Hall's Wood Auditorium,
Wednesday Evening Lecture



11



12



13

14 Avery 100 Gallery
15 Buell Hall

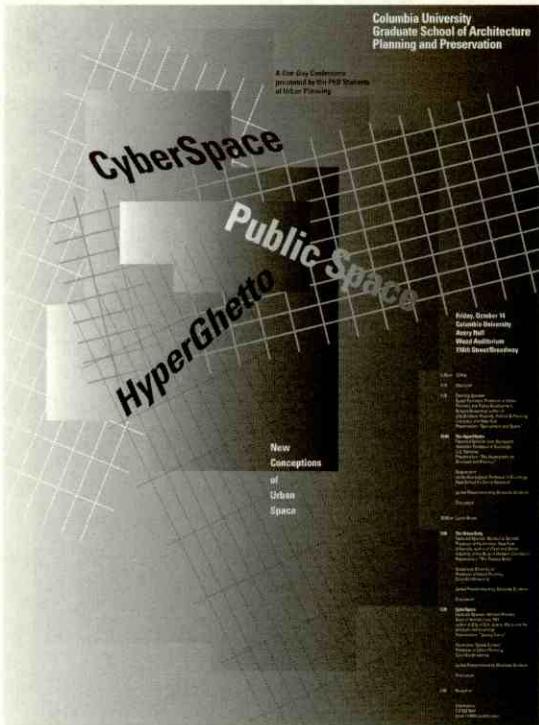


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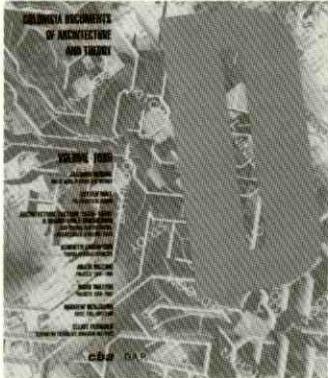


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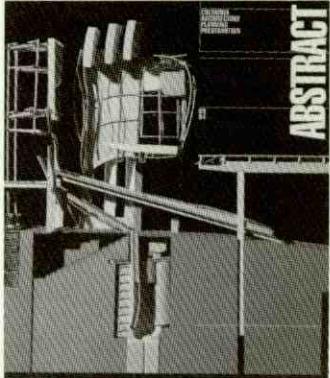
- 16 Symposium poster
- 17 *D: Columbia Documents of Architecture and Theory*
- 18 Abstract



16



17



18



Admission

OFFICE OF ARCHITECTURE ADMISSIONS: 400 Avery
Telephone (212) 854-3510

Admission Procedure

Applicants should consult the admissions requirements detailed separately for each program in this bulletin. Application packets will be sent by the Office of Admissions upon receipt of the application form, part I, in the back of this bulletin. Applications should be completed in accordance with the instructions accompanying them. It is the applicant's responsibility to collect all the supporting materials (transcripts and letters of recommendation) and to submit them in sealed envelopes. A personal statement is required of all applicants. Information on additional required supporting materials is listed below under the name of the degree offered. The Admissions Office will not accept applications or supporting materials via facsimile machine.

Application Deadlines

For Degree Candidates

Autumn term: Applications and all supporting material for the Master of Architecture Program must be received by January 15. Scholarship applications must be received by the same date.

For applications to all other programs except the Ph.D., the deadline is February 15. The deadline for the Ph.D. Programs is January 1. (See the Ph.D. Program section of this bulletin for further information.) Application materials should be requested from the Graduate School of Arts and Sciences (854-4737).

There are no spring term admissions.

For Special Students

Autumn term: Applications must be received by July 31.

Spring term: Applications must be received by December 15.

No application is 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 or she has requested and submitted have been received prior to the deadline for receipt of applications.

Deposit

Admissions decisions are mailed on April 1. An applicant who has been accepted for admission as a degree candidate is required to pay a \$500 deposit to the University within fifteen days after receiving the notice of acceptance. This deposit is applied toward tuition when the applicant registers; if the applicant does not register, the deposit is not refunded. Credit for the deposit may be extended for twelve months when an applicant fails to register because of illness. Proof of illness is required.

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

An applicant who does not accept his or her place in the School for the year admitted can reactivate the application for the following year by writing to the Office of Admissions before the admissions deadline. Readmission is not automatic.

Special Students

Professionals in fields related to architecture may be eligible to take courses in the Graduate School of Architecture, Planning, and Preservation. These students must be admitted by the Office of the Associate Dean for Admissions as *special students* (nondegree candidates). Many courses, including the design studios, drawing courses, and seminars, are not open to special students.

If at a later date a special student wishes to apply for matriculation in any of the graduate degree programs, the student must file a formal application before the stipulated deadline. The Admissions Committee does not treat the applicant preferentially.

Students who take courses as special students and are later admitted to a degree program may be awarded advanced standing for up to 6 points of work taken as a special student. Those who wish to apply for degree candidacy are therefore urged to do so at the earliest possible time.

International Students

In addition to the general admissions requirements, international 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 \$36,000 for living and tuition expenses for each academic year (early September to mid-May), plus travel money, is considered essential. Since an international 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. Note: All students with nonresident visas will be charged a fee of \$50 per term (autumn and spring) to support the University's services to international students.

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 TOEFL/TSE Service, P.O. Box 6151, Princeton, New Jersey 08541-6151, U.S.A.; telephone (609) 771-7100. Applicants are urged to make arrangements to take either the November or the February examination.

Students Applying from within the United States

Students applying from within the United States, whether nonimmigrants 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). 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 must take the English Language Placement Test (in lieu of the TOEFL) at the Columbia University American Language Program, unless exempted by GSAP. Students who are required to take the English Language Placement Test should do so as early as possible. The test can be taken during the last week of August. Test schedules are available in 505 Lewisohn.

Financial Aid for International Students

The Graduate School of Architecture, Planning, and Preservation does not provide financial aid for international students.

Students needing 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 WIX-8AB, England.

Orientation Program for New International Students

The orientation program for new international students arriving for the September term takes place during orientation week, usually either the last week in August or the first week in September. For further information, consult the International Students and Scholars Office, telephone 212-854-3587, mailing address: International Students and Scholars Office, Columbia University, Mail Code 5724, 2960 Broadway, New York, NY 10027. Students wishing to visit the ISSO are invited to stop by at 524 Riverside Drive.

The International Students and Scholars Office (ISSO) offers many services for international students as well as American citizens and permanent residents who have received their education in a foreign country. Services for international students include preadmission counseling, immigration-related and document services, International Orientation, social and cultural activities, and the International Hospitality program. The ISSO also provides credential analysis services to the admissions offices of the University. The ISSO is open year-round, and international students are urged to make use of its services during their stay at the University.

The staff of the International Students and Scholars Office is available for personal advisement and for help in learning about the campus and New York City. The staff can also help solve problems with the Immigration and Naturalization Service and assist with many other nonacademic matters. The ISSO provides information about the many international student clubs at Columbia and cultural activities in the New York area, and has reduced-rate tickets for plays, concerts, and other events.

Through arrangement with the ISSO, Columbia University's enrolled international students also currently enjoy the privilege of complimentary Affiliate Membership in International House. "I House," founded in 1924 by John D. Rockefeller, Jr., and located at 500 Riverside Drive, is a world-renowned residential community of American and international students which offers a wide, intellectually stimulating array of cultural and social programs and events.

Degree Requirements

The requirements for the various degrees are outlined in the program descriptions. In addition, the student must meet the requirements given below.

Matriculation and Facilities

Completion of degree requirements and graduation should occur no later than two years after the normal time required for completing the degree.

Students who are no longer required to register for courses but who have not graduated may maintain their status as graduate students by registering for Matriculation and Facilities, which allows them to make use of various University benefits, including health insurance, libraries, etc.

Students are exempted from the continuous registration requirement only when granted a leave of absence.

Studio Design Review

The studios are graded in the same manner as non-studio courses on the University transcript: HP (High Pass), P (Pass), LP (Low Pass), INC (Incomplete), or F (Fail). Further evaluation is an integral part of the architecture program. If a student is deemed in danger of failing in a studio term, he or she will be notified by their critic as early in the term as possible and no later than four weeks before the end of the term. Such notification will be done either by a letter from the critic or verbally in a meeting with the critic to be followed by a memo noting that such a conversation has taken place.

Under no circumstances will students be exempt from presenting their design work in the final review of a project, nor can they be kept from presenting by their critic. After this review, students will be told whether their work is judged passing, incomplete, or failing.

Only in exceptional circumstances will the grade of Incomplete be given (see *Grades*). Those students whose work is judged incomplete must satisfactorily complete the work required as stipulated by the studio critic. In some cases, a year off from school may be required before enrollment in the subsequent studio is permitted. A student may receive an Incomplete in studio at the end of the term without having been notified earlier (this would occur, for example, if a student fails to satisfy presentation requirements for the last project of a term).

After the final review of each design problem, the studio critic will inform the student verbally if he or she has not finished the work satisfactorily. Works deemed insufficient and those selected for the Archives may be retained by the critic for further evaluation by a faculty committee. The studio critic will also complete a written evaluation for each student in his or her section. A copy of these forms as well as the above-mentioned letters are kept in the student's records in the admissions office and are available to each student.

Core Studio Evaluation Procedure

In addition to the above, a Comprehensive Design Review of each student with members of the design faculty will be held at the end of *Architecture A4002—Core studio, II*. This discussion will attempt to convey briefly to each student the general feeling of the faculty about his or her design work and suggestions may be made on how to prepare for the following design studio. In those cases where the student is deemed to be having difficulty with the work, the review committee may recommend and/or require:

1. Additional design work before the student proceeds to the next term;
2. A year off from school before the student proceeds to the next term;
3. A failing grade be given for the studio, even if no warning letter was sent.

A portfolio of studio work is required, for both the first and second semesters. Original work may be used; photographic reductions are not required.

Advanced Studio Evaluation Procedure

In addition to the above, a Comprehensive Design Review of each student with members of the design faculty will be held at the beginning of *Architecture A4005—Advanced studio, V*. This discussion will attempt to convey briefly to each student the general feeling of the faculty about his or her design work, and suggestions may be made on how to prepare for their following and final term. In those cases where the student is deemed to be having difficulty with the work, the review committee may recommend and/or require:

1. Additional design work before the student proceeds to the next term;
2. A year off from school before the student proceeds to the next term;
3. A failing grade be given for the studio, even if no warning letter was sent;

A final projects overview by the faculty will take place at the end of the advanced studios. A portfolio of representative work from each semester of studio is required for both the advanced studio evaluation and the final overview.

Independent Design Option

Students entering fifth-term architecture programs who are interested in pursuing an Independent Design Option may submit proposals to the thesis committee or the director of the advanced studios. This proposal should at a minimum comprise two typed pages and should be broken down into the following sections:

1. An identification of the problem and/or study area specifying the type, the area of study, or the state of the art;
2. A conceptual critique of this material formulating the nature of the problem or brief and the envisaged scope of the work to be performed;
3. A short bibliography, annotated where necessary.

The proposal must identify a critical problem in the current practice of architecture that is capable of precise research and development and of being brought to a specific resolution in terms of a hypothetical building project.

Although the research and design stages are seen as being relatively independent in terms of procedure, the student must give indications as to how the research program may affect the built outcome.

If approved, the Independent Design Option may be developed first as independent research for credit (3 pts) in consultation with a faculty member who will serve as research tutor and a member of the advanced studios faculty who will be teaching in the spring term. This research is to be carried out while still fulfilling the standard studio requirements of the fifth term.

The design aspect of the Independent Design Option is to serve as the studio subject matter for the student who will develop the design under the supervision of the same member of the advanced studio faculty in the spring term.

Academic Standing

Students receiving a grade of F in any design course, or more than one F in nondesign courses, will be asked to withdraw. Although 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 or she has overcome the problems that have resulted in a poor record. A student with more than two non-passing grades is not considered to be in good academic standing. A limit is placed on the number of Low Pass (LP) grades permitted for credit toward a student's degree.

For Master of Architecture: No more than two LPs are permitted in any of the following categories: Design sequence, History/Theory sequence, Building Technologies sequence. A third LP in any of the above categories will not carry credit toward the degree.

For the M.S. in Advanced Architectural Design and the M.S. in Architecture and Urban Design: No more than three LPs are permitted in the entire program.

For the M.S. in Historic Preservation and the M.S. in Urban Planning programs: No more than four LPs are permitted in the entire program.

For the M.S. in Real Estate Development program: No more than two LPs are permitted in the program.

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, Planning, and Preservation. Written requests must be made by December 15 for leaves beginning in January and by August 1 for leaves beginning in September. A leave of absence assures readmission to the School provided the student complies with the terms of the leave. Leaves of absence are granted only to students in good academic standing or as required by studio faculty in the M.Arch. Program and are considered only after the student has completed two semesters in the program.

Readmission after an authorized leave of absence requires notification (by letter) to the Office of Admissions by July 1 for the autumn term and by November 15 for the spring term. Failure to give written notice on or before these dates will result in forfeiture of a place in the studio sequence; other classes may still be taken.

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 Office of Admissions by the specified deadlines for admission. Readmission is not guaranteed. Students may be required to fulfill the new degree requirements, if they are different from the ones of the student's first admission.

Registration and Expenses

Registration

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

1. The student reports to the Student Affairs Office, 400 Avery, where he or she obtains registration forms 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 forms signed.
3. Students register by telephone, using their assigned PIN number.

All students are asked to give their Social Security number when registering in the University. International students should consult the Admissions Office. Other students who do not have a Social Security number should obtain one from their local Social Security office *well in advance of registration*.

Students who are not citizens of the United States and who need authorization for a special billing of tuition and/or fees to foreign institutions, agencies, or sponsors should go to the International Student Adviser with two copies of the sponsorship letter. Special billing authorization is required of students whose bills are to be sent to a third party for payment.

Seminar Registration Procedure

Courses noted as being seminars are subject to limitations on enrollment (generally between ten and twenty students), and students are required to follow the procedure outlined below in order to apply for admission:

1. For those seminars that are overenrolled, students will be asked to submit to the professor a short curriculum vitae and a one-page description giving the reasons for their interest in the course, etc. These submissions should be turned in to the Architecture Office, 404 Avery.
2. At the end of the registration period, the professor will select the students for the course on the basis of their submissions.
3. Those selected will be processed during the change-of-program period following the registration period based on the lists prepared by the professors for each course.

Course syllabi will be available for students to examine at pre-registration and registration, listing the class schedule, readings, and projects, and giving a description of the course.

M.Arch. Studio Critic Selection Procedure (Lottery)

The students will select their studio critics in a lottery organized and run by the student representatives on the Program Council, following presentations made by the representative faculty members as to the nature of the projects to be given within each studio, together with the teaching intention, etc. Students will be asked to select their first, second, third, fourth, etc., choices and places will be assigned according to random selection, assigning students to the high-

est possible choices on their list. Reciprocal selection by critic may also be organized, if academic priorities and/or student/faculty's interests require it.

This does not apply to *Architecture A4001—Core studio, I* (autumn term): students in this studio will receive their faculty assignments on the first day of studio.

Course Evaluations

Students will be asked to fill out course evaluations for all courses. Evaluation forms will be handed out during the last week of class. The teaching assistant will collect all forms and turn them in to the Architecture office.

Student Evaluations

All studio faculty will fill out an evaluation for each student in their section. These evaluations can be picked up by the student from the Architecture office (404A Avery). A copy of the evaluation will also be kept in the student's file.

Auditing Courses

Degree candidates who are registered full-time may audit one or two courses in any division of the University without charge.

Applications require the approval of the dean of the school in which the courses are offered. For obvious reasons, elementary language courses, laboratory courses, studio courses, applied music courses, and seminars are not 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

Students who wish to drop courses or to make other changes in their programs of study must obtain approval from the Student Affairs Office on a special form. The deadline for making program changes in each term is shown in the Academic Calendar. In no case is permission to add courses granted after the last day of the change-of-program period in each term. *Failure to attend classes or unofficial notification to the instructor does not constitute dropping a course and results in a failing grade in the course.*

Tuition for courses dropped below 12 points during the change-of-program period is refunded in full. For courses dropped after the last day for change of program, no adjustment is made.

Grades

All students registered in the Graduate School of Architecture, Planning, and Preservation are graded as described below:

HP (high pass) = For a superior level of work.

P (pass) = For an acceptable level of work.

LP (low pass) = For work that meets minimal standards.

F (fail) = For work that is unsatisfactory.

The mark of INC (Incomplete) is not used except in the two cases described below:

1. At the request of a student who has satisfactorily met all the requirements for a course except for the completion of certain assigned papers, graphic presentations, or reports that the student had to postpone because of proven illness;

2. At the request of the instructor, but only in exceptional circumstances and only upon the receipt of a written petition to the office of Dean Schiller, before December 15 (autumn term) or May 5 (spring term). This petition must include two signed approvals: by the *instructor*, and by the *director* (or, alternatively, by the *dean*). This policy as stated in the rules of the School and in the bulletin will be enforced.

Authorized Incompletes must be changed to a final grade by the *first* day of registration for the spring term in the case of all autumn papers and projects, and by June 10 for all spring work. Any INC that has not been removed by the instructor by the relevant deadline will automatically turn into the grade of F. This grade *cannot* be changed to Pass; if the course is a required course, it will have to be repeated.

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 program in the Admissions Office no 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 that has been taken for R credit may not be repeated later for examination credit.

The mark of AB (absent from the final examination): granted by the instructor no 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 or her department to take a special examination. If the AB is not removed within the arranged time period, it is automatically changed to an F.

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.

Estimated Expenses

The approximate cost of attending the University for the eight months of the academic year is as follows. Following is the projected tuition for the 1996-1997 academic year.

Tuition for a 30-point program	\$20,490
Living expenses (room, board, books, clothing, laundry, travel, sundries)	<u>12,000</u>
	\$32,490

Materials

Architectural supplies for students are available at the Charrette Store in Avery Hall. The School furnishes drafting tables and stools, but students must supply their own paper, instruments, and materials. The use of power tools is strictly forbidden outside the woodshop.

Tuition and Fees

The following fees, prescribed by statute, will be in effect for 1996-1997. These fees are subject to change at any time at the discretion of the Trustees.

University charges such as tuition and fees and residence halls and board plans are due and payable in full by the date announced before the beginning of each term. The full amount of any charge may be paid when due without penalty, or payment may be made in installments. If partial payments are made, a late payment charge is assessed on amounts not paid by the due date on the initial statement received prior to registration and thereafter as indicated on subsequent statements.

It is the policy of the University to withhold diplomas, certificates, and transcripts until all financial obligations have been met. Candidates for graduation are urged to settle their accounts at least one month prior to graduation.

In the event a diploma, certificate, or transcript is withheld because of an unpaid balance, a student may be required to use a certified check, money order, or cash to release any of the aforementioned documents.

Tuition

For all courses, per point, except where a special fee is fixed	\$683
With the provision that for degree candidates the tuition for a program of 12 to 19 points shall be, per term	10,245

Health Service Fee and Medical Insurance Premium

Payment of the Health Service fee, which is merely contributory to the total cost of health service, and of the medical insurance premium is compulsory for some students and optional for others. Students for whom payment of the Health Service fee is compulsory may waive participation in one or both of the insurance plans by completing the appropriate documentation at the University Health Service. For benefits attainable under these plans, for regulations governing waiver of participation, and for other information, see *Medical Care and Insurance*, below.

HEALTH SERVICE FEE (1995-1996)

For the autumn and spring term (per term)	\$187 and 197
For the summer term	\$90

STUDENT MEDICAL INSURANCE PREMIUM (1995-1996)

For the autumn term (September 1-February 1)

Student only	\$244
Additional cost for spouse (optional)*	715
Additional cost for child/children (optional)*	357
Family coverage (optional)*	1,072

For the spring term and summer session (February 1-September 1)

Student only	\$340
Additional cost for spouse (optional)*	953
Additional cost for child/children (optional)*	476
Family coverage (optional)*	1,429

Recreational Facilities Fee

Per term (autumn, spring, or summer)	\$15
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Late Registration Fees

During late registration	\$50
After late registration	100

Application Fees

Application for admission as a degree candidate	\$60
Application for admission as a special student	20

Transcript Fee

One time only (for new students)	\$25
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*Unmarried children must be under the age of nineteen. Dependent coverage is available upon application to FIDUCIARY ADMINISTRATIVE SERVICES COMPANY, 201 East 42nd Street, New York, NY 10017. The premium for this coverage is paid directly to the company by the family student. The application is in the Health Service brochure.



International Services Charge

For students with nonresident visas	
Per term (autumn and spring)	\$50

Withdrawal and Adjustment of Fees

Any student withdrawing from the GSAP must file an official notice of withdrawal in the Admissions Office as soon as possible; any adjustment of the tuition that the student has paid is reckoned from the effective date of withdrawal. (For partial withdrawal, see *Changes in Programs of Study*, above.)

The application fees and late fees are not refundable. If the effective date of withdrawal is by September 30 (autumn term) or February 15 (spring term), health service and medical insurance fees are refundable. Special fees are refundable if notice of withdrawal is received by the office by the last day of the change-of-program period. In all cases, a withdrawal fee of \$75 will be assessed.

After the last day to change programs in each term (see *Academic Calendar*), 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 the student's written notice of withdrawal is received by the Office of Admissions.

Withdrawal Schedule

The refund percentage is as follows:

Term Week	Refund
1st Week	100%
2nd Week	90%
3rd Week	80%
4th Week	70%
5th Week	60%
7th Week	60%
8th Week	50%
9th Week	40%
After 9th Week	0%

(Note: when a term begins on a Tuesday, the term week goes from Tuesday to Monday.)

Application or Renewal of Application for a Degree

Degrees are conferred three times a year—in October, February, and May. A candidate for any Columbia degree (except the doctoral degree) must file an application with the Student Affairs Office (400 Avery) in accordance with the dates shown in the Academic Calendar. Applications received *after* the 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 must renew the application in order to graduate.

Diplomas

There is no charge for diploma preparation except in the following instances. Students requesting a name change after submitting their degree applications are charged a \$50 fee to cover the cost of reordering their diplomas. A \$50 fee is also imposed for processing duplicate or replacement diplomas after a student has graduated. Applications for replacement or duplicate diplomas may be requested by calling the Diploma Desk of the Office of Student Services, (212) 854-3937.

Name Changes

Students may change their name of record while currently enrolled in the University. There is no charge for this service. After graduation and/or attaining noncurrent status, students' names become a permanent part of their historic academic record and can no longer be changed. Questions about name changes should be directed to the Office of the Registrar, 205 Kent.

Transcripts and Certification

The Family Educational Rights and Privacy Act of 1974 as amended prohibits the release of educational records by institutions without the specific written consent of the student. Copies of official University transcripts can be obtained by writing to: Office of the Registrar, Columbia University, Philosophy Hall, Room 209, Mail Code 9201, 1150 Amsterdam Avenue, New York, NY 10027. Please include name, ID number, schools, and dates of attendance in the letter. Students may also come to 205 Kent and order records in person.

New students will be charged a one-time fee of \$25; continuing students and former students are not charged for ordering transcripts. Processing time during nonpeak periods is three to five business days, but students should allow ten days for mail delivery.

Student loan certification forms may be submitted in person or by mail to the above address. There is no charge for verification of attendance and degree status.

Medical Care and Insurance

The University has developed a program of medical care to protect and promote the health of its students. The University Health Service, on the third and fourth levels of John Jay Hall, provides students with a broad range of outpatient care with its own staff of nurses, physicians, and specialists. The Health Service plan includes medical care and psychological consultation; health education (*HealthWise*) and outreach groups organized around topics of interest to students; and an extensive program of women's health care. The Health Service has laboratory services, a dispensary, and daily clinics organized around allergies and foreign travel. The full range of services is described in the Health Service brochure issued yearly and available at registration or from the Student Affairs Office. Through its public health services, the Health Service also protects the University community from communicable diseases, as well as occupational and environmental hazards, and supports the campus ambulance service.

The *Student Medical Insurance* covers certain hospital and emergency expenses arising within the policy year. Included are maternity benefits, outpatient procedures, and certain kinds of outpatient care. Coverage for spouses and dependents is limited to \$50,000; they do not have access to the catastrophe coverage. Further details about insurance coverage can be obtained by calling the insurance coordinator at (212) 854-3286.

An additional portion of the insurance plan is the *catastrophe coverage plan* for charges in excess of other policies a student holds. Covered are all necessary medical expenses above \$25,000, up to one million dollars. (See Policy for details.)

The full Health Service fee is charged to all full-time students and to any student living in a University residence hall. All full-time and residential students are also enrolled in the Student Medical Insurance plan unless they can prove comparable coverage (see below). The Health Service fee contains the premium for basic accident coverage and the catastrophe insurance plan.

Part-time students (those registered for less than 12 points) may, if they wish, subscribe to the Health Service. If they do so, they must also subscribe to the Student Medical Insurance or prove comparable coverage. In order to subscribe to the Health Service and insurance, students must complete an enrollment form at the Health Service.

Comparable coverage may exempt a full-time or residential student who already has a health insurance policy from paying the SMI premium if he or she completes the insurance-waiver questionnaire provided during registration and if the policy described is accepted by the University as being comparable to the Student Medical Insurance program. Students who do not know the provisions of their policy or the extent of their coverage will have the SMI premium billed as a charge until they can provide information sufficient for a waiver to be granted. *In order to receive an insurance waiver at registration, the name, number, and provisions of the policy must be known.*

The costs of the Health Service and the insurance program are listed on the schedule of fees under *Tuition and Fees*, above.

Service and coverage offered, and fees for the Health Service and the insurance, change from year to year. Students are advised to consult the latest Health Service brochure (available as noted above) for a full and current description of health benefits.

New York State Law on Measles Innoculations

Under New York State law, as of September 1991, any student born after 1957 and enrolled for six or more credits must be vaccinated against measles *twice*. If you cannot prove that you have been vaccinated twice or have had the measles or are immune to them, you will not be able to register. New or readmitted students will be able to get the vaccination at registration.

Housing

The descriptions of accommodations and rates below are in effect for the 1995-96 academic year. Students can expect a rate increase for subsequent academic years.

University Residence Halls

University Residence Halls (URH) house single men and women in single or double rooms in traditional dormitory-style suites with shared kitchens, baths, and other common areas and in smaller three- or four-bedroom apartment shares.

Currently, all graduate URH housing contracts are for the academic year (250 days). The average rates for 1995-96 were \$4,000 to \$5,600 for a single student room. Utilities (excluding phone service) are included in the room charge, and all URH rooms and apartments are fully furnished.

Students applying as a couple, or with dependent children, are eligible only for Real Estate Management properties (below).

Real Estate Management Properties

Real Estate Management (REM) properties include apartments owned, managed, and serviced by the University, generally within a few blocks of the campus. Accommodations vary from studio to three-bedroom apartments, with rents based on the size of the apartment and what furnishings and/or utilities, if any, are included. These are the only University accommodations for which students with children are eligible. Many of the units are suitable for student sharing.

For single student housing, rents can range from \$345 to \$900 a month; for couples and students with children the range is \$910 to \$1,250 a month. All leases terminate on May 31 to coincide with the close of the academic year. Continuing students are offered lease renewals beginning June 1 through the next academic year.

Columbia Security operates car and foot patrols within the entire REM area, and a shuttle bus provides transportation to and from campus and other REM properties during evening hours.

Off Campus

In addition to its own accommodations, the University also maintains a student-run office, the Registry of Off-Campus Accommodations, which endeavors to help students find rooms or apartments in rental properties not owned or operated by the University. Listings are varied, change quickly, and are not inspected or approved by the University. It is therefore necessary to visit the office, in 115 Hartley, to read the listings and arrange to personally evaluate any that may be of interest. It is advisable to telephone (212) 854-2773 in advance to determine the best time for a visit to the registry.

International House, a privately owned student residence and program center near the campus, has accommodations for about seven hundred graduate students, both foreign and American. A cafeteria, recreational facilities, and varied cultural and professional programs are available to members. One hundred spaces at International House are reserved for Columbia students and are contracted through the University Residence Halls. In 1995-96, monthly rates for single rooms with shared bath ranged from \$440 to \$600; shared apartments ranged from \$625 to \$830; and studios and one-bedroom apartments ranged from \$830 to \$940.

To be eligible for admission, a student must be at least twenty-one years old and must be registered for at least 12 points. Interested students may apply through the University Residence Halls and/or directly to International House, 500 Riverside Drive, New York, NY 10027. Most of the assignments made in International House are made to direct applicants. Filing an application with both International House and University Residence Halls affords the maximum opportunity.

Students not eligible for Columbia housing should note that in addition to those in the Off-Campus Registry, postings regarding available apartments and apartment shares can be found on bulletin boards around campus and in the surrounding neighborhood. Naturally, these posting are not related to, or inspected by, the University, but they can provide an extra source of possible accommodations for the student seeking off-campus housing.

Disability-Related Services

Columbia University is committed to serving the needs of students with disabilities. Services to students with permanent or temporary disabilities are coordinated by University Student Affairs and Disability Services in support of the academic program and standards of the School. All student contact and intervention is handled by the designated liaison officer within the School: Loes Schiller, 400 Avery; (212) 854-3510.

Students must identify themselves to the liaison officer and provide current and appropriate medical or diagnostic documentation before any accommodations can be considered. In cases involving students with learning disabilities, appropriate documentation may be no more than five years old and must include a report summary and complete test battery scores.

To allow sufficient time for review of needs and implementation of accommodations, students with disabilities are encouraged to contact the liaison officer upon acceptance of the School's offer of admission to discuss their needs and plan their academic program.

Financial Aid, Awards, and Honors

General Policies

The goal of the School's program of financial assistance is to provide financial aid to U.S. citizens and permanent residents who have demonstrated need consistent with University guidelines. Financial need is met through a combination of grants and/or loans. An entering student who receives a scholarship grant should be able to meet, through a combination of the grant, loan funds, parental contributions, summer earnings, and other resources, all expenses through the academic year. The need of a student is determined by assessing all possible resources including the student's own resources, those of his or her spouse, if any, and a parental contribution where applicable. From these resources, a student's estimated expenses are deducted; the difference becomes the student's "need."

In subsequent years a student who continues to have financial need and continues to achieve a satisfactory record will qualify for a continuation of financial aid. A new application must be made each year.

A scholarship grant is applied as a credit toward tuition: one half at registration for the autumn term, the other half at registration for the spring term.

Application Procedure for University Scholarships

In order to be considered for a scholarship, applicants should submit the scholarship application of the Graduate School of Architecture, Planning, and Preservation to the Admissions Office at the time they apply to the School. The deadline for financial aid applications for *continuing students* is April 1.

A financial aid application can be considered only if it is accompanied by IRS forms 1040 from student, spouse, and parents. In view of limited financial aid resources, an applicant's assertion of self-support or emancipation is not recognized in awarding scholarship grants.

Federal Financial Aid

Students and applicants applying for any of the Federal Student Aid Programs described in this section must submit a Free Application for Federal Student Aid (FAFSA) to the Federal Student Aid Programs' Processing Center no later than February 15. Students and applicants should use estimated income figures when completing this form if a tax return has not already been filed. In addition, it is very important that the Graduate School of Architecture's school code (E00115) be entered in the School Release and Certification section of this form. A FAFSA will be mailed to all students who have indicated that they are applying for financial aid. All questions may be directed to Student Financial Services at (212) 854-7040.

Federal Stafford Loan (Subsidized)

Formerly referred to as the Guaranteed Student Loan (GSL), the Federal Stafford Loan is a federally insured, federally subsidized loan obtained through a participating lender. Graduate students may borrow up to \$8,500 a year. Repayment of interest and principal is deferred until six months after the student ceases at least half-time registration. Eligibility for a subsidized Federal Stafford Loan is limited to U.S. citizens and permanent residents who demonstrate need through submission of the Free Application for Federal Student Aid (FAFSA). Students will be advised of application procedures when they receive their financial aid award notification.

Federal Stafford Loan (Unsubsidized)

This is a non-need-based loan that allows students who are eligible for \$8,500 in subsidized Federal Stafford Loan to borrow up to an additional \$10,000 a year. Students not eligible for a subsidized Federal Stafford Loan may borrow up to \$18,500 with this loan. The total combined borrowing limit under subsidized/unsubsidized Stafford Loan is \$18,500. Interest on Unsubsidized Federal Stafford Loan funds must be paid or capitalized during in-school and deferment periods. Principal is deferred until six months after the student ceases at least half-time registration. Eligibility is limited to U.S. citizens and permanent residents who have filed a Free Application for Federal Student Aid (FAFSA). Students will be advised of application procedures when they receive their financial aid award notification.

Federal Perkins Loan

A limited amount of Federal Perkins Loan funds is available for students who are U.S. citizens or permanent residents and who demonstrate exceptional financial need. Eligible students will be notified in their financial aid award letter. Repayment of principal and interest begins nine months after the student ceases at least half-time registration. Students who are awarded funds must complete Perkins promissory notes at 210 Kent Hall.

Satisfactory Academic Progress

Students receiving any Federal Financial Aid described in this section must demonstrate satisfactory academic progress in order to retain eligibility. The standards established to determine satisfactory academic progress for Federal Financial Aid recipients are the same as those for students not receiving Federal Financial Aid. Please refer to the following sections in this bulletin: *Matriculation and Facilities, Withdrawal and Adjustment of Fees, Academic Standing, and Grades*, for specific school policy. The Committee on Student Performance is an appeals committee acting on all matters involving students with unsatisfactory academic records. Appeals may be directed to this committee through the Office of the Dean. Students who are reinstated upon appeal will automatically be reconsidered for Federal Financial Aid.

Student Employment

Federal Work-Study Program

The Federal Work-Study Program was established by Congress to aid U.S. citizens and permanent residents who need to work in order to meet school expenses. Eligibility for this program depends on financial need as determined by a federally mandated need analysis for which the FAFSA (see *Federal Stafford Loan*, above) is required. Each year Columbia students fill many on-campus positions, as well as jobs in off-campus public and nonprofit organizations, through funds allocated to this program. Employment in this program is restricted to twenty hours a week during the academic year. Students may work full-time during the summer and vacation periods. Students who will begin graduate work during the regular academic year may hold work-study positions during the summer prior to their first registration.

Withdrawal from School

Your financial aid may be affected if you withdraw from the University. According to the University's pro rata refund policy, your refund, if any, will be based on the last day of attendance. Refunded amounts will typically be credited in the following order: unsubsidized Federal Stafford Loan, subsidized Federal Stafford Loan, Federal Perkins Loan, non-federal funds. Any remaining credit balance will be refunded to the student upon written request.

Tax Withholding for Nonresident Alien Teaching Assistantship Recipients

United States tax law requires the University to withhold tax at the rate of 14 percent on fellowship grants paid to nonresident aliens that exceed the cost of tuition, books, and related classroom expenses.

Certain countries have entered into tax treaties with the United States, which may serve to reduce this rate of withholding. However, even when such a treaty applies, the student and the University must report the full amount of such excess to the Internal Revenue Service. If a student claims tax treaty benefits, he or she must also report this amount to his or her country of residence.

The International Students and Scholars Office, 524 Riverside Drive, Suite 200, (212) 854-3587, has prepared a packet of tax information that is available to students and is revised annually. The tax law is complex and may vary with regard to individual circumstances. Therefore, as the University is not in a position to offer individual tax advice, each student may also wish to consult the consulate of his or her country of residence or a qualified tax professional.

New York State Tuition Assistance Program (TAP)

Any student who can prove legal residency in New York State for the preceding year should apply for a TAP award for each term in which he or she is registered as a full-time degree candidate. The amount of this award is based on the net

taxable balance of the student's income and the income of those responsible for his or her support, as reported on the New York State income tax return for the previous calendar year.

Applications and further information can be obtained from the New York State Higher Education Service Corporation, 99 Washington Avenue, Albany, NY 12255, or from the Financial Aid Office at the GSAP.

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, Scholarships Program, 1735 New York Avenue, N.W., Washington, DC 20006. The deadline for filing applications is usually December 31.

THE AMERICAN ASSOCIATION OF UNIVERSITY WOMEN gives fellowships to women for their last year of enrollment in professional schools. The deadline date is December 15 before the final year of graduate studies. Applications can be obtained from: AAUW, 2401 Virginia Avenue, N.W., Washington, DC 20037.

NEW YORK STATE REGENTS COLLEGE TEACHING FELLOWSHIPS

Postdoctoral 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 institute of higher learning within the state upon graduation. Applications may be obtained from the New York State Higher Education Service Corporation, 99 Washington Avenue, Albany, NY 12255, and are due December 1.

PUBLIC HEALTH SERVICE FELLOWSHIPS

Postdoctoral 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, MD 20014, and are due by December 1.

Students should consult the *Foundation Directory for Grants to Individuals*, which is available in the Admissions Office.

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 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 the applicant's instructors; and particularly on the applicant's demonstrated ability and estimated potential for leadership in a 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 the fellow is enrolled. In addition fellows are 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, and to submit such a paper. Fellows of the Graduate School of Architecture, Planning, and Preservation receive elective credit for this course.

In addition to formal classes, the International Fellows have an extensive program of extracurricular activities. 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.

For information about the program and for application forms, write directly to the International Fellows Program, 1417 International Affairs Building, Columbia University, New York, NY 10027. Applications must be submitted by April 15.

Program Scholarships and Awards

William Kinne Fellows Traveling Fellowships

The School is the beneficiary of a considerable bequest from the late William Kinne that has as its purpose the enrichment of students' education through travel. Traditional procedures of disbursement include individual, non-competitive grants for summer travel for second-year architecture and first-year preservation and planning students, and a limited number of competitive fellowships for two to three months of travel open to all graduating students in the School.

The GSAP Committee on Fellowships and Awards decides each year how to disburse the annual interest of the William Kinne Fellows Trust, according to the following procedure: available funds are divided among the programs in the School, proportionate to the length of each program and the number of students enrolled.

Graduate Kinne Fellowships

Graduate Kinnes are selected by the GSAP Committee on Fellowships and Awards.

A number of competitive fellowships for travel abroad incorporating the study of architecture, including planning and other specialized aspects of architecture, are awarded annually. Any student who receives a degree from the GSAP in October, February, or May is eligible to apply. Applications are available from the Office of the Dean of Admissions and must be returned by the date specified.

Graduate Kinnes are awarded on the merit of proposals submitted. However, a student's academic record may be taken into consideration by the committee to assure that the candidate is generally responsible and can be expected to carry out the proposal he or she submitted. Applicants are encouraged to consider their proposals seriously and write them carefully. When organizing proposals, applicants should be realistic in planning their time, the distance they will travel, and the scope of research they can accomplish within these limits. A budget should be included in the proposals. Faculty members are available for consultation and advice on constructing and writing proposals.

Recipients are required to submit evidence of substantial scholarly activity after their funds have been expended. These awards are announced by the dean at graduation.

“School-Sponsored Kinne”

All M.Arch., AAD, UD, UP, and HP students are each eligible for a one-time individual, non-competitive grant for school-sponsored travel. If taken during the semester, travel must not exceed four days (including weekend) and must be under the supervision of a faculty member. Applications must be submitted to the organizing faculty member, who will return them to the dean of admissions' office. Students are required to donate copies of slides of their travels to the Avery Slide Library, and are encouraged to make presentations of slides and sketches. Also, each year some William Kinne Fellows monies are allocated to

help support organized summer and holiday group study trips internationally (under the supervision of a faculty member). Students who elect to join trips over and above their one-time allocation do so at their own expense. M.Arch. students who have not used their one-time allocation by the time they graduate will receive the equivalent dollar amount upon application. Funds can be used for travel and accommodations only. Announcements concerning summer group study are usually made at the beginning of the spring term. An insurance waiver may be required.

Architecture Program Awards

The Keimeisha Scholarship for Traditional Japanese Carpentry and Gardening Apprenticeship

This program is designed to support students who want to learn traditional Japanese carpentry and gardening as an apprentice with a master carpenter. Applicants must be graduate students of the Columbia University Graduate School of Architecture, Planning, and Preservation who expect to graduate in May of the year in which they are applying. They must be recommended by the Columbia Headquarters for Japanese Architectural Studies and Advanced Research and approved by the Board of Trustees of Keimeisha Foundation. The apprenticeship period will be from June to May. The apprentice *must* attend the special advanced program of the Kyoto Institute of Architecture in order to obtain advanced knowledge about the history and theory of Japanese Architecture. As workshops and courses are conducted in Japanese, the apprentice is expected to endeavor to learn the Japanese language. The Foundation will provide the apprentice with a monthly allowance, a round-trip airline ticket, and certain incidentals, including assistance with the language course fees.

Applications are available in December and are due in February.

Skidmore Owings Merrill Foundation Annual Fellowships

Second-year M.Arch., Advanced Architectural Design, and Urban Design students are eligible to be selected by the Architecture Committee on Fellowships and Awards for nomination to the SOM Foundation. The SOM Fellowship awards money for nine, six, and three months of travel and research. Those students selected must submit portfolios of schoolwork to the SOM Foundation Jury; the Architecture Program makes available limited monies to help in the production of these portfolios. Notices will be posted when submissions to the committee are needed. In the years 1988, 1989, 1990, 1991, 1992, 1993, and 1994, Columbia students received first prizes in the SOM Fellowship Competition.

Vincent G. Kling Scholarship

This scholarship is awarded each year to a student in the Master of Architecture Program. Selection is based on financial need and academic excellence.

Alan J. Gerber Memorial Scholarship

This scholarship is awarded each year to a student entering the second or third year of the Master of Architecture Program. The recipient is selected on the basis of financial need and design ability. The scholarship was established by Mr. and Mrs. Sheldon Gerber in memory of their son, Alan (M.Arch. '83).

Alexander Kouzmanoff Scholarship Fund

This endowment fund is sponsored by alumni and friends to honor Alex Kouzmanoff, professor emeritus after 33 years and chairman of the Division of Architecture at Columbia from 1971 to 1977. As the endowment continues to increase through contributions, so will the scholarship award. Students in the Master of Architecture Program are eligible. Selection is based on financial need and academic excellence.

Urban Planning Program

Charles Abrams Scholarship

The Charles Abrams Scholarship is a large cash award administered by the American Planning Association. It is granted to one graduate student each year from among the five universities where Charles Abrams taught: Columbia, Harvard, M.I.T., the University of Pennsylvania, and the New School for Social Research. Applications and supporting material should be submitted to the director of the Urban Planning Program by the date determined by the APA. The faculty then selects one candidate and forwards that application to the APA's Washington office.

Historic Preservation Program

The Cleo and James Marston Fitch Student Prize

The Cleo and James Marston Fitch Student Prize celebrates twenty years of preservation education at Columbia and honors its founder, James Marston Fitch. This is a cash prize awarded annually to the most promising student in historic preservation at Columbia at the completion of his or her first year. Candidates must be enrolled as full-time, first-year students in the Preservation Program and must intend to graduate from Columbia.

The candidate must submit a project done for any preservation course taken at Columbia during the autumn or spring (a design or planning project, an architectural history essay, a conservation study, etc.). Only one submission is permitted and it must have received at least a grade of HP.

The Selection Committee bases its decision on the submission and is looking for quality preservation work that shows the promise of professional excellence. A deadline for the award will be announced. Applications for the award are available in the Preservation Office. Submissions are to be made to the Historic Preservation Program's administrative assistant.

The committee will meet during the summer and will announce the winner at a reception during the autumn. The Selection Committee consists of members of the preservation faculty and representatives of Preservation Alumni, Inc.

The Questers' Scholarship

The Questers award two significant scholarships to students in the Historic Preservation Program. Scholarships have been given annually since 1973.

Real Estate Development Program

American Society of Real Estate Counselors Educational Trust Fund

Up to two \$1,000 scholarships are awarded to real estate students who may ultimately engage professionally in real estate counseling. Awards are made based on past experience, future plans, scholastic merit, and financial need.

International Council of Shopping Centers Educational Foundation

The International Council of Shopping Centers Educational Foundation gives awards and scholarships each year to eligible students in the Real Estate Development Program.

The Association of Real Estate Women Award

The Association of Real Estate Women gives a scholarship award every year to a student in the Real Estate Program.

The Starrett/HRH Scholarship Fund

The HRH Construction Corporation awards scholarships every year to students in the Real Estate Development Program.

Medals and Prizes (Schoolwide)

Medals and prizes are awarded at Commencement.

HONOR AWARDS FOR EXCELLENCE IN DESIGN

This prize is awarded at graduation each year to six to eight graduating students for the high quality of work in the design studios during their program of studies at Columbia. The award carries a \$500 prize. Additional information regarding criteria and eligibility is available in the Grants and Development Office, 405 Avery Hall.

McKIM PRIZE FOR EXCELLENCE IN DESIGN

This prize is awarded at graduation to recognize the student whose work in the Advanced Studios has been outstanding and is the highest Honor Award given

by the School for design work. It is named for Charles Follen McKim, architect of Avery Hall and benefactor of the School. The award carries a \$2,000 prize.

ALPHA RHO CHI MEDAL

Awarded annually to the student who has shown ability in leadership and who gives promise of professional merit through his or her attitude and personality.

AMERICAN INSTITUTE OF ARCHITECTS MEDAL AND CERTIFICATE

A medal awarded annually to the student who has maintained the best general standard in all departments during the entire professional course. A certificate is given to the alternate for the prize.

NEW YORK SOCIETY OF ARCHITECTS

MATTHEW DEL GAUDIO AWARD

Awarded annually to a student for excellence in design.

BUILDING TECHNOLOGIES HONOR AWARD

This prize is awarded at graduation to the student who most demonstrates an ability to incorporate building technologies into the issues of architectural design. The award carries a \$500 prize.

COMPUTER-AIDED DESIGN HONOR AWARD

This prize is awarded at graduation to a student for innovative computer programming and research in algorithmic architecture. The award carries a \$500 prize.

HISTORY/THEORY HONOR AWARD

This prize is awarded at graduation to a student in recognition of high-quality work in the History/Theory Sequence. The award carries a \$500 prize.

LUCILLE SMYSER LOWENFISH MEMORIAL PRIZE

This award is given to the graduating students who submit the best final-semester design problem in each studio section. The award carries a \$100 prize.

CHARLES ABRAMS URBAN PLANNING THESIS AWARD

Awarded annually to one or two students for an outstanding thesis completed on time. The award carries a prize of \$500.

AMERICAN INSTITUTE OF PLANNERS CERTIFICATE

Given to an outstanding graduate student in planning. The award carries a prize of \$500.

THE ROBERT C. WEINBERG AWARD

This award is sponsored by the American Institute of Certified Planners of New York City for academic excellence in urban planning.

DESIGN AWARDS IN HISTORIC PRESERVATION

The Stephen Staresnizer design prize of \$100 is annually awarded to a second-year student in the Design Concentration of the Historic Preservation Program.

HISTORIC PRESERVATION FACULTY AWARD FOR OUTSTANDING THESIS

Awarded annually to one or more students for an outstanding thesis. The award carries a prize of \$500.

REAL ESTATE DEVELOPMENT FACULTY AWARD FOR OUTSTANDING THESIS

Awarded annually to one or more students for an outstanding thesis. The award carries a prize of \$500.

Archives, Exhibitions, and Publication of Student Design Work

At the conclusion of each project in the studios, each studio critic selects at least two student projects for recording in the Archives and for possible display in revolving exhibitions within the School. The studio critic notifies each selected student and then gives their names (along with the names of the projects) to the teaching assistant, who oversees the following:

1. The works are recorded (models photographed by the archive photographer; drawings to be sent out for reduction/reproduction by the teaching assistant). In all cases the student is expected to finish the models and the drawings in such a way that they are suitable for documentation.

2. Each year in May the works are considered for display in Avery and Buell Halls.

Abstract, the yearly publication of student work in the studios of the School, is drawn from the holdings of the Archives.

Several drawings from the year-end exhibition of student work are selected by the dean, the program director, and the Avery librarian for inclusion in the permanent Avery Architectural Drawings Collection.

The School reserves the right to make a copy (photograph or print) of any work submitted for credit. Every effort will be made to produce these copies in a timely manner, but the student's work will be considered the property of the School until this process can be accomplished. The material in the Archives is not available to students for reproduction. Students are responsible for documenting their own work and for maintaining a portfolio, updated after each term.

Assistantships

Teaching assistantships and readerships are available to all matriculated students who are registered for a minimum of 12 points. Assistants help faculty members in instruction and in administration. Assignments may change from year to year; areas in which assistantships are generally given include: Design Studio (Graduate and Undergraduate); Drawing (Graduate and Undergraduate); Computers; Building Technology; History/Theory; Conservation; Photography/Darkroom; Slide Library; Model Shop; Exhibitions; Planning Workshop; Publications.

Compensation consists of a combination of tuition exemption and a stipend. Applications are made available by the Dean's Office during the spring of each year for positions in the subsequent fall term and for some full-year assistantships; applications are also solicited in the autumn term for positions available in the coming spring term.

Other Sources of Student Employment

Many part-time jobs are available for students who do not qualify for the Federal Work-Study Program. A comprehensive list of off-campus employment opportunities is maintained by the Center for Career Services, East Campus.

Wives or husbands of students may consult the center for information. Those who are interested in full-time jobs on the campus should contact the University Employment Services, 209 Dodge. Most of these jobs are clerical or secretarial in nature, usually requiring some typing and in some instances stenography as well. Regular full-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 can be obtained from the University Benefits Administration, 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 and through the Division of Special Programs.

A list of opportunities in architectural offices for summer employment and full-time employment for graduates is maintained in the Dean's Office.

Official Regulations

Reservation of University Rights

This bulletin is intended for the guidance of persons applying for or considering application for admission to Columbia University and for the guidance of Columbia students and faculty. The bulletin sets forth in general the manner in which the University intends to proceed with respect to the matters set forth herein, but the University reserves the right to depart without notice from the terms of this bulletin. The bulletin is not intended to be and should not be regarded as a contract between the University and any student or other person.

University Regulations

According to University regulations, each person whose registration has been completed is 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 the student is first registered.

The privileges of the University are not available to any student until he or she has completed registration. A student who is not officially registered for a University course may not attend the course unless granted auditing privileges (see *Auditing Courses*, above). No student may register after the stated period without obtaining the written consent of the appropriate dean or director.

The University reserves the right to withhold the privilege of registration or any other University privilege from any person with unpaid indebtedness to the University.

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 advanced standing awarded for graduate work completed elsewhere does not reduce the 60 points of residence credit required for obtaining both degrees.

The minimum residence requirement for the Master of Architecture Program is 72 points.

Religious Holidays

It is the policy of the University to respect its members' religious beliefs. In compliance with New York State law, each student who is absent from school,

because of his or her religious beliefs, will be given an equivalent opportunity to register for classes or make up any examination, study, or work requirements which he or she may have missed because of such absence on any particular day or days. No student will be penalized for absence due to religious beliefs and alternative means will be sought for satisfying academic requirements involved.

Officers of administration and of instruction responsible for scheduling of academic activities or essential services are expected to avoid conflict with religious holidays as much as possible. If a suitable arrangement cannot be worked out between the student and the instructor, they should consult the appropriate dean or director. If an additional appeal is needed, it may be taken to the Provost.

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.

Rules of University Conduct

The Rules of University Conduct (Chapter XLI of the Statutes of the University) provide special disciplinary rules applicable to demonstrations, rallies, picketing, and the circulation of petitions. These rules are designed to protect the rights of free expression through peaceful demonstration while at the same time ensuring the proper functioning of the University and the protection of the rights of those who may be affected by such demonstrations.

The Rules of University Conduct are University-wide and supersede all other rules of any school or division. Minor violations of the Rules of Conduct are referred to the normal disciplinary procedures of each school or division ("Dean's discipline"). A student who is charged with a serious violation of the Rules has the option of choosing dean's discipline or a more formal hearing procedure provided in the Rules.

All University faculty, students, and staff are responsible for compliance with the Rules of University Conduct. Copies of the full text are available at the Office of the University Senate, 406 Low Memorial Library, at the Office of Student Services, 208 Philosophy, and at the Student Activities Building, second floor.

Policy Statement on Discrimination and Harassment

The following statement was adopted by the University Senate on April 27, 1990.

As a great center of learning, Columbia University prides itself on being a community committed to free and open discourse and to tolerance of differing views. We take pride, too, in preparing the leaders of our society and exemplifying the values we hope they will uphold. These commitments are subverted by intolerance, bigotry, and harassment. Even in recent history, we must recognize race, ethnicity, religion, gender, sexual orientation, disability, and other irrelevancies

have all occasioned attacks by the ignorant, the foolish, the sick, the evil. Instead of enjoying our differences and the richness they bring to our shared lives, some have chosen to make those differences the targets of anger and hate. As a community, we are committed to the principle that individuals are to be treated as human beings rather than dehumanized by treatment as members of a category that represents only one aspect of their identity.

This University resolutely condemns conduct that makes such targets of our differences. The free exchange of ideas central to the University can take place only in an environment that is based on equal opportunity for admission to academic and other programs and to employment, and on freedom from behavior that stigmatizes or victimizes others. All decisions concerning an individual's admission to or participation in any University program must be based on that individual's qualifications, free of stigmatizing consideration of race, color, national or ethnic origin, religion, disability, gender, sexual orientation, marital status, age, or Vietnam Era or disabled veteran status. Nor will Columbia tolerate any behavior that harasses members of the community on the basis of any of these qualities. Such behavior will be regarded as a violation of standards of conduct required of any person associated with the University and will subject the person guilty of it to the full range of internal institutional discipline, including permanent separation. While mediation and consensual resolution are of course to be encouraged, we also recognize the right of all persons who believe themselves to have been the targets of such behavior to institute a formal grievance. Coercion to require them to overlook or retract their complaints fosters discrimination and harassment and is equally intolerable in our community.

It is not enough to be prepared to respond when ugliness appears. Members of a community such as ours must work preventively as well, to ensure that all our dealings with each other are marked by decency and characterized by civility. Columbia is committed to do what it can to engender mutual respect, understanding, and empathy. The University acknowledges a special responsibility to develop sensitivity to the concerns of those among us most vulnerable to discrimination and harassment.

Columbia devotes its resources to these commitments in many ways. Particularly noteworthy are the President's Committee for the Promotion of Mutual Understanding and Civility, charged with building a tolerant and vibrantly diverse community among us, and the Office of Equal Opportunity and Affirmative Action, responsible for coordinating the University's resources for responding to incidents of alleged discrimination or harassment. The Assistant Provost for Equal Opportunity and Affirmative Action is located in 402 Low Memorial Library. The telephone number of the office is (212) 854-5511.

Statement of Nondiscriminatory Policies

The University is publishing the following statements in accordance with certain Federal, State, and local statutes and administrative regulations:

Consistent with the requirements of Title IX of the Education Amendments of 1972, as amended, and regulations thereunder, the University does not discriminate on the basis of sex in the conduct or operation of its education programs of activities (including employment therein and admission thereto.) Inquiries con-

cerning the application of Title IX may be referred to the Assistant Provost for Equal Opportunity and Affirmative Action (Low Memorial Library, Room 402, Mail Code 4333, 535 West 116th Street, New York, NY 10027, telephone 212-854-5511), or to the Director, Office for Civil Rights (Region II), 26 Federal Plaza, New York, NY 10278.

Columbia University admits students of any race, color, national and ethnic origin, and age to all the rights, privileges, programs, and activities generally accorded or made available to students at the University. It does not discriminate against any person on the basis of race, color, national and ethnic origin, or age in administration of its educational policies, admissions policies, scholarship and loan programs, and athletic and other University-administered programs.

Title VI of the Civil Rights Act of 1964, as amended, prohibits discrimination against any person on the basis of race, color, or national origin in programs or activities receiving Federal financial assistance. Title VII of the Civil Rights Act of 1964, as amended, prohibits employment discrimination against any person because of race, color, religion, sex, or national origin. Executive Order 11246, as amended, prohibits discrimination in employment because of race, color, religion, sex or national origin and requires affirmative action to ensure equality of opportunity in all aspects of employment. In addition, the New York Human Rights Law, Article 15, Executive Law § 296 prohibits discrimination against any person in employment because of age, race, creed, color, national origin, disability, sex, marital status, and certain criminal offenses.

Consistent with the requirements of Section 504 of the Rehabilitation Act of 1973, as amended, and regulations thereunder, the University does not discriminate against any person on the basis of disability in admission or access to, or employment in, its programs and activities. Section 503 of the Rehabilitation Act of 1973, as amended, requires affirmative action to employ and advance in employment qualified workers with disabilities. The Americans with Disabilities Act of 1990 also prohibits employment discrimination against a qualified person with a disability, and requires the University to provide qualified applicants and employees with reasonable accommodations that do not impose undue hardship.

The Equal Pay Act of 1963 prohibits discrimination on the basis of sex in rates of pay. The Age Discrimination in Employment Act of 1967, as amended, prohibits discrimination in employment on the basis of age. The Age Discrimination Act of 1975 prohibits discrimination on the basis of age in programs and activities receiving Federal financial assistance.

Section 313 of the New York Education Law, as amended, prohibits educational institutions from discriminating against persons seeking admission as students to any institution, program, or course because of race, religion, creed, sex, color, marital status, age, or national origin. The New York City Human Rights Law, Title 8, § 8-107, makes it an unlawful discriminatory practice for an employer to discriminate against any person because of their age, race, creed, color, national origin, gender, disability, marital status, sexual orientation, or alienage or citizenship status. It also prohibits educational institutions from discriminating against persons in any of the above categories in the provision of certain accommodations, advantages, facilities, or privileges.

On December 1, 1978, the Columbia University Senate passed a resolution announcing its general education policy on discrimination which reaffirms the

University's commitment to nondiscriminatory policies and practices in the categories of race, color, sex, religion, national and ethnic origin, age, and handicap, as well as its policy not to discriminate on the basis of sexual orientation. The Senate reaffirmed this policy on April 27, 1990, adding the categories of marital status, alienage and citizenship, and condemning harassment on the basis of any of the above-mentioned categories.

The Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended, (38 U.S.C. 4212), prohibits job discrimination and requires affirmative action to employ and advance in employment qualified special disabled veterans and veterans of the Vietnam era.

All employees, students, and applicants are protected from coercion, intimidation, interference, or retaliation for filing a complaint or assisting in an investigation under any of the foregoing policies and laws.

The University's Office of Equal Opportunity and Affirmative Action has been designated to coordinate the University's compliance activities under each of the programs referred to above. Any employee or student who believes that he or she has been denied equal opportunity should contact this Office, which will informally investigate complaints and offer advice and counsel on questions relating to equal opportunity and affirmative action, including information about applicable formal grievance procedures and agencies where complaints may be filed.

Discrimination Grievance Procedure

The University's Discrimination Grievance Procedure is available to enrolled students who feel that they have been the victims of sexual harassment or discrimination on the basis of race, religion, national or ethnic origin, sex, sexual orientation, marital status, age, handicap, or Vietnam Era or qualified special disabled veteran status. A copy of the Procedure is available in the Office of Equal Opportunity and Affirmative Action, 402 Low Memorial Library (854-5511).

A complaint under this procedure is initiated through completion of a Discrimination Complaint Form, also available in the Equal Opportunity Office. Staff in that office will assist in completing the form and are also available for confidential counseling and informal investigation of discrimination claims.

Right to Work Done in School

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 models—whether submitted by graduates or by students in residence. The material in the Archives is not available to students for reproduction. Students are responsible for documenting their own work and for maintaining a portfolio, updated after each term.

Columbia University Ombuds Office

The Ombuds Officer is a neutral complaint-handler who seeks fair and equitable solutions to problems. The Ombuds Office serves the entire Columbia University community. In considering any given instance or concern, the rights of all parties that may be involved, along with the welfare of the University, are taken into account.

The Ombuds Office is a safe and confidential place to voice concerns. No formal permanent records of individual cases are kept, except anonymous aggregate statistical data on the categories of complaints or inquiries. The Ombuds Officer will not report the names of callers or visitors or the specific content of problems reported unless permission is granted, or in the very rare instance in which there is reasonable cause to believe that the safety of the caller or others may be endangered.

Except in emergencies, the Ombuds Officer does not take action or investigate an issue without the permission of the person who introduced the information to the Ombuds Office. The Ombuds Officer will listen, offer information about Columbia University policies and procedures, present a range of options for resolving a problem, or help find ways to convey information while maintaining the confidentiality of the source.

The Ombuds Officer may conduct an informal, impartial investigation or facilitate a resolution upon request. However, the Ombuds Officer does not arbitrate or adjudicate. The Ombuds Officer has no power to establish, change, or set aside any University rules or policies. However, the Ombuds Officer is a resource for administrators and, when appropriate, may make recommendations or propose general changes in existing practices to correct problem areas or stimulate discussion of issues affecting the University community.

The Ombuds Office supplements, but does not replace, the existing resources for conflict resolution and fair practice available at Columbia University. The Ombuds Office is independent of existing administrative structures and reports directly to the President of the University.

For further information, contact Marsha Wagner, Ombuds Officer, or Lise Afoy-Campbell, Administrative Assistant, in 659 Schermerhorn Extension; telephone: (212) 854-1234; fax: (212) 932-3712; e-mail: ombuds@columbia.

Protection Against Sexual Harassment

Policy Statement on Sexual Harassment

Federal Law [Title VII of the Civil Rights Act of 1964] provides that it shall be an unlawful discriminatory practice for any employer, because of the sex of any person, to discharge without just cause, to refuse to hire, or otherwise to discriminate against that person with respect to any matter directly or indirectly related to employment. Harassment of any employee on the basis of sex violates this federal law.

To help clarify what is unlawful sexual harassment the Federal Equal Employment Opportunity Commission has issued Guidelines on the subject. While the EEOC Guidelines apply only to faculty and other employees, the University prohibits sexual harassment of any member of the Columbia community, whether such harassment is aimed at students, faculty, or other employees, and violators will be subject to disciplinary action. Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature will constitute sexual harassment when:

1. submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment;
2. submission to or rejection of such conduct by an individual is used as the basis for academic or employment decisions affecting that individual; or,
3. such conduct has the purpose or effect of unreasonably interfering with an individual's academic or work performance or creating an intimidating, hostile, or offensive academic or working environment.

Any person who believes that he or she is being sexually harassed should seek a resolution of the problem through discussion with the person directly concerned. If this does not resolve the matter, or if there is a reluctance to deal directly with the person involved, the problem should then be brought to the attention of a member of the University Panel on Sexual Harassment. A list of current panelists is attached. Advice may also be sought from the Office of Equal Opportunity and Affirmative Action (402 Low Library; 854-5511). If these steps have not resolved the problem, the applicable University grievance procedure should be used, including the University Discrimination Grievance Procedure that is available if no other University grievance procedure is specifically applicable. No one at the University may retaliate in any way against a person who makes a claim of sexual harassment.

Charge of the University Panel on Sexual Harassment

The Columbia Panel on Sexual Harassment is composed of trusted, accessible, and sympathetic members of the University community who act as mediators. Their goal is the protection and counseling of any member of the University who is made to feel personally pressured or uncomfortable because of the behavior of

another University member who is in a position of power. Members of the Panel provide a safe, impartial, nonadversarial setting in which the problem can be considered or solved, through confidential counseling and, when requested, mediation between the complainant and the alleged harasser. The Panel thus provides guidance and protection for the accused as well, identifying false or mistaken accusations, misunderstandings, or unconscious behavior. Panel members finally become a link through which the University can take account of, and take appropriate action against, those on campus who are behaving illegally. The Panel on Sexual Harassment is thus a timely, protective, and compassionate arm of the University, one which not only sensitizes and educates the University community, but also demonstrates the University's commitment to fair treatment of all its members.

Sexual Harassment Complaint Procedures

A. Going to a Panelist

1. A complainant comes to a Panel member with a complaint, to report an incident, or to seek advice.
2. The Panel member obtains data through discussion with the complainant, but keeps no records.
3. The Panel member selects one of the counseling or mediation options suggested by his or her training.
4. If the case seems serious enough, the Panel member refers it to the Assistant Provost for Equal Opportunity and Affirmative Action.

B. Initiating a Formal Investigation

1. A formal investigation may be initiated in either of the following ways:
 - a. A complainant files a formal grievance under the applicable University grievance procedure. This step may be taken at any time, either with or without consulting a Panel member.
 - b. A Panel member, believing that further action in a particular case might be appropriate, with the permission of the complainant, consults with the Assistant Provost for EOAA and the General Counsel or their designees. Consultations among the Panel member, General Counsel, and EOAA office may also occur in a case of multiple complaints.
2. All investigatory or formal actions taken will be conducted by the University and not the Panel.

Panel Membership List

Although Panelists are identified by location, school, or administrative area on this list, each of them is in fact available to any member of the Columbia community. Persons who feel uncomfortable speaking with "their" Panelist(s) are encouraged to seek out a Panelist from elsewhere at the University.

Morningside

PROFESSIONAL SCHOOLS

Mary McLeod
Graduate School of
Architecture, Planning,
and Preservation
Associate Professor
 400 Avery
 854-8262

Jacob Thomas
Graduate School of
Business
Professor
 620 Uris
 854-3492

Steven H. Unger
School of Engineering
and Applied Science
Department of Computer
Science
Professor
 505 Computer Science
 939-7053

Kenneth Goldstein
Graduate School of
Journalism
Professor
 608A Journalism
 854-4718, 854-4150

Harold Korn
School of Law
Professor
 6W10 Law, Box B-24
 854-2667

Helene Jackson
School of Social Work
Assistant Professor
 602 McVickar
 854-7393

ARTS AND SCIENCES

(Columbia College,
 Graduate School of Arts
 and Sciences, School of
 General Studies, School
 of International and
 Public Affairs, and School
 of the Arts)

Kathy Eden
Department of English and
Comparative Literature
Professor

401A Philosophy
 854-6432

Larry Engel
School of the Arts
Director, Undergraduate
Instruction

503A Dodge
 854-1681

Eric Foner
Department of History
DeWitt Clinton Professor of
History
 620 Fayerweather, Box 16
 854-5253

David Helfand
Department of Astronomy
Professor
 1216 Pupin, Box 33
 854-2150

Martha Howell
Department of History
Professor
 612 Fayerweather, Box 22
 854-7404

CENTRAL ADMINISTRATION

Donna Badrig
Columbia College
Associate Dean
 213 Low Library
 854-4900

Joan Turner
School of International
and Public Affairs
Associate Dean
 1415 International Affairs
 854-2598

University Libraries

Angela Giral
Avery Library
Director
 230 Avery
 854-3068

Lamont-Doherty
Earth
Observatory

Rosanne D'Arrigo
Associate Research Scientist
 Tree Ring Lab
 (914) 365-8617

Nevis Laboratories

Michael Shaevitz
Professor of Physics
 (914) 591-8100, Ext. 247

Health Sciences

Carolyn Britton
College of Physicians and
Surgeons
Associate Professor of
Clinical Neurology
Neurological Institute
710 West 168th Street
305-5220

Jeanette Coy
Harlem Hospital Center
Administrator for
Professional Services
Obstetrics and Gynecology
4155 MLK Pavilion
506 Lenox Avenue
939-4341

Marion Greenup
Health Sciences
Administration
Departmental Administrator
Pediatrics
Babies Hospital South
1-104
305-7175

Debra Kalmuss
School of Public Health
Associate Professor of Public
Health
Center for Population and
Family Health
60 Haven Avenue, Level B-2
304-5234

Daniel W. Morrissey
School of Public Health
Assistant Clinical Professor
of Public Health
Bard Hall, Box 227
50 Haven Avenue
305-3989

Marlene Moss-Klyvert
School of Dental and
Oral Surgery
Associate Professor of
Clinical Dentistry
Box 20, Physicians and
Surgeons
305-3573

Patricia Murphy
School of Nursing
Assistant Professor
630 West 168th Street
305-5236

Katherine G. Nickerson
College of Physicians and
Surgeons
Assistant Clinical Professor
of Medicine
Atchley Pavilion 221
305-8039

Debra Wolgemuth
College of Physicians and
Surgeons
Professor of Genetics
630 West 168th Street
1613 Black Building
305-7900

Governance: Schoolwide and Program Committees

Schoolwide Committees

Faculty

Full faculty meetings normally take place once a year under the chairmanship of the president of the University or the provost. The faculty is responsible for approving the requirements of admissions, the programs of study, and the conditions of graduation. The faculty consists of full-time and invited part-time faculty members.

Committee on Instruction

The Committee on Instruction acts in an advisory capacity to the dean on education policy and curriculum. It is responsible under the dean and subject to approval by the full faculty for authorizing changes in course offerings. The Committee on Instruction consists of the dean, who serves as chairman; the associate dean (ex-officio), as designated by the dean; six full-time faculty members; and four elected students.

Committee on Admissions and Financial Aid

This committee determines which applicants shall be admitted in the various programs within the School. It may delegate part of its function to sub-committees. It consists of the dean and the associate dean, and all program directors. Subcommittees may include full-time as well as part-time faculty members and graduating students.

Committee on Student Performance

This committee is an appeals committee acting on matters involving (a) advanced standing and (b) students with unsatisfactory academic records.

This committee consists of the dean, the associate dean, and three members of the faculty as designated by the dean.

Committee on Fellowships and Awards

This committee acts on all matters related to student awards, scholarships, fellowships, prizes, and grants.

It may delegate part of its function to subcommittees. It consists of the dean, the associate dean (ex-officio), and all program directors.

Directors' Committee

This committee develops pedagogical policy in accordance with the overall goals of the School and the requirements set by the faculty and the various School committees. It consists of the dean, who serves as chairman, and all program directors, as appointed by the dean and confirmed by the faculty of their respective programs.

Executive Committee

This committee acts in an advisory capacity to the dean on tenure and promotional procedures within the School. The committee consists of the tenured members of the faculty.

Program Committees

Architecture Committee on Fellowships and Awards

This committee acts on matters related to student awards, scholarships, fellowships, prizes, and grants in the M.Arch., M.S. Building Design, and Urban Design programs. It also acts on the dispersal of William Kinne Fellow funds allocated to the M.Arch. Program. It decides on the method of allocation, supervises the program of M.Arch. non-competitive grants, and judges applications for the competitive graduate fellowships. It also chooses the student nominees for the SOM Foundation Fellowship Awards, and any other architectural awards.

The committee consists of the dean, architecture program directors, and three invited full-time or part-time faculty members.

Architecture Committee on Independent Design Option

Consists of the dean and Architecture Program directors.

Architecture History/Theory Committee

Consists of the dean and History/Theory faculty.

Architectural Building Technologies Committee

Consists of the dean and selected Building Technologies faculty.

Architecture Faculty

The entire architecture faculty meets once, usually close to the beginning of the term. In addition, there may be full-time faculty meetings during the term.

Architecture Program Council

The program council is an advisory body that may initiate and deliberate questions of policy concerning the goals, structures, curriculum, and programs as well

as admissions, recruitment of faculty, and operating procedures of the program. The council also makes recommendations to the Committee on Instruction regarding changes in curriculum. Matters requiring further action (e.g., changes in curriculum) are submitted directly to the dean and faculty as necessary.

The council consists of the dean, the architecture directors or their representatives, and two student members from each year of each architecture program. The student representatives are elected each year during the first or second meeting of the Studio. The representatives serve for a year.

Council meetings, announced by public notice, are open to all students in the Architecture Program; however, only elected representatives can vote. The council elects a chairperson for the year who is responsible for calling and chairing meetings, which are held on a regular basis. One of the student members will be elected as secretary to the council and will aid the chairperson of the council with the scheduling of meetings, the preparation of agenda, and the recording and posting of minutes. The agenda includes items selected by council members from students. The council is responsible for the communication of all its decisions and discussions to the student body.

Urban Planning Program Council

The program council is an advisory body that initiates and deliberates questions of policy concerning the goals, structures, curriculum, and programs as well as admissions, recruitment of faculty, and operating procedures of the program. The council also makes recommendations to the Committee on Instruction regarding changes in curriculum. Matters requiring further action (e.g., changes in curriculum) are submitted directly to the director of the program or forwarded to the dean and faculty as necessary.

The Urban Planning Program Council is composed of two student representatives from each year of the Urban Planning Program, one student from the Ph.D. Program, and at least two full-time faculty members. A student serves as the convener of the council.

Council meetings, announced by public notice, are open to all students in the Urban Planning Program; however, only elected representatives can vote. The council elects a chairperson for the year who is responsible for calling and chairing meetings, which are held on a regular basis. One of the student members will be elected as secretary to the council and will aid the chairperson of the council with the scheduling of meetings, the preparation of agenda, and the recording and posting of minutes. The agenda includes items selected by council members per students' suggestions. The council is responsible for the communication of all its decisions to the student body.

American Planning Association

Each year one faculty member and one student are chosen to serve as APA representatives. They are the liaisons between the association and the Urban Planning Program: students should contact them for any information on APA events or programs.

Urban Planning Faculty

The full-time faculty of the Urban Planning Program meets once a month, usually on Tuesday afternoons. The director of the Urban Planning Program meets with all other program directors once a month.

Historic Preservation Program Council

Four members of the program council are elected by the respective students in the first- and second-year classes. Directly after classes begin, the first-year class elects three people to represent that class.

The program council meets with the director and faculty two or three times during the course of a term. An agenda is set between the faculty and the program council before the meetings.

The stated purpose of the program council—but not limited to this purpose only—is as follows:

1. To review and advise on program curriculum planning;
2. To prepare and analyze course evaluations;
3. To bring matters of concern to students about the program to the attention of the director and the faculty.

Real Estate Student Committees

Student committees of the Real Estate Development Association are charged with both advising and administering certain activities in the program. The Lecture Series Committee assists in the operation of the Fall Lecture Series and also plans and organizes the Spring Lecture Series. The Job Placement Committee identifies potential firms for recruiting and for career discussion panels scheduled on Wednesday evenings. The Student Admissions Committee is formed in the spring term to assist in the admissions process for the following year and advise on admissions for potential candidates.

Resources of the School and New York City

Employment Information

Jobs

A job file is kept at the receptionist's desk listing job openings that are occasionally called into the office from architectural firms and related offices in and around the metropolitan area. These include full-time and temporary positions.

No recruiting is done for this job file; all listings are initiated by employers who call the office with the specific intention of hiring students or recent graduates. This means that the percentage of students usually hired from these files is very good. Not infrequently, specific qualifications are requested (e.g., third-year student; at least two years experience, etc.). Students who desire to work in architecture and related fields should drop by the office and familiarize themselves with the file.

One of the greatest resources of the School is that so many members of the faculty carry on active professional practices in and around New York City.

Center for Career Services

The Center for Career Services, East Campus, maintains an extensive listing of available jobs for undergraduates and graduates, though their file on architectural jobs is limited.

Job Fair

In the spring of each year, architecture students have run a job fair to which representatives from leading regional offices are invited for the purpose of interviewing students for summer and full-time postgraduate employment. This fair is initiated and run entirely by students. Coordination of rooms for interviews, etc., should be done through the Dean's Office.

Urban Planning Job Placement

The Urban Planning Program has its own placement center. Students seeking either part-time or postgraduate employment are urged to consult the Job Book on the north side of 400 Avery. The Urban Planning Program receives numerous job announcements and job-listing publications, which are collected. In addition, information on internships is available to urban planning students.

Historic Preservation Job Placement

Job and internship books are available in the Preservation Office. Announcements regarding job and internship opportunities are posted regularly.

Real Estate Development Job Placement

The Job Placement Committee identifies potential firms for recruiting and for career discussion panels scheduled on Wednesday evenings.

Portfolio Advising (Architecture)

Members of the design faculty are available for consultation and compiling portfolios.

Student Services

Reproduction Services

Diazo Print Machine

A print machine is located on the sixth floor of Avery Hall for use by all students enrolled in studio courses, upon payment (during registration) of an annual fee of \$18.

Photo Lab

A photo lab for student use is located in Schermerhorn Hall. Hours are posted at the beginning of each semester.

Photographic Copy Stand

A copy stand for taking slides is available. See the Avery slide librarian for assistance in using the stand.

The Microform Room

The Microform Room, 501 Butler Library, will blow up a black-and-white photographic negative to approximately 10 by 12 inches for 10 cents a copy. Hours: M-F, 9-5.

Columbia University Printing Services

Journalism Copy Center, 106 Journalism. Telephone: 854-3233. Hours: M-F, 9-5.

SIPA Copy Center, 400 International Affairs Building. Telephone: 854-3797. Hours: M-F, 8:30-8:00.

Workshop

The Workshop, located in 101 Fayerweather, provides a place to build models, model bases, and other material assemblies. The shop supervisor is in charge of the Workshop, and is responsible for general building needs. Shop hours will be posted. All students must attend a shop safety seminar at the beginning of the school year in order to be given access to the Workshop.

Food and Drink (on campus)

Tom's Kitchen on the 100-level of Avery Hall offers sandwiches, salads, soups, muffins, bagels, snacks, and beverages from 9 a.m. to 4 p.m. every weekday. The Kitchen also provides catering services for the School's special events.

Columbia University maintains dining services in three principal locations—John Jay Hall, Wien Hall, and Bard Hall—in addition to several auxiliary operations. These facilities are open to all students on a cash or contract basis, whether or not they live in University Residence Halls.

À la carte services are provided in the following locations:

Uris Deli: sandwiches, salad bar, soups, snacks, and beverages;

The John Jay Lodge: foods grilled to order, soups, a complete deli bar, a self-service salad bar, dessert items, snacks, and beverages;

SIPA Sandwich Bar: sandwiches, salads, snacks, and beverages;

Vending Machines are located outside 102 Avery.

Building Access and Security

The doors to Avery Hall are generally open during the hours Avery Library is scheduled to be open. All registered students, faculty, and employees of the School have 24-hour access to the building via the swipe-card system installed on the Avery doors, which is activated by your ID card. Problems with after-hours access should be reported to the Security Office in 111 Low Memorial Library. Precaution should be used when entering the building late at night.

Thefts are a constant problem on campus. Personal possessions are kept in the School at your own risk. Maylines and other equipment should be removed during intersession and immediately at the end of the school year. The School cannot be responsible for the loss of personal items.

Information within the School

Wall space is reserved in the following areas for posting information of particular interest to GSAP students:

1. 300-level of Avery near the elevator, and in the elevator itself. Students should check these glass boxes daily for the most recent announcements (e.g., changes in meeting places, scheduling of classes, lectures, reviews, etc.).
2. 400-level of Avery near the stairs. Information regarding grants, scholarships, and various programs and competitions.
3. At doorways to each program office (Architecture, Planning, Preservation, Real Estate, etc.).
4. 500- and 600-levels of Avery. Studio information.

Student Mailboxes

Student mailboxes for Architecture students are located on the fifth floor. Please check these boxes regularly. Important announcements and all student mail is deposited there. Boxes are arranged according to first initial of last name. All other student mailboxes are on the 4th floor.

Faculty Mailboxes

Individual faculty mailboxes are also located in the 400 Gallery. This is usually the best place to leave messages, papers, etc. for professors.

Newsline

Published five times a year, includes events and news from the School and the city. All students receive copies of each issue.

Abstract

Yearly publication of studio work of the School, drawn from the Archives. Students receive a copy at registration.

Sources of Information in New York City

In addition to this bulletin, another good source of information for Columbia students is *The Columbia Guide to New York City*, available for a small charge at the Columbia University bookstore.

Architectural Research Materials in New York City: A Guide to Resources in All Five Boroughs, by Catha Rambusch, was published by the Committee for the Preservation of Architectural Records of the Architectural League of New York. It describes the resources, hours, and facilities of some of the libraries listed below, as well as others. It is on reserve in Avery Library.

Below is a list of agencies and libraries that are sources of architectural information.

Butler Library

Butler Library is the main reference library of the University. It is possible to obtain books from other libraries through Butler's inter-library loan office.

Columbia University Libraries

The University has more than twenty libraries. A schedule of hours is posted in Avery Library, and copies may be picked up in Butler Library.

Computing Facilities

115 Computer Center; 854-3555.

Fine Arts Slide Collection

Eighth floor, Schermerhorn; 854-3044. This collection is available to architecture students who obtain a signature from their professor. Forms are available in the library.

GSAP Slide Collection

204 Fayerweather; 854-5118.

Thomas J. Watson Library

107 Uris; 854-4000. Real estate information: institutional real estate, finance, and marketing.

American Institute of Architects New York Chapter

457 Madison Ave.; 838-9670.

Jack Brouse Library

New York University Real Estate Institute, 11 West 42nd St.; 790-1300.

Citizen's Housing and Planning Council

20 West 40th St.; 391-9030.

City Planning Commission

2 Lafayette St.; 720-3276.

Brooklyn Office: 16 Court St., 7th Fl.; (718) 643-7550.

Queens Office (Long Island City): 29-27 41st Ave., 9th Fl.; (718) 392-0656.

Staten Island Office: 56 Bay St.; (718) 727-8453.

Office of Lower Manhattan Development: 2 Lafayette St.; 566-8580.

Planning and Development in Manhattan: 2 Lafayette St.; 566-0522.

Cooper-Hewitt Museum Library

2 East 91st St. (5th Ave.). Hours by appointment during the academic year. Book Library, 860-6883; Picture Library, 860-6882.

Department of Housing and Urban Development Library

26 Federal Plaza, Rm. 3500F; 264-1739.

Engineering Society Library

345 East 47th St.; 705-7611.

Institute of Public Administration

55 West 44th St.; 730-5480.

La Guardia Archives

31-10 Thompson Avenue, Long Island City; (718) 482-5065.

Municipal Archives and Records Center

Archives: 31 Chambers St., Rm. 107; 566-5292.

Records and Reference Library: Rm. 112; 566-4284.

Municipal Art Society

457 Madison Ave. (between 50th and 51st Streets); 935-3960.

Museum of Modern Art Library

11 West 53rd St.; 708-9433. By appointment only.

New York City Department of Buildings

Manhattan: Municipal Building, 1 Centre St., 20th Fl.; 566-3130.

New York Public Library

42nd St. and 5th Ave.; 661-7220.

Port Authority of New York

1 World Trade Center; 466-7000.

Pratt Institute Library

DeKalb Ave. and Hall St., Brooklyn; (718) 636-3685.

Real Estate Board of New York

12 East 41st St.; 532-3100.

School of Visual Arts Library

380 2nd Ave. (at 23rd St.); 679-7350.

The Urban Center

457 Madison Ave.; 935-3960.

Academic Calendar: 1996-1998*

The following Academic Calendar was correct and complete as of January 1, 1996; however, the University reserves the right to revise or amend it, in whole or in part, at any time. Information on the current status of the Academic Calendar or information on the 1996-1997 academic year may be obtained in the Office of the Registrar, 204 Kent; (212) 854-1458.

Major Religious Holidays

For a statement of University policy regarding holidays, see Attendance and Length of Residence under *Official Regulations*.

The Jewish and Islamic holy days begin at sundown of the preceding day. The exact dates for the Islamic holy days may vary by one or two days from the estimated dates given below.

1996-1997

Rosh Hashanah Saturday, Sunday, September 14, 15

Yom Kippur Monday, September 23

First days of Succoth Saturday, Sunday, September 28, 29

Concluding days of Succoth Saturday, Sunday, October 5, 6

Lunar New Year Friday, February 7

Id al Fitri Sunday, February 9

Good Friday Friday, March 28

Id al Adha Friday, April 18

First days of Passover Tuesday, Wednesday, April 22, 23

Concluding days of Passover Monday, Tuesday, April 28, 29

Shavuoth Wednesday, Thursday, June 11, 12

Summer Session 1996

MAY

16, 17, 20 Thursday, Friday, Monday. Registration, including payment of fees for the summer session for Advanced Architectural Design, Urban Design, and the Shape of Two Cities program.

20 Monday. Classes begin for the summer session.

27 Monday. **Memorial Day observed. University holiday.**

JUNE

26, 27 July 1 Wednesday, Thursday, Monday. Registration, including payment of fees, for the second six-week session. Students who register after these dates must pay a late fee.

*The Academic Calendar is subject to review and possible modification by the School. 1996-1998 dates are provided as complete as OFFICIAL PROPERTY OF COLUMBIA UNIVERSITY GSAPP.



JULY

4 Thursday. Independence Day. University holiday.
8 Monday. First day of classes for *Introduction to architecture*.

AUGUST

1 Thursday. Last day to file an application for October degrees and certificates. Applications received after this date will automatically be applied to the next conferral date.

Autumn Term 1996

Late registration includes payment of an additional fee.

AUGUST

27-29 Tuesday-Thursday. Registration, including payment of fees. Students allowed to register after these dates must pay a late fee.

SEPTEMBER

2 Monday. Labor Day. University holiday.

3 Tuesday. Classes begin. Late registration begins. First day to change programs and apply to audit courses.

13 Friday. Last day to (1) register for credit, (2) change programs, (3) apply to audit courses, and (4) submit notice of withdrawal to the Dean of Student Affairs for full refund of tuition and special fees. **No adjustment of fees for individual courses dropped after this date.**

OCTOBER

16 Wednesday. Conferring of October degrees and certificates. Midterm date.

NOVEMBER

4 Monday. Academic holiday.
5 Tuesday. Election Day. University holiday.
28-Dec. 1 Thursday-Sunday. Thanksgiving holidays.

DECEMBER

2 Monday. Last day to file an application for February degrees and certificates. Applications received after this date will automatically be applied to the next conferral date.

9 Monday. Classes end.

10-12 Tuesday-Thursday. Study days.

13-20 Friday-Friday. Midyear course examinations. Term ends.

21 Saturday, through January 20, 1997, Monday. Winter holidays.

Spring Term 1997

Late registration includes payment of an additional fee.

JANUARY

14-16 Tuesday-Thursday. Registration.

20 Monday. Martin Luther King, Jr., Day observed. University holiday.

21 Tuesday. Classes begin. Late registration begins. First day to change programs and apply to audit courses.

31 Friday. Last day to (1) register for credit, (2) change programs, (3) apply to audit courses, and (4) submit notice of withdrawal to the Dean of Student Affairs for full refund of tuition and special fees. **No adjustment of fees for individual courses dropped after this date.**

FEBRUARY

1* Saturday. Last day to file an application for May degrees and certificates. Applications received after this date will automatically be applied to the next conferral date.

12 Wednesday. Conferring of February degrees and certificates.

MARCH

10 Monday. Midterm date.

15-23 Saturday-Sunday. Spring holidays.

*When a deadline for degree applications falls on a Saturday, Sunday, or University holiday, the deadline moves to the *next day*.

MAY

5 Monday. Classes end.
6-8 Tuesday-Thursday. Study days.
9-16 Friday-Friday. Final course examinations. Term ends.

Commencement 1997

MAY

21 Wednesday. Conferring of degrees and certificates.

Autumn Term 1997

SEPTEMBER

2 Tuesday. First day of classes.

OCTOBER

16 Thursday. Midterm date.

NOVEMBER

3-4 Monday-Tuesday. Election Day holidays.

27-30 Thursday-Sunday. Thanksgiving holidays.

DECEMBER

8 Monday. Last day of classes.
9-11 Tuesday-Thursday. Study days.
12-19 Friday-Friday. Final examinations.

Spring Term 1998

JANUARY

20 Tuesday. First day of classes.

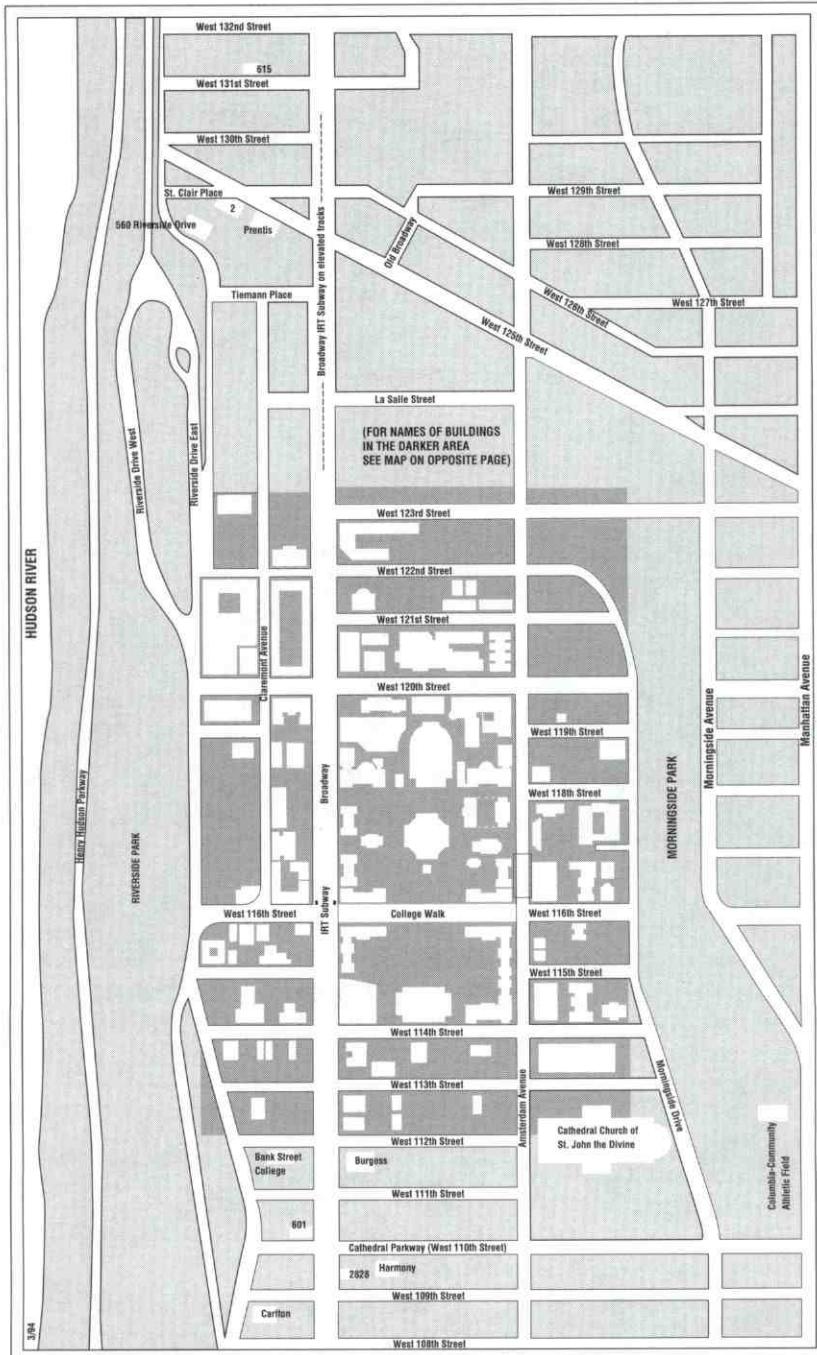
MARCH

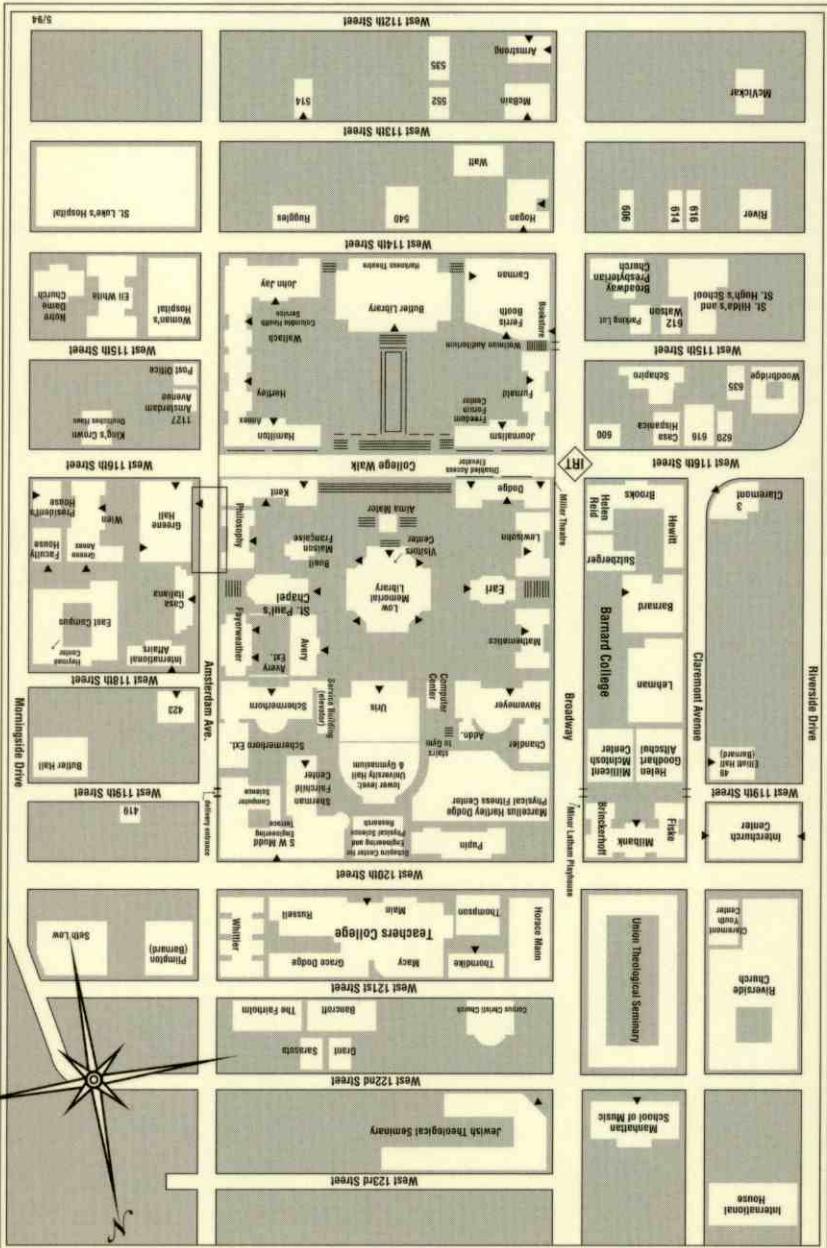
9 Monday. Midterm date.
14-22 Saturday-Sunday. Spring holidays.

MAY

4 Monday. Last day of classes.
5-7 Tuesday-Thursday. Study days.
8-15 Friday-Friday. Final examinations.
20 Wednesday. Commencement.

The Morningside Heights Area of New York City





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Columbia University

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D. B. S.