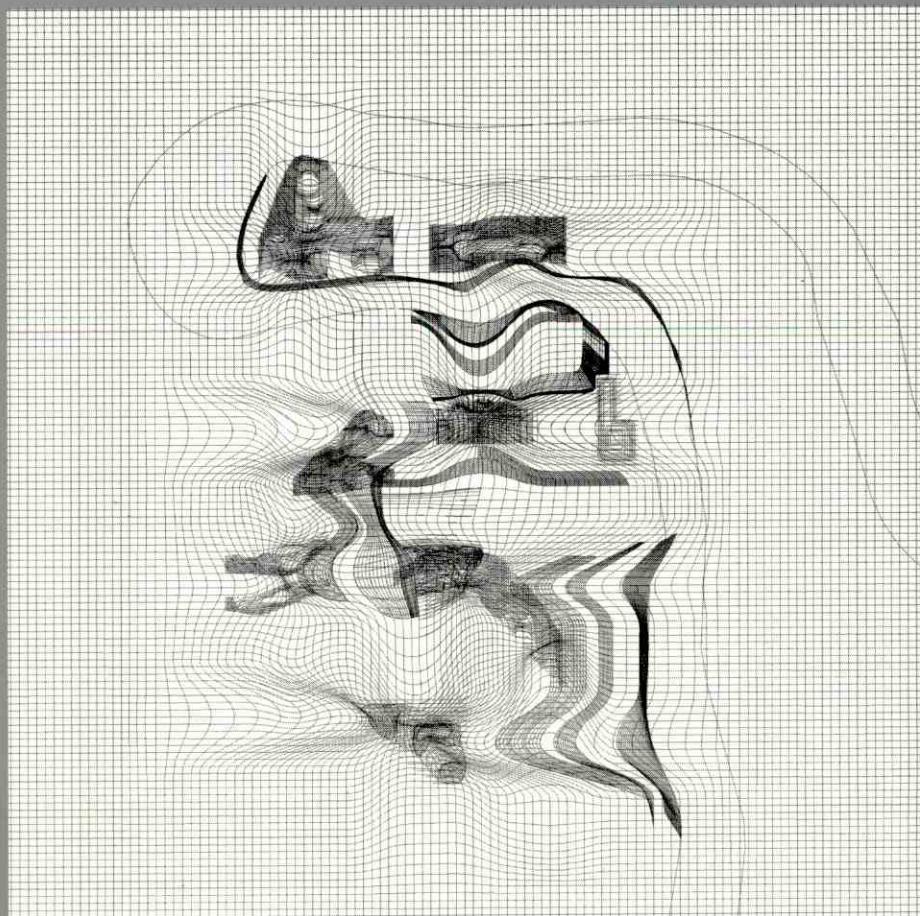


COLUMBIA
UNIVERSITY
BULLETIN
2000-2002

**GRADUATE SCHOOL OF
ARCHITECTURE
PLANNING AND
PRESERVATION**



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2000-2002**

**GRADUATE SCHOOL OF
ARCHITECTURE
PLANNING AND
PRESERVATION**

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D. H. S.

Contents

Educational Purpose	5
The Graduate School of Architecture, Planning, and Preservation	7
Programs	15
Master of Architecture Degree Program	15
Master of Science Degree in Advanced Architectural Design	28
Master of Science Degree in Architecture and Urban Design	30
The Ph.D. Program in Architecture (History and Theory)	33
Master of Science Degree in Urban Planning	36
The Ph.D. Program in Urban Planning	39
Master of Science Degree in Historic Preservation	44
Certificate in Conservation of Historic Buildings and Archaeological Sites	49
Master of Science Degree in Real Estate Development	51
Joint Degree Programs	54
The Shape of Two Cities: New York/Paris (Special Undergraduate Program)	56
Introduction to Architecture: The Summer Studio Program at Columbia	58
Columbia/Barnard Undergraduate Architecture Majors	60
Courses of Instruction	61
Architecture	62
Advanced Architectural Design	74
Urban Design	74
Historic Preservation	76
Urban Planning	81
Ph.D. Program	87
Real Estate Development	87
The Shape of Two Cities: New York/Paris	89
Faculty of Architecture, Planning, and Preservation	91
At the School	109
Admission	117
Degree Requirements	121

Registration and Expenses	125
Registration	125
Seminar Registration Procedure	125
M.Arch. Studio Critic Selection Procedure (Lottery)	125
Auditing Courses	126
Changes in Programs of Study	126
Grades	127
Estimated Expenses	128
Materials	128
Tuition and Fees	128
Application or Renewal of Application for a Degree	130
Diplomas	131
Name Changes	131
Transcripts and Certification	131
Medical Care and Insurance	132
Housing	134
Disability Services	135
Financial Aid, Awards, and Honors	136
Official Regulations	148
Protection Against Sexual Harassment	154
Governance: Schoolwide and Program Committees	157
Resources of the School and New York City	161
Academic Calendar: 2000-2002	167

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 postwar 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 chair 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 Pasanella, 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.

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.

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, animation, and multimedia 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 workstation count was over 200 in 1999.

The key to the School's digital infrastructure is the network of over 250 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 on-line 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, as well as seminars in Web and multimedia authoring.

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, Jean Baudrillard, Ben van Berkel, Marshall Berman, Mario Botta, Santiago Calatrava, Robert Caro, Nigel Coates, Beatriz Colomina, Peter Cook, Jacques Derrida, Rosalind Deutsche, Elizabeth Diller, Peter Eisenman, Sverre Fehn, Frank Gehry, Zaha Hadid, John Hejduk, Coop Himmelblau, Hans Hollein, Denis Hollier, Arata Isozaki, Philip Johnson, Fay Jones, Jeffrey Kipnis, Rem Koolhaas, Barbara Kruger, Sylvia Lavin, Daniel Libeskind, Richard Meier, Rafael Moneo, Glenn Murcutt, Jean Nouvel, Gaetano Pesce, Renzo Piano, Carme Pinós, Christian de Portzamparc, Richard Rogers, Aldo Rossi, Alvaro Siza, Philippe Starck, Anthony Vidler, and Todd Williams/Billie Tsien.

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," "Light Construction," "Conceptual Art and Architecture," "Visualizing Architecture," and "The New Times Square: Global, Local."

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," "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),” “Alvaro Siza,” “The Oblique Function: A Collaboration between Claude Parent and Paul Virilio,” “Archigram 1961–74,” “The Presence of Objects: Gaetano Pesce,” and “Sverre Fehn, Architect of Norway.”

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

Certificate in Conservation of Historical Buildings and Archaeological Sites

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 Mailman 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 CO-DIRECTORS: Ms. Laurie Hawkinson and
Mr. Michael Bell

ADVANCED STUDIOS DIRECTOR: Mr. Mark Wigley

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 (Web site: www.gre.org/atglance.html).
2. Applicants who have no prior background in architecture must complete a 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 required to complete the following course work: one term of studio in the visual arts (drawing, painting, or sculpture). In addition, a reading knowledge of a modern foreign language and a survey course in architectural history are required.

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 8½ by 11 inches and should not measure more than ½ 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	9 pts
		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
<hr/>		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 and one in Non-Western architecture, unless waivers are granted. Each term's course schedule will identify those courses fulfilling the distribution requirements.

Below is a list of History/Theory courses offered; 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	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, I	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	Studio+3 classes, 18 pts

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
A4679	Romanesque architecture: architecture and the myth of the West	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, theory and analysis	3 pts
A4374	Contemporary theory and criticism: structuralism/poststructuralism	3 pts
A4393	Antirationalist tendencies in modern architecture	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
A4454	Modernism's self-critique: European architecture in the 1930s—France, Italy, and the countries of exile	3 pts
A4459	Urban fare: a private reading of public spaces	3 pts
A4479	The culture of glass	3 pts
A4497	Technologies of organization: 1945–1965	3 pts
A4498	Theorizing modernity: 1900–1940	3 pts
A6704	Architectural biography	3 pts
A4330	Urban history	3 pts
A4410	Design attitudes in European and American urbanism: 1750–1930	3 pts
A4480	Elements of landscape architecture	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	Theory of urban planning	3 pts
A4366	Historical evolution of housing in New York City	3 pts
A4339	American architecture and urbanism before 1876	3 pts
A4341	American architecture: 1876–1976	3 pts
A6769	History of the American city	3 pts
A6785	Modernism in America	3 pts
A4342	Modern Japanese architecture	3 pts
A4344	Traditional Japanese architecture	3 pts
A4529	Colonialism/postcolonialism	3 pts

A4573	Encounters with Islam in architecture	3 pts
V3613	Buildings and cities in Japanese history	3 pts
A4468	Building traditions in sub-Saharan Africa	3 pts

III. BUILDING TECHNOLOGIES COURSE SEQUENCE

DIRECTOR: Mr. Anthony Webster

COORDINATOR FOR ELECTIVES: Mr. Robert Rogers

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 and environments, I	3 pts
A4221	Enclosures and 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 and 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 taught occasionally.

A4626	Architectural detailing	3 pts
A4627	Materials and methods in architecture	3 pts
A4629	Architectural acoustics and lighting	3 pts
A4633	The architecture of glass	3 pts
A4634	Advanced curtain walls	3 pts
A4645	Philosophy of technology	3 pts
A4659	The philosophy of materials and structures	3 pts
A4684	Sustainable design	3 pts
A4675	Theories of self-organization and the development of cities	3 pts
A4695	CNC mill study lab seminar	3 pts
A6710	Building systems integration	3 pts
A6738	Investigative techniques for historic structures	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 utilization 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 <i>or</i>	
A4534	Advanced computer-aided design in architecture	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:

A4513	Internet protocols	3 pts
A4527	Architecture and information: multimedia and interface design	3 pts
A4534	Advanced computer-aided design in architecture	3 pts
A4667	Algorithmic architecture	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.

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 58 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
		<u>18 pts</u>

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
		<u>18 pts</u>

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
		<u>18 pts</u>

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 <i>or</i>	3 pts
A4534	Advanced CAD in architecture	<hr/> 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	<hr/> 3 pts
		18 pts

Term 6 (Spring)

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

Accreditation

Most states require that an individual intending to become an architect hold an accredited degree. There are two types of degrees that are accredited by the National Architectural Accrediting Board: (1) the Bachelor of Architecture, which requires a minimum of five years of study, and (2) the Master of Architecture, which requires a minimum of three years of study following an unrelated bachelor's degree or two years following a related preprofessional bachelor's degree. These professional degrees are structured to educate those who aspire to registration and licensure to practice as architects.

The four-year preprofessional degree, where offered, is not accredited by NAAB. The preprofessional degree is useful to those wishing a foundation in the field of architecture, as preparation for either continued education in a professional degree program or for employment options in fields related to architecture.

Master of Science Degree in Advanced Architectural Design

DIRECTOR: Mr. Stanley Allen

The Program

The Master of Science 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 utilizing 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 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 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 on the twentieth-century city and contemporary theory, exclusive to the

program, provides grounding for architectural exploration in the studio. "Limited electives" are those School offerings designated as appropriate by the director. "Open electives" are graduate-level courses 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. (A minimum of 12 points must be taken each semester.)

Summer Term

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

Autumn Term

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

Spring Term

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

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 on 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 interjects 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. Recent studios have worked in Antwerp, Brussels, Caracas, Istanbul, London, Naples, Mostar, and Mexico City. 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. Graduates gain the conceptual tools with which to manage the complexities of design intervention as a catalyst for urban development.

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 post-industrial urbanism. The second-semester studio is focused in detail on the singular issue of rebuilding older urban areas within the New York region. Its seminars investigate 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 nineteenth- and twentieth-century fabrics. The seminars continue 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

A6849	Urban design studio, I	9 pts
A6836	Urban design seminar, I	3 pts
A6824	Reading New York urbanism	3 pts
		<u>15 pts</u>

Autumn Term

A6850	Studio, II	9 pts
A6837	Urban design seminar, IIA <i>or</i>	3 pts
A6832	Urban design seminar, IIB	
	Open elective	<u>3 pts</u> 15 pts

Spring Term

A6851	Studio, III	9 pts
A6838	Urban design seminar, IIIA <i>or</i>	3 pts
A4688	Urban design seminar, IIIB	
	Open 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.

Students requiring an introduction to computer modeling and multimedia techniques will be required to register for *Architecture A4528—Digital modeling for urban design* in the summer term.

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

DIRECTOR: Mr. Kenneth Frampton

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 postcolonial 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 nonarchitecture 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, Italian, or Spanish. Similar competency is required in a second foreign language drawn either from the above group or in relation to the student's area of specialization.

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, 107 Low Memorial Library, Mail Code 4304, 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 three sections described below. In addition to the doctoral semi-

nars 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. examination. 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 proseminar in architectural theory and three other doctoral seminars. Three seminars must be taken for a letter grade.

Section 2: Architectural History/Theory

Students will be required to take at least one course from the following areas of study:

1. Pre-1750 (Western or non-Western)
2. Eighteenth-Century Architecture and Theory
3. Nineteenth-Century Architecture and Theory

Section 3: 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 the M.Phil. examination, which is to be divided into three interrelated sections as follows:

1. Three revised course work papers.
2. Three essays written in response to specific questions formulated by the examining committee, two pertaining to the major field and one to the minor field. These fields are to be determined in consultation with the program faculty.
3. An oral examination based on the three papers and three essays as specified above.

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. Elliott D. Sclar

The Program

The new millennium begins with over 6 billion people inhabiting the earth. Between 4.5 and 5 billion of them live in urban settings. The speed with which the global population is growing and urbanizing presents serious problems in terms of adequate resources and environmental sustainability. Urban planners will be called upon to address these challenges. Columbia University's Graduate Program in Urban Planning prepares planners to help solve the social, physical, and spatial problems of life in an urban world.

Columbia's planning faculty consists of leading international experts in urban planning, supplemented by a core of highly regarded practicing professionals. Our students have access to experts in related fields of architecture, business, historic preservation, international affairs, law, public administration, public health, social work, and urban design. The Urban Planning Program has a balanced emphasis on the physical, economic, and social sides of planning. Our curriculum is focused upon the challenges of large-scale urbanism and social justice. Large-scale urbanism requires planning for regions where multiple millions of people live, regions that increasingly characterize much of the United States and our planet. The Columbia program strives to combine that education with an appreciation of the importance of integrating social equity and sustainable environmental concerns into the practice of urban planning.

Our location in New York City is of particular advantage for our mission. Nowhere are the international pressures engendered by rapidly spreading urbanism more pronounced than here. The city and the surrounding metropolitan region, with their jarring juxtapositions of wealth and poverty, industrial decline and office expansion, high-density living and sprawled land use, provide an ideal laboratory for all of our inquiries. New York, because of its position as a global center, is often the first to experience new urban phenomena and public policy responses. The experiences learned here are applicable in urban areas nationwide and internationally. Moreover, the city is also the locus of the greatest concentration of institutions, organizations, and individuals dealing with issues of global development and their urban implications. We make extensive use of the opportunities that this presents for our work.

A well-educated planner draws upon a knowledge base consisting of social sciences, humanities, history, technology, and urban design. 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.

Admissions

Applications are due February 15. The master's program prepares students from diverse academic backgrounds for careers as professional planners. Applicants

typically, but not exclusively, have majored in architecture, engineering, sociology, political science, geography, economics, or urban studies; many also come from backgrounds in the humanities and pure sciences. The admissions committee reviews all applicants comprehensively, considering their undergraduate academic achievements, personal statement, and related experiences. 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, NJ 08540 (Web site: www.gre.org/atglance.html). Admissions decisions are made blind of the need for financial assistance.

Program Organization and Requirements

The faculty shares a core pedagogic belief that the best professional education takes place in an environment of learning by doing, reinforced by classroom work and group projects. Planners must have a thorough understanding of the economic, social, political, and physical forces that shape the built environment. These beliefs are implemented through program offerings that include familiarity with the range of analytic and research techniques used by planners, a semester-long studio project, and courses in planning history and theory. Formal education is supplemented with varied extracurricular activities, which students are encouraged to attend. Evening guest lectures, faculty-led walking tours, the student newsletter *URBAN*, and student government meetings are some of the activities that enrich the graduate school experience and create a dynamic educational setting.

Students are required to complete 60 points for the M.S. in Urban Planning: 33 points in ten required courses and 27 points between courses in a sector specialization and electives of their own choosing. Students select a sector of specialization during their first year of study. 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 planning faculty. Four sectors are regularly offered in the Urban Planning Program: Housing; International Comparative Planning; Physical Planning and Infrastructure Development; and Urban Economic Development. The courses fulfilling the sector requirement are marked: H—Housing; I—International; E—Urban Economic Development; and P—Physical Planning, in the following course descriptions. Students may take courses offered elsewhere in the University to fulfill some or all of their sector and elective requirements. The program maintains and continually updates listings of courses throughout the University that might be of interest to our students. Each student is required to write a master's thesis during his or her second year of study.

Joint Degree Programs

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

A Typical Two-Year Program

Term 1 (Autumn)

Pl A4208	Quantitative techniques	3 pts
Pl A6290	Workshop in planning techniques	3 pts
Pl A4151	Foundations of urban economic analysis	3 pts
Pl A4112	History of urbanization and physical structure of cities	3 pts
	One elective or sector specialization	<u>3 pts</u>
		<u>15 pts</u>

Term 2 (Spring)

Pl A6001	Urban planning theory	3 pts
Pl A6911	Planning studio	6 pts
	Two electives or sector specializations	<u>6 pts</u>
		<u>15 pts</u>

Term 3 (Autumn)

Pl A6850	Thesis research design and methods (prerequisite for Pl A6918)	3 pts
	One sector specialization	3 pts
	Three electives	<u>9 pts</u>
		<u>15 pts</u>

Term 4 (Spring)

Pl A6052	Planning law	3 pts
Pl A6225	Planning policy implementation	3 pts
Pl A6918	Thesis	3 pts
	Two electives or sector specializations	<u>6 pts</u>
		<u>15 pts</u>

The Ph.D. Program in Urban Planning

DIRECTOR: Mr. Elliott D. Sclar

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 in the built environment. 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. Please note: Admission to the Master of Science Program does not guarantee admission to the Ph.D. Program.

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, Columbia University, 107 Low Memorial Library, Mail Code 4304, 535 West 116th Street, 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 theo-

ries 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 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 should be taken in the Urban Planning Department. 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 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

Each doctoral student is expected to demonstrate competence in statistical research methods as well as in research methods relevant to the topic of his or her dissertation. This requirement is intended to develop the social science, planning, and evaluation skills expected of a planning scholar. At least two courses in advanced methods are needed to fulfill this requirement.

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 will be included in the student's file. If the committee determines that the student has not satisfactorily passed, the student will 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 a 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.

Master of Science Degree in Historic Preservation

DIRECTOR: Paul Spencer Byard, Esq., F.A.I.A.

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 professional training for those who wish to be leaders in any aspect of the field. The fundamental concerns of the program are for (1) the accurate understanding of the vital contributions of surviving architecture, cityscape, and landscape to human identity, self-knowledge, and well-being; and (2) the protection of these contributions of the past through the conservation of the meanings of old structures and artifacts in their particular, inescapable contexts of change.

The Columbia program is as diverse as preservation itself. It offers training in the identification and protection of the widest range of works of design, from interiors and furnishings to entire urban and rural regions. It considers not only physical acts of protection, but also the development and application of economic and legal structures to support them. It takes a broad view of the kinds of meaning eligible for protection, with a special focus on the meanings of cultural resources and techniques for their management. Whatever the protected structure or artifact, it seeks to devise means to manage the particular effects of change by appropriate acts of conservation, addition, or adaptive use.

Columbia believes that training for the professional practice of preservation must underpin specialization with a sound footing in basic techniques and a firm grasp of theory. The program includes a core curriculum that introduces the broad range of preservation issues and techniques before students move on to concentration in one of four sectors: design, history, conservation, and preservation planning. Design focuses on the analysis of protected architecture, townscapes, and landscapes and on the development of a capacity to recognize or propose appropriate new design work. History focuses on the understanding, documentation, and communication of the meanings of significant surviving artifacts. Conservation explores resources and techniques for the analysis and stabilization of specific materials and assemblies. Preservation planning focuses on the analysis and development of legal and economic protective mechanisms for a wide range of structures, districts, and landscapes. Studio work and an original thesis are important components of the curriculum.

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 in 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 another 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, NJ 08540 (Web site: www.gre.org/atglance.html). 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 for preservation: 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 a fourth-semester preservation case study colloquium and the two-semester thesis project, students will enroll in courses totaling a minimum of 12 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

A4210	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
A6767	Preservation planning	3 pts
A4339	American architecture and urbanism before 1876	3 pts

Second Semester

A4341	American architecture: 1876–1976	3 pts
A6750	Historic preservation studio, II	4 pts
A6738	Investigative techniques for historic structures	3 pts
A6764	Conservation science	3 pts
A6734	The classical language and literature of architecture (required for history, planning, and design sectors)	3 pts
A6727	Architecture of additions: design and regulation (required for history, planning, and design sectors)	3 pts
A6777	Conservation science laboratory (required for conservation sector)	3 pts
AXXXX	Conservation sector seminar (required for conservation sector)	3 pts

Third Semester

A6751	Thesis, I	1 pt
A6762	Building pathology (required for conservation and design sectors)	3 pts
A6795	Preservation law (required for history and planning sectors)	3 pts
A6305	Historic building design workshop (required for design sector)	3 pts
AXXXX	Courses in sector of specialization and electives (for design sector)	6-15 pts 3-12 pts

Fourth Semester

A6753	Thesis, II	6 pts
A6790	Preservation case study colloquium	3 pts
A6710	Building systems integration (required for design sector)	3 pts
AXXXX	Courses in sector of specialization and electives (for design sector)	6-9 pts 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.

Certificate in Conservation of Historic Buildings and Archaeological Sites

With the increase in field work at significant archaeological sites and growth of cultural tourism, a new set of problems related to the maintenance and administration of sensitive cultural resources has emerged that experts in the field of archaeology are not prepared to deal with. Building conservators working in the field of historic preservation have, by training, the expertise to respond to the challenges presented by the deterioration of environmentally sensitive and fragile building materials. They lack, however, the training in fields such as archaeology and management by which evaluations of the significance of archaeological sites and buildings can be made. Conversely, archaeologists and managers lack training in materials science and preservation theory. Preservationists working in the fields of history, planning, or design may also lack materials science training.

In an effort to fill this gap in historic preservation training worldwide, Columbia University's Graduate Program in Historic Preservation is offering a Certificate in Conservation of Historic Buildings and Archeological Sites to individuals holding master's degrees in historic preservation or related fields, who seek a multidisciplinary approach to the conservation of archaeological sites and historic structures. Students will be able to pursue one of two tracks, focusing on the conservation of either individual historic buildings or archaeological sites. The curriculum of the certificate draws on courses already offered through the Departments of Historic Preservation, Art History and Archaeology, Anthropology, Civil Engineering, and Geological Sciences.

The Certificate in Conservation of Historic Buildings and Archeological Sites will serve two types of students. It will offer students already enrolled in the Master of Science in Historic Preservation Program the opportunity to further specialize in the field of cultural resource management. It is also available to applicants not currently enrolled in the M.S. in Historic Preservation Program, who have a master's degree (or higher) in a related field (building conservation, historic preservation, civil engineering, archaeology, geology, architecture, anthropology, etc.). All students are required to have completed a minimum of one month's field work on an archaeological site or in the conservation of a historic structure prior to commencing the course of study.

The number of credits required for completion of the certificate is 20 for students concurrently working toward their Master of Science in Historic Preservation or 24 points for students enrolled in the certificate only. Students in the master's program will be able to use courses taken toward their master's degree requirements to satisfy the requirements of the certificate. Students enrolled for the certificate will be required to be in residence for two semesters under normal circumstances.

Program Requirements

ARCHAEOLOGICAL SITES (24 POINTS)

Required:

A6318 Cultural site management
A6309 Archaeological sites: conservation and maintenance
A8790 Research problems

Electives:

A6764 Conservation science
A6777 Conservation science laboratory
A6740 Theory and practice of historic preservation
A6761 Conservation seminar: masonry
A6782 Conservation seminar: wood
A6768 Conservation seminar: metals
(GSAS) G8550 Inca art and architecture
(GSAS) G4085 Ancient Peruvian art and architecture
(GSAS) W4254 Archaeology of the American Southwest
(GSAS) G6103 Method and theory in archaeology
(GSAS) W4083 Mesoamerican architecture
(GSAS) G4158 Survey of South American archaeology
(GSAS) W4113 Introduction to mineralogy
(GSAS) W4001 Advanced general geology
(GSAS) W4223 Introduction to sedimentary geology
(EAS) E4241x Geotechnical engineering fundamentals
(EAS) E3141 Soil mechanics and foundations

BUILDING CONSERVATION (24 POINTS)

Required:

A6318 Cultural site management
A6738 Investigative techniques for historic structures
A8790 Research problems

Electives:

A6764 Conservation science
A6777 Conservation science laboratory
A6740 Theory and practice of historic preservation
A6761 Conservation seminar: masonry
A6782 Conservation seminar: wood
A6768 Conservation seminar: metals
A4210 Basic principles of traditional construction
A6712 Architectural finishes in America from 1650 to 1930
A4358 Renaissance architecture and urbanism
A4344 Traditional Japanese architecture
A4573 Encounters with Islam in architecture
(GSAS) G4355 Gothic architecture
(GSAS) W4418 Italian baroque architecture
(GSAS) G4544 French architecture

Master of Science Degree in Real Estate Development

DIRECTOR: Michael P. Buckley, F.A.I.A.

The Program

With continued business consolidation, sustained transformations in capital markets, swiftly changing demographics, and powerful new conflicts between the fast-expanding suburbs and traditional urban city centers, tomorrow's real estate developer must be capable of balancing multiple objectives with new solution methodologies. To address these challenges, the Master of Science program in Real Estate Development (REDP) at Columbia focuses on a process-oriented course format:

Concept development—including the creation of new real estate products and repositioning of underperforming real estate assets

Financial analysis—project feasibility and finance, market support, and demographic analysis

Public policy—the politics of development approvals and the evolution of public/private partnering

Enterprise management—best practices for creative management of project teams and the development process

We believe Columbia REDP is at the front edge with this process-oriented focus for real estate development, and further, that our presence in New York City offers extraordinary access to:

- Specialized faculty with real world experience
- Capital markets principals and institutional investors
- Nationally recognized developers, owners, and architects
- Exposure to Wall Street, including investment research disciplines
- Variety of building types and new product prototypes

Columbia REDP believes the next generation developer must have command of a specific development skill spectrum. Columbia REDP is committed to a differentiated curriculum, with an emphasis on the acquisition of both theoretical frameworks and practical core competencies.

The School offers an intensive one-year Master of Science degree in Real Estate Development that prepares students to enter the real estate industry. The real estate industry plays a critical role in shaping the built environment through the construction of housing, offices, commercial retail centers, and industrial sites. In addition to private wealth, real estate creates employment, tax revenues, public spaces, cultural symbols, and social environments of lasting significance. At Columbia REDP, the increasingly critical roles of government agencies, public benefit corporations, and nonprofit groups are also studied and analyzed.

The program of study provides an interdisciplinary and coordinated exposure to the major skill sets of the development process, including real estate finance, market analysis, public policy, law, construction, concept design, and asset repositioning. Students are trained for responsible positions in both the public and private sectors of the real estate industry, with particular emphasis on the skills and sensitivities necessary to develop real estate successfully in major urban areas.

Admissions

Applications for admission to the program leading to the M.S. degree in Real Estate Development are due February 15 for first round admissions. Thereafter, later applications may be accepted based on merit and individual circumstances. Applicants may hold degrees in a wide 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. 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. Information may be obtained from the Graduate Record Examination, Educational Testing Service, Box 955, Princeton, NJ 08540 (Web site: www.gre.org/atglance.html).

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 thesis immediately following the spring term, and are awarded degrees in October. In Columbia REDP courses, theory, quantitative techniques, industry best practices, and extensive case study materials are combined. Students must take 30 credits of required core courses from the Real Estate Development Program, with the rest constituting electives chosen from elsewhere within Columbia. Upon special application the electives may be increased and certain core courses waived, based on prior experience.

The final real estate development thesis project is begun during the spring term under the supervision of a faculty adviser. Final thesis 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 thesis project is due before graduation in October.

Autumn Term

PI A4312	Real estate finance, I	3 pts
PI A4538	Real estate opportunities/development process	3 pts
PI A6348	Architectural design	3 pts
PI A6350	Asset repositioning and concept development	3 pts
PI A6352	Development market analysis	3 pts
PI A6356	Construction technology and management	3 pts
PI A6568	Real estate development in the public sector	3 pts

Spring Term

PI A4314	Real estate finance, II	3 pts
PI A6330	Site planning and support systems for development	3 pts
PI A6333	Real estate law	3 pts
PI A6340	Real estate development thesis	1 pt
PI A6354	Political environment of development	3 pts
PI A6357	Current topics in real estate/Roundtable Series	2 pts
PI A8792	Research methods/field studies/Internship Program	3 pts

Internship Program

During the spring semester, REDP students have the opportunity to register in *Pl A8792—Research methods/field studies* structured as an internship. Now in the ninth year at Columbia, the Internship Program allows REDP students to select from a group of private developers, financial institutions, public agencies, consulting firms, 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.

Current Topics in Real Estate—The Roundtable Series

Each spring semester, Columbia REDP students participate in a series of topically oriented roundtable discussions with invited industry experts, developers, and financiers. The Roundtable Series also serves to explore specific development and financial issues and career opportunities in selected areas including:

- Capital markets trends and issues
- Health care and assisted living
- Trends in high density housing
- Historic tax credits and adaptive reuse
- The commercial broker's perspective
- Under the radar screen—techniques for small-scale developers
- Trends in architectural design
- Lodging industry trends—niche products and boutique hotels
- Corporate real estate—opportunities and challenges
- Globalization and international development trends
- Pension fund investments in real estate
- Merging entertainment and retail
- Information technology and E building trends
- Career tracks and strategies
- Enterprise management and new solution methodologies
- Mixed-use development trends

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 Science in 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 Joseph L. Mailman 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 Mailman 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. Karla Britton, 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 goals 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. The in-depth course of study is suited to students without previous academic experience in design who are interested in architecture, planning, or preservation as a career, students in the liberal arts who are interested in approaching urban and historical issues from an architectural and urban planning perspective, and students with previous design experience who would like to develop additional studio skills in preparation for application to graduate school. All classes are conducted in English.

The program offers a two-semester curriculum that immerses participants in the rich physical and intellectual urban environments of New York and Paris. Instruction draws on the resources of Columbia University and its faculty, and the architectural communities of New York and Paris. During the first semester, students live and study in New York and enjoy the resources of Columbia University and the Graduate School of Architecture, Planning, and Preservation. The second semester is spent in Paris at Reid Hall, Columbia University's center for French cultural studies, located in the center of the Montparnasse district.

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*, 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.

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 (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 (SPRING): PARIS

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

Architecture Option Courses

TERM I (AUTUMN): NEW YORK

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

A4010	Design studio	4 pts
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Urban Studies Option Courses

TERM I (AUTUMN): NEW YORK

A4043	Workshop in urban studies	4 pts
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TERM II (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.

Context N.Y.C. (for Special Students)

Context N.Y.C. is an autumn or spring undergraduate/graduate program giving university credit. It attempts to broaden the student's understanding of all aspects of the design, history, theory, and practice of architecture. The program is intended for both those with previous academic experience in architectural design, or presently matriculated in B.Arch. programs, who would like to develop additional studio skills, and those without previous academic experience in design, who are interested in gaining an understanding of design conditions in the urban context of New York.

Architecture A4011 Context N.Y.C.

3 pts

Ms. Smoller and staff.

Three afternoons per week, students attend design studio—a place where they are given an intensive training in the skills and critical thinking involved in architectural design. Students, in small groups, work directly with studio instructors to develop their individual designs. The projects given in studio are situated in New York City, enabling students to take advantage of the unique urban condition present in the city.

In addition to the mandatory design studio, qualified students may also desire to take various elective courses. Possible courses for the semester include: *Structures; Building systems; Enclosures and environments; Building systems integration; Architectural finishes in America: 1630–1950; Architectural acoustics/architectural lighting; Philosophy of technology; American architecture and urbanism before 1876; American architecture: 1876–1976; History of modern architecture; Elements of landscape architecture; Dimensions of space; Classical language and literature of architecture; Theory of urban planning; Race and ethnicity in the city; Site planning and support systems for development; Planning law*; or other lectures offered at the University.

Call the Admissions Office (212-854-3510) for applications and further information.

Columbia/Barnard Undergraduate Architecture Majors

DIRECTOR: Ms. Karen Fairbanks

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, Judith Barry, Karen Bausman, Michael Bell, Ben van Berkel, Aaron Betsky, Raoul Bunschoten, Karl Chu, Antonio Cruz, Kathryn Dean, Neil Denari, Evan Douglis, Winka Dubbeldam, Hugh Dutton, Kenneth Frampton, Massimiliano Fuksas, Finn Geipel, Leslie Gill, Zaha Hadid, Thomas Hanrahan, Jane Harrison, Laurie Hawkinson, Steven Holl, Paola Iacucci, Toyo Ito, Wes Jones, Ed Keller, Sulan Kolatan, Tom Kowalski, Amy Landesberg, Frédéric Levrat, Greg Lynn, Dominique Lyon, William MacDonald, Scott Marble, Robert Marino, Reinhold Martin, Mary McLeod, Victoria Meyers, Nicolas Michelin, Enric Miralles, Farshid Moussavi, Antonio Ortiz, Philip Parker, Gregg Pasquarelli, Carme Pinós, Richard Plunz, Wolf Prix, Mark Rakatansky, Hani Rashid, Jesse Reiser, Dagmar Richter, Karla Rothstein, Yehuda Safran, Nasrine Seraji, Bernard Tschumi, Lauretta Vinciarelli, Lebbeus Woods, and Alejandro Zaera-Polo.

Architecture A4001 Core studio, I. 9 pts

The staff.

Open to M.Arch. degree candidates only.

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.

Open to M.Arch. degree candidates only.

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.

Open to M.Arch. degree candidates only.

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 is 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 are 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.**

Open to M.Arch. degree candidates only.

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.**

Open to degree candidates only.

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.**

Open to degree candidates only.

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 A4330 Urban history. 3 pts**To be announced.**

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 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 A4339 American architecture and urbanism before 1876. 3 pts

Mr. Bentel.

For a complete description, see course listing under Historic Preservation.

Architecture A4341 American architecture: 1876–1976. 3 pts

Ms. Wright.

For a complete description, see course listing under Historic Preservation.

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 A4353 Le Corbusier, theory and analysis. 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
To be announced.

The principal themes of premodern 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
To be announced.

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 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 are also 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 student presentations of the work of contemporary architects in relation to theory/practice debates.

Architecture A4391 The surface of modern architecture: ornament, fashion, and gender. 3 pts
Ms. McLeod

This course focuses on ornament and fashion as a means to examine issues such as ephemerality, superficiality, and superfluity. These attributes have often carried connotations of effeminacy or femininity, raising questions about gender and architecture. The readings include primary texts by theorists such as Baudelaire, Simmel, and Veblen, and by architects such as Sullivan, Van de Velde, Loos, Le Corbusier, and Venturi.

Architecture A4393 Antirational tendencies in modern architecture. 3 pts
Ms. Ockman.

Modernism in architecture is conventionally associated with rationalism, functionalism, and internationalism. In fact, the architecture of the first three decades of this century reflects a far more complex and ambivalent response to the dynamics of modernization and the phi-

Iosophy of reason. The seminar explores the relationship between positive and negative attitudes toward modernity and the overlaps between progressive and regressive ideology in modernist architecture. It addresses a series of historical problems illuminating the coexistence of "other" architectural modernisms within the folds of the canon. Focus is on the German context, where the national background and the lateness of industrialization gave the cultural debate special intensity. Among the thematic concerns are the impact of the metropolis on traditional culture; the pursuit of national identity; utopian desires to resymbolize architecture; and the aestheticization of technology and war. Readings by Friedrich Nietzsche, Paul Scheerbart, Georg Simmel, Bertolt Brecht, Martin Heidegger, and other seminal thinkers supplement the reinvestigation of early twentieth-century architecture culture.

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 A4402 Metropolis: avant-gardes and the city.

3 pts

Mr. Allen.

Course examining the phenomena of life in the modern metropolis and their 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.

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

Architecture A44 critical positions

3 pts

critical positions:
To be announced

The medieval, Renaissance, and early modern history of the lagoon city and its mainland dependencies is studied as a paradigm of the preindustrial 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 inter-related 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 A4454 Modernism's self-critique: European architecture in the 1930s—France, Italy, and the countries of exile.

3 pts

Ms. McLeod.

This seminar examines the transformations in modern architecture in the 1930s and the theoretical debate that surrounded the direction of modernism in this period, focusing on the work of French, Italian, and German emigré architects. During this crisis-ridden decade, modern architects challenged many of their earlier formal and functional assumptions in an attempt to respond to the limitations of their original positions. A major concern was the relation between architecture and politics, and the course explores the contradictory and often changing relations between style, program, urban design, and political ideology.

Architecture A4459 Urban fare: a private reading of public spaces.

3 pts

Ms. Breslin.

Using an interdisciplinary approach, this seminar explores New York and Tokyo. Urban theories, history, geography, fiction, film, sociology, and anthropology along with cultural critiques help situate the more personal experiences of the metropolis and the new “global cities.” In considering the formation of urban/geographical entities, their infrastructure, and the underlying ideologies of these urban constructs, we also attempt to uncover the mechanisms of the development of collective identities and individual reconciliations.

Architecture A4468 Building traditions in sub-Saharan Africa.

3 pts

Ms. Malaquis.

This seminar focuses on architecture, the construction of space, and landscape design as expressions and tools of power in societies south of the Sahara. How political, economic, and spiritual hegemonies are built. How structures and spaces are used to create and reinforce the power of ruling elites, to shape world views, perceptions of the past and present, approaches to history, modes of government, and socio-economic structures. How architectural practices have been used as modes of resistance: to construct revisionist approaches to history; to alter or to register discontent with an established social, political, or economic state of affairs. The seminar opens with a series of presentations by the instructor: case studies focusing on specific communities or social settings, followed by class discussions based on readings of both a topical and theoretical nature assigned the previous week. The second half of the course is dedicated to student presentations.

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 considers 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 Americanization and 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 A4497 Technologies of organization: 1945–1965. 3 pts**Mr. Martin.**

This seminar consists of an analysis of techniques, systems, and processes of spatiotemporal organization in architectural discourse and production initiated during the 1940s and 1950s in the United States. These are seen in the context of the new, feedback-driven, network-based technologies of control and communication developed during the Second World War, the emergence of the corporation as a model of social life, and a cultural pre-occupation with flexible organization as a means of insuring dynamic social equilibrium. In-depth case studies in architecture are coupled with parallel readings in related disciplines. Topics covered include architecture and the machine in an increasingly information-based culture, the ongoing hybridization of machines and organisms, modularity, new forms of visuality, the effects of image-based consumerism, architecture and corporate organization, the curtain wall, office planning, cybernetics and communications theory, and systems and control-based models of space.

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, 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 postcolonialism. 3 pts**Ms. Wright.**

Contemporary postcolonial 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 exami-

nation of writings and projects of major figures, among them E. Haussman, C. Sitte, T. Garnier, E. Howard, D. Burnham, and B. Taut.

Architecture A4573 Encounters with Islam in architecture. 3 pts
Ms. Dodds.

This lecture course begins as an introduction to Islamic architecture, addressing those aspects of Islamic society, beliefs, and culture that help form the built environment and the urban landscape. It continues to analyze the part Islamic architecture plays in the architectural history of the West and the interaction between Islamic architectural traditions and other European traditions, from the 7th century to the present.

Architecture A4681 The architecture of pleasure. 3 pts
Ms. Breslin.

This seminar explores the architecture of pleasure and focuses on spaces addressing the sensual, sexual, or emotional (love). These visions of subjectivity are explored to discover the cultural constructions of spaces and the means of representation. The course is divided into two sections. The first section explores theoretical methods of analysis of these spaces from the historical to the psychoanalytic to the philosophical and post-structural. The second section focuses on studies of specific modern architecture.

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 20th-century architects.

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

For a complete description, see course listing under Historic Preservation.

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 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 *americanisme* among Europeans, together with the varied incarnations of American modernism, both conceptual and as realized, in different arts, regions, individual philosophies, and historical conjunctures.

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

To be announced.

Prerequisite: One semester of undergraduate physics or two semesters of undergraduate calculus.

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.

Architecture A4123 Structures, II. 3 pts

To be announced.

Prerequisite: *Structures, I.*

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.

Architecture A4220 Enclosures and environments, I. 3 pts

Mr. Webster,

Prerequisite: *Structures, I.*

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 curtain wall manufacturer.

Architecture A4221 Enclosures and environments, II. 3 pts

Mr. Webster and Ms. Smoller.

Prerequisite: *Enclosures and environments, I.*

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.

Architecture A4125 Building systems, I. 3 pts

Mr. Webster.

Prerequisites: *Structures, I and II; Enclosures and environments, I and II*

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.

Architecture A4610 Building systems, II. 3 pts**Mr. Webster and Mr. Heintges.**Prerequisites: *Structures, I and II; Enclosures and environments, I and II; and Building systems, I.*

A brief history of the industrial loft building, from the emergence of the daylight factory through recently completed “industrial hotels,” is presented, focusing on advances in structure, 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.

Architecture A4626 Details: resolution, execution, and endurance. 3 pts**Mr. Rogers.**

This seminar combines conceptual and technical skills in the examination and production of architectural details. The material resolution of conceptual relationships is studied in readings and field trips. In sketch problems, we stress inventive technical details and coherent material strategies.

Architecture A4627 Materials and methods in architecture. 3 pts**To be announced.**

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 A4629 Architectural acoustics/architectural lighting. 3 pts**Mr. Harris and Mr. Matthews.**

The first half of the course covers 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 covers 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 A4633 The architecture of glass. 3 pts**Mr. Carpenter and Mr. Lowings.**

The primary emphasis of this seminar is on developing the students' understanding of both the material and phenomenological nature of glass. Through a series of brief lectures on various aspects of glass including composition, primary manufacture, secondary manufacture and its dialogue and interaction with light and glass structures, students are given an overview of this complex material. Students are assigned two short design study problems during the first half of the semester. During the second half of the semester students are asked to develop a glass or light related project/detail arising from their work in their primary design studio project.

Architecture A4634 Advanced curtain walls. 3 pts**Mr. Heintges.**

Limited enrollment.

Prerequisites: Completion of the required Building Technologies curriculum.

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 focuses 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.

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 are used to explore various relevant topics. Appropriate reading on the philosophy of technology is required.

Architecture A4659 The philosophy of materials and structures. 3 pts**Mr. Delanda.**

This seminar introduces students to the basic concepts in materials science, stressing the usefulness of this knowledge for the purposes of design as well as its basis for a technically sound philosophy of matter. Lectures cover a wide variety of materials, from metals and concrete, to new ceramics and composites, as well as a variety of organic materials like bone and muscle. The kinds of load-bearing structures that these materials can be used to build are explored, and the different engineering and mathematical tools needed to understand these structures are analyzed and explained. The course takes a philosophical perspective, emphasizing basic conceptual ideas rather than technical details.

Architecture A4675 Theories of self-organization and the development of cities. 3 pts**Mr. Delanda.**

This seminar explores the economic, biological, linguistic, and military history of Western cities. Throughout the seminar, urban centers are treated as dynamical systems, traversed by intense flows of matter, energy, and information. A philosophy of flows (that of Deleuze and Guattari) is used as an important resource in this exploration, along with the work of a variety of recent historians, from Fernand Braudel to William MacNeill.

Architecture A4684 Sustainable design. 3 pts**Mr. Norris and Ms. Brown.**

This course focuses on what the design professional can do to ameliorate the overall environmental performance of buildings. It also concentrates on achieving beneficial social, economic, and environmental outcomes by paying attention to the larger external bottom line. Affected design decisions include planning and site work, energy, materials, indoor air

quality, water conservation and quality, recycling and waste management. The course combines lectures by the instructors and visiting experts and case studies and sustainable design problems by student teams. Students familiarize themselves with Solar 5.5, an energy analysis program.

Visual Studies

Architecture A4509 Architectural drawing, I: basic. 3 pts
To be announced.

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
To be announced.

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 A4513 Internet protocols. 3 pts
The staff.

The course investigates the development of networked organizations on-line through a study of current phenomena on the Internet as well as the methods and tools for their implementation. The course includes instruction in Web site design including: hypertext, HTML, CGIs, graphic interface, search engines, Java/JavaScript, image formatting, and animation.

Architecture A4527 Architecture and information: multimedia and interface design. 3 pts
Ms. Reuwee.

A critical exploration of the design and implementation of virtual spaces and interactive environments for the Web and CD-ROM. The authoring of digital space is becoming more accessible to architects through the demystification of computer programming, and more urgent due to rapid improvements in network bandwidth. This course continues to build on techniques learned in both the introductory and advanced CAD courses. Students become proficient with interactive tools, by following a project-based approach to architectural authoring for the Web or CD-ROM.

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 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 A4695 CNC mill study lab seminar. 3 pts

Mr. Clarke.

The seminar investigates the actualization of virtual architectural proposals through the use of computer numerically controlled (CNC) production processes. Study focuses on prefabrication and mass production of nonstandardized building systems. In the course the students use CNC milling equipment and computer modeling software.

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.

For a complete description, see course listing under Architecture—History/Theory.

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

Mr. Allen.

For a complete description, see course listing under Architecture—History/Theory.

Urban Design

Architecture A6849 Urban design studio, I. 9 pts

Ms. Kahn, Coordinator.

An introduction to issues and methods of the subsequent urban design studios. 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 A6850	Urban design studio, II.	9 pts
Mr. McGrath, 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 A6851	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 A4005	Joint urban design/architecture studio.	9 pts
The staff.		
This studio option is offered in the fall semester to encourage exchange between the Urban Design and Architecture curricula. Thematically, the studio investigates cultural catalysts in urban development. Urban Design and Architecture students collaborate to explore questions that include the economic role of urban development; relations between the production and consumption of culture; urban cultural displacements and social class; and the design of public space as civic activity.		
Architecture A4528	Digital modeling for urban design.	3 pts
Mr. McGrath.		
Introductory class for architects with limited or little background in digital techniques of urban representation. Focuses on computer modeling, animation, and depiction, using the Macintosh-based applications of Form-Z, Photoshop, Premiere, and Director. Also includes an introduction to Geographical Information Systems and the integration of statistical data with methods of formal and spatial representation.		
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: the post-urban American city.	3 pts
Mr. Smiley.		
Provides an introduction to 20th-century American urban and suburban landscapes with a concentration on post-1945 transformations. The seminar charts the history of the dual processes of regionalization and centralization which have shaped, and continue to shape, the built landscape. In this light, the history of the "post-urban city" is scrutinized in three broad areas: formative processes; theoretical responses by urban designers, planners, and architects; and the nature and character of realized projects.		
Architecture A6837	Urban design seminar, II A: case studies in the evolution of the modern urban fabric.	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. The first part of the seminar focuses on the evolution of the New York City fabric through a series of lectures. The second part is organized around student presentations of case studies comparing several large cities in relation to their characteristic fabric types.		

Architecture A6832 Urban design seminar, IIB:
the prefiguration of contemporary urban form.
Mr. Conard.

3 pts

The seminar introduces the notion of urban form coding as a method of both articulating the culture of urban form and of conceiving growth strategies. The question of zoning is explored, beyond the explicit goals of regulating and controlling land-use functions or as a means of enhancing real estate values. The course is intended to introduce the student to a range of land-use tools, and also to encourage a critical inquiry into the ends served by these tools, and the skills needed to effectively participate in discussions regarding these regulatory frameworks. Students are encouraged to develop the cross-disciplinary skills that can be applied in the practice of urban design, and to consider whether the skills typical of architecture, planning, or urban design are suited to these challenges.

Architecture A6838 Urban design seminar, IIIA: new urbanisms—constructing publics.

3 pts

Ms. Kahn.

This seminar examines the representation and formation of public spaces in the city today. Instead of the traditionally heterogeneous marketplace, cities today boast homogenous marketed places. These new "public" venues, generated primarily by private capital, reflect a situation in which large corporations and developers strive to control their real estate investments while simultaneously attempting to enhance their public image through amelioration of the public realm. Given these transformations, the relevance of idealized models of public spaces and the traditional notions of "public" and "private" upon which they are based is reassessed.

Architecture A4688 Urban design seminar, IIIB: public space and recombinant urbanism.

3 pts

Mr. Shane.

This seminar examines how cities grow, developing public space and density, followed by possibly declining or switching to a lower-density regional city model over time. The emphasis is on the rules that generated the initial growth and on how they are transformed in later iterations, innovations, or repetitions. A major focus is on the relations between the public spaces in different growth patterns in the city and the changing relations between them.

Historic Preservation

Architecture A4210 Basic principles of traditional construction. 3 pts
Mr. Pokorný.

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 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 is 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: 1876-1976. Ms. Wright.

3 pts

Explores ongoing trends and major shifts in American settings for domesticity, work, and public life since the late 19th century. Analyzes both the innovative work of certain architects and prevailing norms in the larger built environment, with an emphasis on the complex processes of cultural hegemony, exchange, critique, and creative change.

Architecture A4389 Vanishing cities: international fairs and expositions in the United States, 1853 to the present.

3 pts

Mr. Bentel.

This course examines 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 investigate the layout of fairgrounds and the design of pavilions for evidence of novel planning and design strategies and seek to define the influence of new materials and construction techniques on the form of buildings. Emphasis is 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 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 A4396 Seminar: planes, trains, and autos: modern American architecture and the transportation industry.

3 pts

Mr. Bentel.

This seminar examines 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 reviews the impact of an expanding transportation infrastructure on urban form, building production, and construction technology. It also analyzes 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 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 A6305 Historic building design workshop: making and presenting proposals for change.

3 pts

Mr. Byard.

This workshop is intended to develop a capacity to understand and argue for designs for change appropriate to important historic buildings or districts. Historians and planners will analyze and argue to the proposals of others; designers may make proposals of their own. Work may be carried out in collaboration with projects in other studios. Workshop products are graphic design presentations or written critiques and testimony arguing effectively for the appropriateness of the proposals.

Architecture A6309 Archaeological sites: conservation and maintenance.

3 pts

Ms. Jerome.

This seminar addresses problems of stabilizing, interpreting, and presenting ruins. Conservation of archaeological sites is a multidisciplinary field, and so the course encourages the participation of architects, archaeologists, anthropologists, art historians, scientists, and engineers. It examines the philosophical and ethical differences between the preservation of historic structures and archaeological sites. The course presents basic techniques of *in situ* conservation, such as site improvements, recording, reburial, consolidation, protection, sheltering, and materials analysis. Case studies are used to evaluate the successes and failures of treatment methods; several internationally renowned guest speakers present these to the class. Specific materials often found on archaeological sites, like earthen construc-

tion, murals, and mosaics, are emphasized. The class assignment involves investigation and recommendations for the stabilization, interpretation, and presentation of a New York area architectural ruin.

Architecture A6318 Cultural site management. 3 pts

Ms. Jerome.

With an international focus, this course looks at the challenges of historic and archaeological site management worldwide, using the Burra Charter to structure the process. The Burra Charter, an evolution of the Venice Charter adopted by Australia ICOMOS, relies on the identification of cultural significance through recognition of aesthetic, historic, scientific, and social values. A methodological approach can then be established for a holistic managerial process that will provide for site preservation within the context of perceived significance and cultural relativism. The course enables the student to understand the complexity of the management process, to know and evaluate the disciplines required to accomplish the many tasks involved, and to coordinate the management team to achieve unified objectives.

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. Weaver.

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 A6727 Architecture of additions: design and regulation. 3 pts

Mr. Byard.

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

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 interpreted 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 tech-

niques and instruments; dendrochronology; x-ray and gamma-ray investigations; interior microclimatic 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 non-graphic 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
Mr. Bentel, Ms. Bollack, Mr. Devonshire, Ms. Miner.

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. 6 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 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 and brass, zinc; lead and tin, aluminum and nickel. Seminar examines history of manufacture and use; mechanisms of deterioration; and cleaning, repair, and conservation. Field trips examine active metal conservation projects in the New York City area.

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

For a complete description, see course listing 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.**

For a complete description, see course listing under Architecture—History/Theory.

Architecture A6790	Historic preservation colloquium.	3 pts
Mr. Bentel.		
Analyzes major preservation projects following the interdisciplinary format of the four sectors in the Historic Preservation program: design, history, conservation, planning. The case studies are critically analyzed in relation to the ways in which the theory and practice of preservation has been followed and implemented.		
Architecture A6795	Preservation law.	3 pts
Ms. Miner.		
An introduction to legal mechanisms to project 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 are 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		
Curriculum Core Courses		
Planning A4112	History of urbanization and physical structure of cities.	3 pts
Mr. Scalar.		
A lecture course focused upon the historic emergence of the contemporary practice of urban planning. Beginning with the birth of the industrial city in the 19th century, the course takes its subject matter from early planning attempts such as tenement house regulation and garden cities up to contemporary concerns with postmodernism, new urbanism, and sustainable development. The course focuses principally upon the American experience, but also draws from Western Europe.		
Planning A4151	Foundations of urban economic analysis.	3 pts
To be announced.		
Reviews 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. Formal background in economics is not required.		
Planning A4208	Quantitative techniques.	3 pts
Mr. Freeman.		
An introduction to the quantitative research methods used in planning and public policy analysis. It 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, which meets twice weekly, including a computer-lab period.		
Planning A6001	Urban planning theory.	3 pts
Mr. Freeman		
Lectures and discussions on the role of theory in planning practice and an exploration of the theories that guide practice in the various fields of planning. Topics covered include the role of rationality, advocacy, communicative discourse, and gender and pluralism in planning. Students discover their professional identity in the field.		

Planning A6052 Planning law. 3 pts**Mr. Scherer.**

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

Planning A6225 Planning policy implementation. 3 pts**To be announced.**

A structured conceptual framework for understanding how plans move from ideas to implemented public policy. The class employs lectures, readings, and invited guests, as appropriate, to probe important questions in contemporary planning policy. Although the theoretical core remains steadfast, applied topics change each year and are determined by current events.

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

This course introduces students to the tools of the planning profession. The topics covered include primary data gathering such as land-use surveying, techniques of secondary data analysis such as census analysis, zoning analysis, GIS, report writing, and techniques of data presentation. The class format is formal lectures supplemented by a series of detailed exercises.

Planning A6850 Thesis research design and methods. 3 pts**Mr. Freeman.**

Assists students in developing a master's thesis proposal and research framework. The organizing feature of the course is its development of the theory of "rational inquiry" as a basis for scholarly and professional research in the field. It provides students the basic skills in the research design and evaluation methods employed by planners. Lectures and discussions are used to assist students in selecting a thesis topic, forming researchable hypotheses, and devising suitable research designs.

Planning A6911 Planning studio. 6 pts**The staff.**

A tactical planning course where students work on actual planning projects in New York neighborhoods or cities around the country or abroad. Under the supervision of faculty members, studio participants collaboratively develop planning solutions to real situations confronted by communities and other public service organizations with limited technical-assistance resources. Policy analysis and policy planning is also performed for government agencies at the city and state levels. Includes field work, team consultation, and seminars. The entire planning process is covered, from data collection to client presentation.

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.)

Electives and Sector of Specialization Courses

Courses fulfilling the sector requirement are marked as follows: (H)—Housing; (I)—International; (E)—Urban Economic Development; and (P)—Physical Planning.

Planning A4230 Computer applications for planners. 3 pts
To be announced.

The focus of the course is 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 A4304 Introduction to housing. (H) 3 pts
Mr. Marcuse.

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 Determinants of housing policy. (H) 3 pts
(Not given every year.)

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

An advanced course on how governmental housing policy is formed: political, social, economic, physical, technological, and ideological components. Alternative explanations of policy formation: philanthropic, fiscal, interest group, structural, and other theories are covered. The class emphasis is on history of housing policy in the United States and comparisons with other countries' policy evolution.

Planning A4335 Planning New York City. 3 pts
To be announced.

The course focuses on the major institutional entities in the public sector that plan the built environment of New York City, including the municipal agencies, neighborhood bodies, 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. The emphasis is on the public-private interactions that determine the shape of New York City.

Planning A4340 Comparative European urban social policy. (I) 3 pts
Mr. Marcuse. (Not given every year.)

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 A4345 Comparative housing problems and policies. (H) (I) 3 pts
Mr. Marcuse.

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 is 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 A4404 Urban transportation planning. (P) 3 pts
Mr. Grava. (Not given every year.)

A comprehensive review of contemporary urban transportation issues and suggested solutions. The class examines 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 versus demand and functions of movement systems, is the core of the course. Selected transportation facilities are reviewed.

Planning A4507 Urban economic development. (E) 3 pts
To be announced.

An examination of the process of urban economic development in large, mature American cities. Topics include theories of economic development, analytic techniques, and the role of federal and local public policies. Cases of contemporary development projects are used.

Planning A4518 New patterns of metropolitan development. (E) (P) 3 pts

Mr. Wright.

With much media coverage of the problems associated with urban sprawl, planners on all levels must deal with the implications of modern development patterns. This course examines 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 A4519 Privatization and the public sector. (E) 3 pts
Mr. Sclar.

Explores the strengths and limits of market approaches to public service delivery and regulation with direct public service provision. Lectures and case studies are used to analyze the relative merits of alternative approaches.

Planning A4540 Environmental planning. (P) (E) 3 pts
Mr. Kinney, Ms. Northridge, Mr. Sclar

This course analyzes the relationship between the physical environment and the quality of urban life. It provides background for understanding the evolving role of land use and environmental regulation in the contemporary practice of urban planning. Topics of inquiry range from global population impacts to local air pollution hot spots. The course is co-taught by planning faculty and faculty from the School of Public Health.

Planning A4570 Inner-city planning and development
strategies. (E) 3 pts
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 pose a different set of problems and conditions resulting from urban restructuring. The seminar's objective is to provide a framework for exploring the issues and strategies that result from the dynamic relationship of physical and social decline and development within the inner city.

Planning A4609 Planning in developing countries. (I) 3 pts
(Not given every year.)

The impact of urban population growth and rapid urbanization on housing and urban development are critically examined in this course. Issues related to the demand for shelter and services for the urban poor; the phenomenon of squatting and squatter-built housing are viewed and analyzed against government policies and programs addressing urbanization and housing conditions. These questions and issues are compared in diverse international settings.

Planning A4682 The new urban spaces of globalization. (I) 3 pts

Concrete examination of what characteristics of globalization affect cities, by what mechanisms they operate, and what results they produce. The course explores how those results may be evaluated: what benefits or harms they produce and for whom.

Planning A4714 Legislating aesthetics. (P) 3 pts**Mr. Vengoechea. (Given every other year.)**

The course focuses 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 A4750 Infrastructure of cities in the Third World. (I) 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.

Planning A6060 Planning in the context of institutional structures. 3 pts**To be announced.**

The institutions and formal procedures of planning influence the content of plans and are themselves influenced by the politics of planning. This course examines the reciprocal relationships. Topics include: composition and powers of planning commissions, relationship of planning to zoning, master plans, and appeals procedures.

Planning A6108 Land-use planning. (P) 3 pts**Mr. Turner.**

An 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. The theoretical foundations of planning are addressed, however the course emphasizes the practical approaches to physical planning issues. Case studies, guest speakers, and practical exercises are utilized.

Planning A6217 Techniques of project evaluation. (P) 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 A6223 Urban economic approaches to poverty and the environment. (E) (P) 3 pts**Mr. Hook.**

The course provides economic policy analysis to assess poverty alleviation, equity, and environmental sustainability of physical planning projects. The focus is on environmental impacts of housing, transport, and land-use policy as it relates to poverty alleviation.

Planning A6330 Site planning and support systems for development. (P) 3 pts

Mr. Grava.

A comprehensive review of all design and infrastructure issues involved in land development, including circulation, utilities, site subdivision, and zoning. Covers basic engineering principles and planning considerations for development projects.

Planning A6344 Seminar in housing policy. (H) 3 pts

(Not given every year.)

Prerequisite: Planning A4304 or the instructor's permission.

An exploration of the major social, economic, and political issues confronting contemporary American housing policy. The course format is a small working-group setting. Students examine alternative policy approaches to racial and economic segregation, abandonment and residential decay, urban growth, forms of public subsidy, and balancing the rights of ownership with those of occupancy. Issues taken up vary from year to year and a significant research effort is required.

Planning A6358 National housing policy: public housing. (H) 3 pts

Mr. Coleman.

The course covers the principal issues in national housing policy dealing with public housing. Topics include current legislation, policy studies, administrative reform, public-private partnerships, affordability, and nonprofit development. Structured as site visits and discussions with management personnel, public housing tenants, and policy makers.

Planning A6434 Transportation issues seminar. (P) 3 pts

Mr. Grava. (Not given every year.)

Prerequisite: Planning A4404 or the instructor's permission.

A discussion of major issues in transportation planning at several levels, from national to local. Covers the economic, political, and social implications of decision making in transportation. Current topics and case studies are investigated.

Planning A6550 Planning, the market, and regional/urban development. (I) (E) 3 pts

Mr. Vietorisz.

The course intends to develop the broader economic, cultural, and ecological context within which specific big-city planning and urban design problems, both in the United States and abroad, are embedded. Students gain an understanding of how these issues can contribute to finding more viable solutions to specific big-city planning and urban design concerns.

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 A6560 Sustainable development and urbanization. (E) 3 pts
Mr. Vietorisz. *Course is under construction at the time of printing.*

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

Either term may be taken separately.

Perequisites: a project outline and the written permission of a faculty project supervisor. Individual or small-group independent 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.

Ph.D. Program

Planning A8900-A8901, A8902-A8903 Doctoral colloquium, I, II, III, and IV. 3 pts
The staff.

Open only to Ph.D. candidates in planning or in closely related fields, this sequence of colloquiums is taken in the first and second years of the program. The intellectual organizing mechanism of the Ph.D. 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. Advanced seminar in planning history. 3 pts
Mr. Sclar. (Given every other year.)

Designed to satisfy one of a minimum of three courses in the history and theory of planning. Depending upon the interests of the students and instructor, the seminar delves in great detail into one or two specific themes or topics in planning history. A term paper is required.

Planning A8931 Advanced seminar in the theory of planning. 3 pts
To be announced. (Given every other year.)

Designed to satisfy one 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 A4312 Real estate finance, I. 3 pts
Mr. Laven.

Prerequisites: Familiarity with computer spreadsheets (Excel), concepts of present value, and other financial formulae. Prospective students are encouraged to speak with the instructor prior to enrolling.

Introduction to methods of financial analysis for real estate investments. Topics include methods of valuation, cash flow forecasting, computer modeling, taxation, leverage, and deal structures. Emphasis is placed on the financing of individual projects. This course requires higher than average preparation time. It is heavily oriented toward numerical analysis and makes use of case-study method and computers (both spreadsheets and Internet).

Planning A4314 Real estate finance, II. 3 pts
Mr. Levine.

Prerequisite: Successful completion of *Planning A4312—Real estate finance, I.*

A carryover from *Real estate finance, I* to complete individual project financing. Additional topics include an overview of the real estate capital markets, selected analytic techniques for invest-

ment banking, commercial mortgage backed securities, and real estate investment trusts. This course requires higher than average preparation time. It is heavily oriented toward numerical analysis and makes use of case study method and computers (both spreadsheets and Internet).

Planning A4538 Real estate opportunities/development process. 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 A6333 Real estate law. 3 pts
Mr. Gold.

This course covers contractual aspects of real estate development, finance, and management. Topics 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 A6339 Current topics in real estate: the Roundtable Series. 2 pts
Visiting lecturers.

Students participate in a series of topically oriented roundtable discussions with invited industry experts, developers, and financiers. The Roundtable Series also serves to explore specific development and financial issues and career opportunities in selected areas.

Planning A6340 Real estate development thesis. 1 pt
Mr. Bell and the staff.

Directed by a faculty adviser, the objective is to guide students through the preliminary stages of thesis preparation. Thesis topics fall into one of the following categories: a thorough case study analysis and evaluation of a significant real estate project that has been substantially completed; a complete development proposal for a sufficiently large and complex future real estate project; or a detailed evaluation of a public law, public policy, or private-sector initiative that has had, or is expected to have, a major impact on real estate development.

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 Asset repositioning and concept development. 3 pts
Mr. Buckley.

Basic principles of architectural and urban design and the relationship between the developer and the architect including management of the design process. Topics include asset repositioning, master planning, relationship between form and function, special zoning techniques, and large-scale project design.

Planning A6352 Development market analysis. 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. Alschuler and 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 Construction technology and management. 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 A6568 Real estate development in the public sector. 3 pts**Mr. Paley.**

Real estate development in the public sector, a complex blend of economic imperatives and motivations to improve the public realm, involves multiple participants with widely diverging goals and agendas. Initiating projects and sustaining momentum to achieve a completed project requires a broad range of skills and resources. This course examines the powers and constraints of public agencies, approaches to planning projects and soliciting support, structuring public/private partnerships, and managing ongoing governmental participation. Case studies are drawn from a variety of projects, primarily in the New York metropolitan region, that range from large-scale projects such as the Times Square Redevelopment to small-scale projects such as the Ronkonkoma Hub on Long Island. A special emphasis is given to public/private partnerships in transit development. Several guest speakers discuss projects currently under development.

Planning A8792 Research methods/field studies/**Internship Program. 3 pts****Mr. Gallagher.**

This course is structured as an internship. Students 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**Ms. Baratloo.**

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. Dolkart.

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

To be announced.

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

Architecture A4029 Architecture, planning, and preservation: Paris. 3 pts

To be announced.

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

Architecture A4030 The development of Paris. 3 pts

Mr. Salomon.

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

Ms. Britton.

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

To be announced.

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*

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Dipl. Arch., Dipl. Trop., Architectural Association (London), 1956; A.R.I.B.A., 1957; Honorary Doctorate of Technology, Royal Institute of Technology, Stockholm, 1991; Honorary Doctorate in Environmental Studies, University of Waterloo, 1995; Honorary Doctorate in Environmental Studies, California College of the Arts and Crafts, 1999. Medaille d'Or, Academie d'Architecture Paris; ACSA Topaz Medal for excellence in archi-

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B.Arch., University of Auckland (New Zealand), 1979; Ph.D., 1987. Resident fellowship, Chicago Institute for Architecture and Urbanism, 1989; International Committee of Architectural Critics (C.I.C.A.) Triennial Award for Architectural Criticism, 1990; Graham Foundation Grant, 1997.

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B.A., New York University, 1969; M.Arch., California (Berkeley), 1974; Ph.D., 1978. Woodrow Wilson Fellowship, 1977; Ford Foundation Fellowship, 1979–1980; NEH Fellowship, 1980–1982; Stanford Humanities Center Fellowship, 1982–1983; University 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

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M.Arch., Akademie of Architecture, Rotterdam, 1990; M.S., Advanced Architectural Design, Columbia, 1992. Grant, National Foundation for Arts, Design, and Architecture, independent architecture project, 1993, 1997; award, “Governor’s Island Urban Design Competition,” 1996; participant, “The Unprivate House,” MOMA, 1999.

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B.A., Cornell, 1967; J.D., Harvard, 1970; M.P.A., Harvard, 1971. Fellow, Center of Law and Development (Sri Lanka), 1971–1973; director of corporate law, New York City Law Department, 1980–1985; member, Real Property, Energy, Municipal Affairs, Housing, and Environmental Law Committees of the Bar Association of the City of New York.

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B.A., Williams College, 1970; M.Arch., Yale, 1977. Award of Merit, ASES/Progressive Architecture, 1982; Presidential Design Award, NEA, 1988; fellow, New York Foundation for Arts, 1989; Individual Project Award, NEA, 1990; fellow, MacDowell Colony, 1991; Merit Award, National Trust for Historic Preservation, 1991; Project Award, New York State Council on the Arts, 1992. IESNA, North American Sundial Society. Registered architect.

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B.A. Environmental Design, University of Washington (Seattle), 1976; M.Arch., Columbia, 1980. Member, A.I.A. Registered architect, New York, Pennsylvania.

Rhett Russo *Adjunct Assistant Professor of Architecture*

B. Enviornmental Design, Texas A&M, 1991; M.Arch., Columbia, 1995. McKim Prize, 1995; SOM Fellow, 1994; Dinkeloo Fellow, American Academy in Rome, 1997.

Yehuda Safran *Adjunct Associate Professor of Architecture*

St. Martin School of Art, London, 1970; M.A., Royal College of Art, London, 1972. Fellowship, Chicago Institute of Architecure and Urbanism, National Endowment for the Arts, 1989. Member, College International de Philosophie.

Alain Salomon *Adjunct Associate Professor of Architecture*

M.Arch., Columbia, 1975; Dipl. INSEAD, Fontainebleau, 1977. New York State A.I.A. design citation, 1996. Registered architect, France.

Richard L. Schaffer *Adjunct 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.

Paul Segal *Adjunct Associate Professor of Architecture*

M.F.A., Princeton, 1969. Fellow, A.I.A. 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.

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.

Scott P. Sindorf *Adjunct Assistant Professor of Architecture*

B.A., University of Colorado, 1986; M.Arch., Columbia, 1996.

Julie L. Sloan *Adjunct Assistant Professor of Historic Preservation*

B.A., New York University, 1980; M.S., Columbia, 1982.

Danielle Smoller *Adjunct Assistant Professor of Architecture; Coordinator of Special Programs*

B.A., Skidmore, 1987; M.Arch., Columbia, 1991.

Edward Stanley *Adjunct Assistant Professor of Architecture*

B.S.C.E., Columbia, 1983; B.S., Providence College, 1983; M.S.C.E., Northeastern University, 1984. Professional engineer.

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. Trustee, Archaeological Institute of America; vice president, Programs, World Monuments Fund.

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.

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.

Paulo E. Vengoechea *Adjunct Assistant Professor of Urban Planning*

B.Arch., Pratt Institute, 1974; M.S.Arch., E. Urban Design, Columbia, 1979. Vice-chair, New York City Landmarks Preservation Commission, Urban Planning Seat. Member, American Planning Association, cochair Urban Design Committee, New York Metro-Chapter. Registered architect, New York State.

Thomas Vietorisz *Adjunct Professor of Urban Planning*

Absolutorium, Chem. Eng., Technical University of Budapest, 1946; S.M. Chem. Eng., M.I.T., 1948; Ph.D., Economics, M.I.T., 1956.

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.

David Wallace *Adjunct Associate Professor of Architecture*

B.Arch., Cooper Union, 1980. Member, A.I.A. Registered architect.

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 Professor of Architecture*

Poly Diploma, Regent Street Polytechnic School of Architecture, 1972. Member, Archigram group, 1962-1973. Grant, New York State Council of the Arts, 1990; grant, New York Foundation for the Arts, 1992.

Anthony C. Webster *Adjunct Associate Professor of Architecture*

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

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.

Claire D. Weisz *Adjunct Assistant Professor of Urban Design*

B.Arch. Hon., University of Toronto, 1984; M.Arch., Yale, 1989. Board, Design Trust for Public Space; fellow, Center for Public Architecture. Registered architect, New York, California.

Bruce White *Adjunct Assistant Professor of Architecture*

B.S., California Polytechnic State University, San Luis Obispo, 1980; M.Arch., Columbia, 1987. William Kinne Fellow, 1986. Member, A.I.A. Registered architect.

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, NEA. Founder and director, the Skyscraper Museum, New York City.

Charles Wolf *Adjunct Associate 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, Preservation League of New York State; chairman emeritus, Historic Districts Council; chair, New York Preservation Archive Project.

Lawrence Zeroth *Associate I in Architecture*

B.S., University of Wisconsin, Milwaukee, 1989; M.Arch., Columbia, 1993.

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*

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.

Assistant Dean, Director of Alumni Relations

David Hinkle

401 Avery; 854-3473

The assistant 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 Assistant, Dean's Office

Sonya Marshall

402 Avery; 854-3473

The administrative assistant provides assistance to the dean and the assistant dean. She has information about special events, the evening lecture series, and the Columbia Architectural Galleries.

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 is liaison with the University Human Resources Office regarding grading and salary. She supervises work-study personnel, advises students throughout the year about their academic course requirements, and reviews and authorizes transcripts for graduation.

Student Affairs Officer

Dalina Sumner

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. All academic and administrative appointments are processed in her office. She is responsible for the financial records of the School.

Administrative Coordinator

Deborah Salzberg

405 Avery; 854-3999

The administrative coordinator handles the casual and work-study payrolls. Students should also see her about computer lab access and fees, keys to classrooms, questions about Kinne-sponsored trips, and the purchase of architectural books published by the School.

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 fund-raising 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*.

Development Officer

Geraldine Howard

405 Avery; 854-1821

The development officer is responsible for fund-raising 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

Anna-Lisa Finger

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: Laurie Hawkinson and Michael Bell, 400 Avery, 854-3414

M.Arch. Advanced Studios: Mark Wigley, 203 Buell, 854-7148

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

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

M.S. in Urban Planning: Elliott Sclar, 413 Avery, 854-3513

M.S. in Historic Preservation: Paul Byard, 411 Avery, 854-3518

M.S. in Real Estate Development: Michael Buckley, 409 Avery, 854-3524

New York/Paris Program: Danielle Smoller (New York), Karla Britton (Paris),
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: Aliko Hasiotis, 404A Avery, 854-2444
Administrative Assistant, Historic Preservation and Urban Planning: Leigh Brown, 413A Avery, 854-3513
Administrative Assistant, Real Estate Development: Heidi Gautschi, 409B Avery, 854-3524

Shape of Two Cities: New York/Paris

Directors

New York: Danielle Smoller

Paris: Karla Britton

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

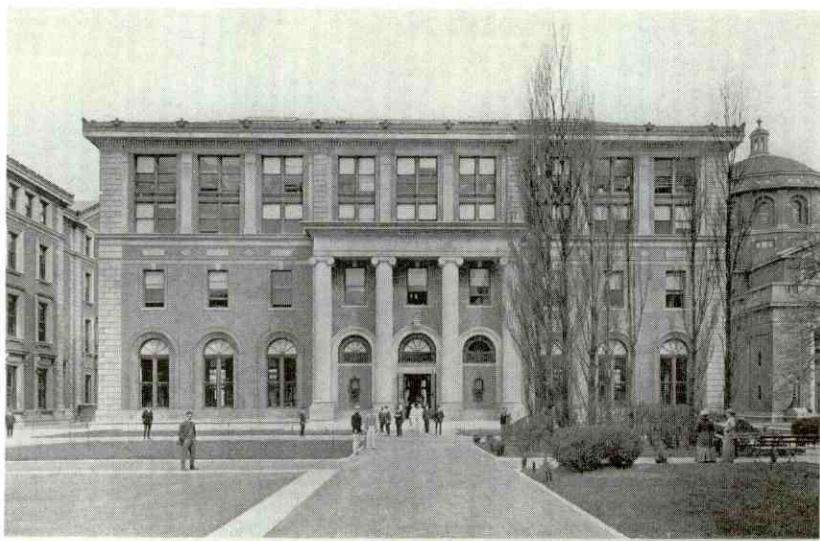
Avery Architectural and Fine Arts Library

Name	Title	Office	Phone
Kitty Chibnik	Head of Access and Support Services	229 Avery	854-3506
Robert Farrell	Stack Maintenance/Evening Clerk	237 Avery	854-8408
Jennifer Friday	Rare Books Assistant	234 Avery	854-8409
Claudia Funke	Curator/Rare Books/Indexer	233 Avery	854-3982
Paula Gabbard	Fine Arts Bibliographer	232 Avery	854-6745
Angela Giral	Director	230 Avery	854-3068
Ted Goodman	Avery Index General Editor	237B Avery	854-8407
Tom Kamerasevic	Access Services Supervisor	220B Avery	854-2425
Gary Kaplan	Secretary to the Director	228 Avery	854-6746
Kaveri Nair	Daytime Desk Clerk	220B Avery	854-2425
Janet Parks	Curator of Drawings and Archives	121 Avery	854-6738

Sviatoslav Podstavsky	Editorial Assistant/ Avery Index	237 Avery	854-8405
Jeffrey Ross	Indexer/Reference Librarian	237 Avery	854-8404
Anne-Sophie Roure	Assistant to the Curator of Drawings and Archives	121 Avery	854-4110
Christine Sala	Architecture Bibliographer/Indexer	232 Avery	854-4629
Charles Schultz	Serials Assistant	231 Avery	854-3501
Barbara Sykes-Austin	Indexer	237 Avery	854-8907
Sharon Talmor	Evening and Weekend Desk Clerk	220B Avery	854-2425
Richie Walters	Weekend and Stack Maintenance Clerk	220B Avery	854-6199
To be announced	Monographs Assistant	231 Avery	854-8419

At the School

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



1



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



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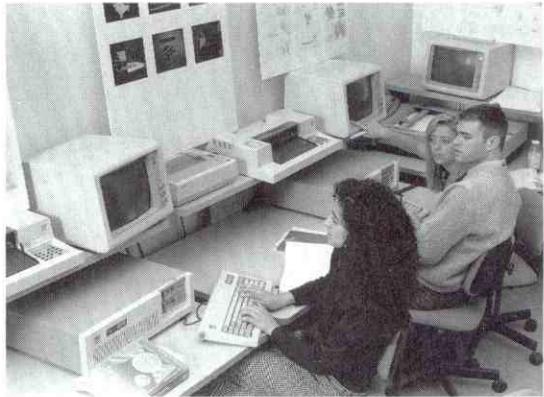


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9 Avery Hall, work in the studios
10 The Computer Laboratory

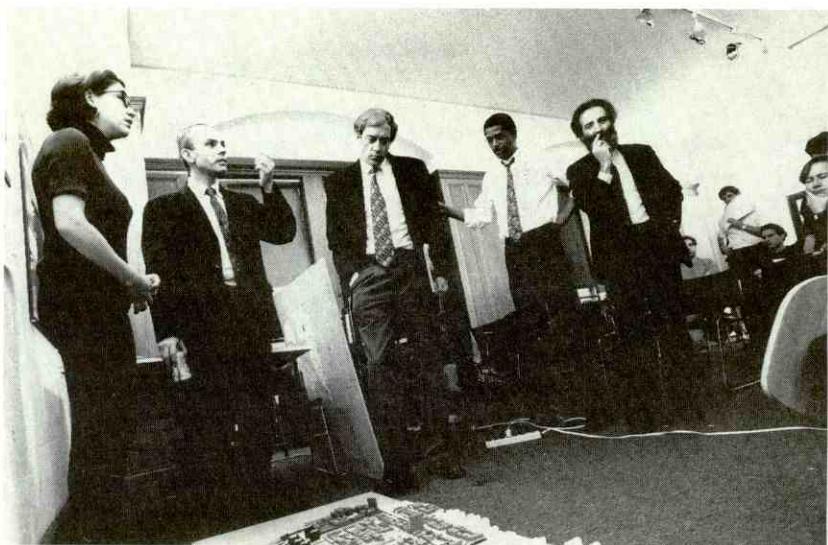


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11 Final Design Studio Juries
12 Avery Hall, the studios
13 Avery Hall's Wood Auditorium,
Wednesday Evening Lecture



11



12



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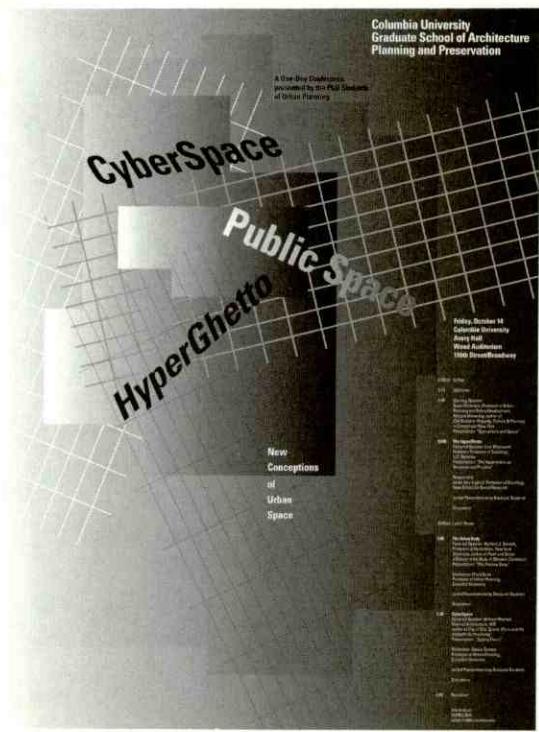
14 Avery 100 Gallery
15 Buell Hall



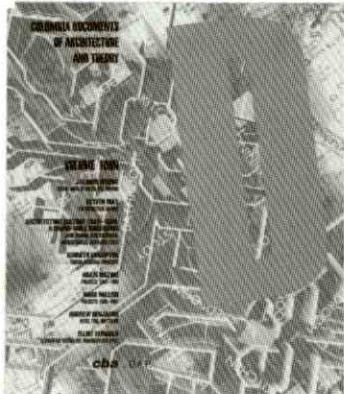
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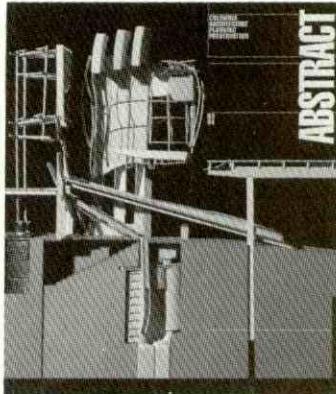
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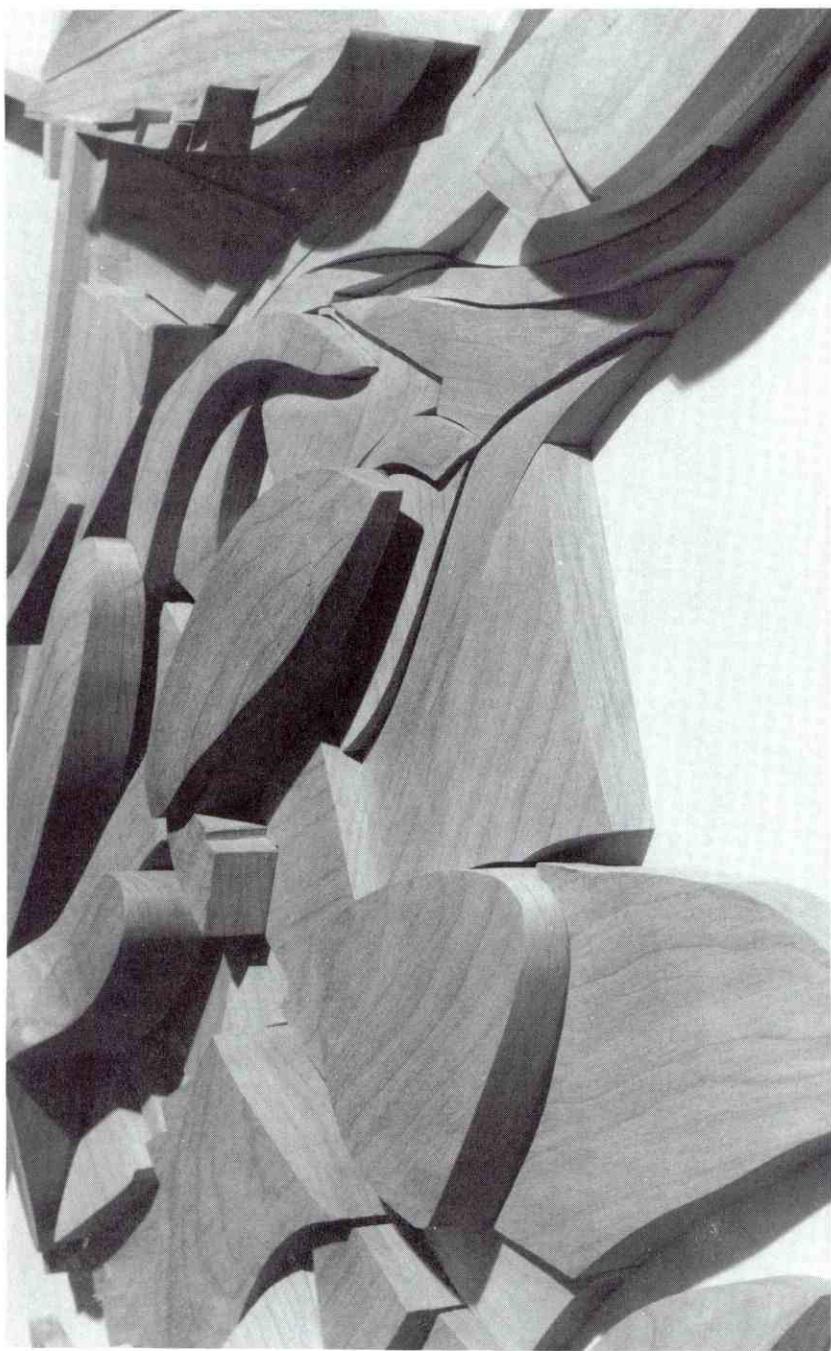
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Admission

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 preliminary application form 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) (107 Low Library).

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 \$40,400 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 Services, P.O. Box 6151, Princeton, NJ 08541-6151, U.S.A.; telephone (609) 771-7100; e-mail toefl@ets.org. The minimum TOEFL score for admission is 600.

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 W1X-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 (ISSO), 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 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. You are also invited to visit our Web site at www.columbia.edu/cu/ISSO/.

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 nonstudio 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 two LPs are permitted in the Design sequence and no more than three LPs 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.

Plagiarism and Acknowledgment of Sources

Students will be asked to do a great deal of written work while at Columbia: term papers and analytic essays of different lengths. These papers play a major role in course performance.

There have been some instances in which students attempt to submit the work of other people as their own. Because intellectual integrity is the hallmark of educational institutions, academic dishonesty is one of the most serious offenses that a student can commit at Columbia GSAP. A failing grade in the course is a minimal penalty.

In making clear Columbia's policy on plagiarism, it is not feasible to include here all the various forms—they are innumerable—that plagiarism might take. It is useful, however, to list several varieties in order to dispel confusion about actions that the School will not accept:

1. submitting essays, or portions of essays, written by other people as one's own;
2. failing to acknowledge, through footnotes and bibliographic entries, the source of ideas essentially not one's own;
3. failing to indicate paraphrases or ideas or verbatim expressions not one's own through proper use of quotations and footnotes;
4. collaborating on an assignment or examination without specific permission from the faculty member to do so.

If questions arise concerning proper use of quotations, footnotes, or bibliographies, the student should contact the instructor. In addition, students may not submit an essay written for one course to a second course without having received prior permission from both instructors. Seeking informed advice from a faculty member is the best way to avoid confusion about matters that can be complicated.

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 preregistration 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) = a superior level of work.

P (pass) = an acceptable level of work.

LP (low pass) = work that meets minimal standards.

F (fail) = 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 nine months of the academic year, including the projected tuition for the 2000-2001 academic year, is as follows. It does not include additional fees that are given in the Tuition and Fees section (below).

Tuition for a 30-point program	\$25,140
Living expenses (room, board, books, clothing, laundry, travel, sundries)	<u>15,235</u>
	\$40,375

Materials

Architectural supplies for students are available at the Charette 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 2000-2001. 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. 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 registration/change of programs, 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	\$838
With the provision that for degree candidates the tuition for a program of 12 to 19 points shall be, per term	12,570

Health Service Fee

The Health Service fee is for services and programs provided by Columbia University Health and Related Services (HRS). (Please refer to Medical Care and Insurance, p. 132, for details.) The fee is separate from the charge for Student Medical Insurance and is mandatory for all full-time students. For part-time students, enrollment in the Health Service is optional and must precede enrollment in the Student Medical Insurance Plan.

The periods of coverage and fees for 2000–2001 are as follows:

<i>Autumn:</i> September 1, 2000–January 15, 2001	\$224
<i>Spring:</i> January 16, 2001–May 31, 2001	\$224
<i>Summer:</i> June 1, 2001–August 31, 2001	\$120

Student Medical Insurance Plan

All full-time students are required to carry some form of health insurance—either Columbia's Student Medical Insurance Plan or their own comparable coverage. The Student Medical Insurance Plan offers reasonably priced medical benefits that have been designed to supplement the health care available on campus at HRS. (Please refer to Medical Care and Insurance, p. 132, for details.)

As a full-time student, you are automatically enrolled in and billed for the Basic Plan of the Student Medical Insurance *unless you waive* the plan by showing proof of a comparable level of medical insurance coverage, or if you opt for the Comprehensive level of coverage, by the published deadline. (In the autumn, the deadline is September 30.) Student Medical Insurance coverage is optional for part-time students; however, *you must be enrolled in the Health Service* in order to be enrolled in the Student Medical Insurance Plan.

The Student Medical Insurance rates for 1999–2000 were as follows:

Basic Plan	Autumn \$325*/Spring \$498*
Comprehensive Plan	Autumn \$453*/Spring \$695*

The periods of coverage for 2000–2001 Student Medical Insurance will be as follows:

Autumn: September 1, 2000–January 15, 2001

Spring: January 16, 2001–August 31, 2001

Recreational Facilities Fee

Per term (autumn, spring, or summer)	\$16
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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)	\$45
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*Student Medical Insurance Plan rates and benefits change annually. For the 2000–2001 academic year, a moderate increase in rates is expected. Specific coverage and benefits are also likely to change. A new yearly brochure outlining the plan details will be available by July 1, 2000. For up-to-date information, check the HRS Web site (<http://www.columbia.edu/cu/health>) after July 1, 2000.

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 and late fees are not refundable. Health Service, medical insurance, and special fees are refundable if notice of withdrawal is received by the Admissions Office by the last day of the change-of-program period. For 2000-2001, those dates are September 15 (autumn term) and January 26 (spring term). 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	80%
5th Week	70%
6th 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 the preparation and conferral of an original diploma. If your diploma is lost or damaged, there will be a charge of \$75 for a replacement diploma. Note that replacement diplomas carry the signatures of current University officials. Applications for replacement diplomas may be requested by calling the Office of the Registrar, Graduation, Degree Audit, and Diploma Division, (212) 854-1454.

Name Changes

Students may change their name of record only while currently enrolled in the University. There is no charge for this service, but students must submit a name change affidavit to the Office of the Registrar. Affidavits are available from this office. When you graduate or cease to enroll in the University, your name of record is considered final and may not be changed unless you enroll again at the University.

Transcripts and Certification

The amended Family Educational Rights and Privacy Act (FERPA) of 1974 prohibits release of educational records without the written consent of the student (for certain exceptions and further restrictions, consult Appendix A of *FACETS*, the University student handbook). You may obtain an official transcript of your academic record at Columbia University by writing to: Office of the Registrar, Columbia University, Mail Code 9202, 1140 Amsterdam Avenue, New York, NY 10027, Attention: Transcripts.

Please include the following information with your request: current and former names; Social Security number; schools attended and dates of attendance; degrees awarded and dates awarded; number of transcripts desired and complete address for each; your current address and telephone number; and your signature authorizing the release of your transcript. You may also order transcripts in person at 205 Kent Hall on the Morningside campus (9 a.m.-5 p.m., Monday-Friday). Currently enrolled students may order transcripts for themselves and for colleges and universities via the Student Services page on the World Wide Web at <http://www.columbia.edu/cu/students/>. There is no charge for issuing transcripts; however, all students pay a one-time transcript fee of \$45 upon their first registration at the University. The normal processing time for transcripts is two to three business days. If you mail in your request for a transcript, you should allow several additional days for delivery to and from the University.

You may order certifications of your enrollment and degrees via mail or in person, as described above. When requesting a certification by mail, include the notation "Attention: Certifications" on your envelope. Certifications are provided while you wait if you come to Kent Hall to request them. There is no charge for certifications.

Medical Care and Insurance

Health and Related Services (HRS) offers a comprehensive range of medical care and self-care options, counseling and psychological services, health education programs, nutritional support, and extensive outreach around issues pertinent to your well-being as a student.

Primary Care, located on the third floor of John Jay Hall, includes first-class care for an illness or injury, wellness programs, immunizations, and a travel medicine program. The Women's Health Service, located on the fourth floor of John Jay Hall, provides well-woman care, including initial and annual visits, lesbian health care, contraception, pregnancy testing, and referral services, as well as care for women with acute or chronic health problems. One-on-one counseling and a number of student life support groups and workshops are available in Counseling and Psychological Services (CPS), located on the eighth floor of Lerner Hall. Alice!, Columbia's Health Education Program, on the seventh floor of Lerner Hall, presents a wide range of health education and skill-building programs to the whole Columbia community.

These services are offered free or at a nominal charge to students who have paid the Health Service fee, which is mandatory for all full-time students. The full range of services is described in the Health and Related Services brochure available at any HRS location as well as in the Office of the Dean of Students. (Please see pp. 128-129 for fees and periods of coverage.) Accident and limited sickness insurance is provided by the University to all those who pay the Health Service fee.

Services provided outside of Health and Related Services, such as prescriptions, consultations, long-term counseling, x-rays, certain laboratory tests, dental care, and eye care are available at greatly reduced rates through the University's affiliates, discount plans from local providers, or through the Student Medical Insurance Plan.

Together Student Medical Insurance and HRS provide you with access to general, specialty, or emergency care whenever required. The Student Medical Insurance Plan is administered by Chickering Claims Administrators, Inc., based in Cambridge, Mass., and is underwritten by Aetna Life Insurance and Annuity Company. (Please see p. 129 for fees and periods of coverage.)

- The *Basic Plan* coverage provides a maximum of \$25,000 coverage per accident or sickness and is required unless a student can waive the plan by showing proof of comparable coverage. Catastrophe Coverage to an aggregate maximum of \$250,000 is included.
- *Comprehensive* coverage enhances those benefits that are available through the Basic Plan. Students who elect this plan receive enhanced accident and sickness coverage over the Basic Plan. Catastrophe Coverage is available to an aggregate maximum of \$1,000,000.

Both the Basic and Comprehensive Plans are one year in length; the plan you choose in the autumn will automatically carry over into the spring.

As a full-time student, you are automatically enrolled in and billed for the Basic Plan of Student Medical Insurance *unless you waive* the plan by showing proof of a comparable level of medical insurance coverage, or if you opt for the

Comprehensive level of coverage, by the published deadline. (In the autumn, the deadline is September 30.) To actively enroll in the Comprehensive Plan or to waive the Student Medical Insurance Plan, fill out the Enrollment/Waiver Form you received in the mail, or pick up a form in the Enrollment Office (John Jay Hall, Room 401) and mail it back to Chickering Claims Administrators, Inc. Early submission of the form insures that estimated charges on your Student Account Statement are accurate and that your Student Medical Insurance coverage begins without delay at the start of the term.

Student Medical Insurance coverage is optional for part-time students; however, *you must be enrolled in the Health Service* in order to be enrolled in the Student Medical Insurance Plan.

The costs of the Health Service fee and the Student Medical Insurance Program are listed on the schedule of fees under Tuition and Fees, p. 129. Services, benefits, and fees for the Health Service and Student Medical Insurance change from year to year. Students are advised to consult the latest Health and Related Services brochure (available as noted above). Also visit the HRS Web site (<http://www.columbia.edu/cu/health>) after July 1, 2000, where updates will be posted regularly.

Further assistance regarding Student Medical Insurance, including enrollment information, ID cards, waiver processing, or coverage and claim questions, may be obtained through Chickering Claims Administrators, Inc., P.O. Box 425007, Cambridge, MA 02142-0003; telephone: 1-800-859-8471; Web site: <http://www.chickering.com/>.

Further information on Health and Related Services, including Health Service eligibility and fees and medical insurance enrollment confirmation, plus enrollment/waiver forms, may be obtained through the Enrollment Office, Columbia University Health and Related Services (John Jay Hall, Room 401), Mail Code 3601, 519 West 114th Street, New York, NY 10027; telephone: (212) 854-7210; Web site: <http://www.columbia.edu/cu/health/>.

Immunization Requirements

New York State requires that all college and university students enrolled for 6 or more points be adequately protected against *measles, mumps, and rubella* (MMR). Students born on or after January 1, 1957, must provide documentation of immunity. (Students born before January 1, 1957, are assumed to have had exposure and need not take further action.) For more information regarding the state law, students should contact the Health and Related Services Immunization Line at (212) 854-7210. Details on methods of documenting immunity are provided in the HRS brochure and on the Web site.

In very rare cases, a student may be granted exemption from the MMR requirements if he or she submits documentation about a medical diagnosis or religious orientation that precludes further immunization. All letters will be carefully reviewed and considered by the medical director of Health and Related Services.

Please note: If you cannot provide evidence that you are immune to measles, mumps, and rubella, you will not be permitted to register for classes and may be charged a fine.

Housing

The descriptions of accommodations and rates below are in effect for the 1999-2000 academic year. Students can expect a rate increase for subsequent academic years.

University Apartment Housing

University Apartment Housing (UAH) provides full-time degree candidates with subsidized housing near the University. Accommodations vary from apartment shares to two-bedroom apartments, with rents based on the size of the apartment and what furnishings and/or utilities, if any, are included.

The majority of students are housed in apartment shares. Suitable for single students only, these two- to four-bedroom apartments provide each student with a private bedroom. The common areas (kitchen, living room, and bathroom) are shared with other students in the apartment.

Rates range from \$375 per month for a dormitory-style shared room to \$1,400 for a family-style apartment (available to students with dependent children only). All leases terminate on May 31 to coincide with the close of the academic year. Continuing full-time students are offered lease renewals beginning June 1 through the next academic year. Most of the UAH accommodations are billed monthly and cannot be charged to your Student Financial Services account.

Columbia Security operates car and foot patrols within the entire UAH area, and a shuttle bus provides transportation to and from campus and other UAH properties during evening hours.

Further information is available at <http://www.columbia.edu/cu/ire/>.

Off Campus

The Off-Campus Registry (OCR) assists Columbia affiliates who are looking for rooms or apartments that are owned and operated by landlords other than the University. These accommodations are not subject to inspection or approval by the University. The registry also tries to assist students who have non-Columbia-owned apartments they wish to share with other students. Information about OCR listings and how to access them is available at <http://www.columbia.edu/cu/reshalls/ocr/ocr.html/>. Only Columbia affiliates are eligible to access listings through the OCR.

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. International House also has resident scholarships. One hundred spaces at International House are reserved for Columbia students and are contracted through University Apartment Housing (UAH).

To be eligible for admission, a student must be a graduate, at least twenty-one years old, and registered for at least 12 points. Interested students may apply through UAH and/or directly to International House, 500 River-

side Drive, New York, NY 10027; telephone (212) 316-8436; Web site <http://www.ihouse-nyc.org/>. Most of the assignments made in International House are made to direct applicants. Filing an application with both International House and UAH 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 postings 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 Services

Columbia is committed to serving the needs of students with disabilities. Services to students with permanent or temporary disabilities are coordinated by the University Office of Disability Services. Disability Services works in conjunction with the School to support its academic program and standards and to meet students' disability needs.

The University Office of Disability Services provides a variety of services, programs, and resources to allow students with disabilities full participation in the academic and campus experience. Students are expected to identify their disability and to provide current and appropriate medical or diagnostic documentation before any accommodations can be considered. In cases involving students with learning disabilities, appropriate documentation must provide a current assessment of the student's adult level of learning skills and style 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 Disability Services upon acceptance to discuss their specific disability needs and to plan any academic accommodations that may be necessary.

For information, contact Dr. Lynne Bejoian, Director, Columbia University Office of Disability Services, 802 Lerner, Mail Code 2605, 2920 Broadway, New York, NY 10027; (212) 854-2388 (voice); (212) 854-2378 (TDD); fax: (212) 854-3448; e-mail: disability@columbia.edu. You may also contact the School's designated liaison officer: Loes Schiller, 400 Avery; (212) 854-3510.

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, family 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.

All students who receive scholarships must be registered for a minimum of 12 credits per semester.

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. All questions may be directed to Student Financial Planning 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 per 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 per 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, nonfederal 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, fees, 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

Annual predoctoral fellowships are open to legal residents of New York State for doctoral study in preparation for college teaching. Recipients must indicate their intent to teach in an 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

Predoctoral fellowships are available to students in the basic sciences or the social sciences for work relating to problems of health and disease. Applications are obtained by writing to the Chief, Career Development Review Branch, Division of Research Grants, National Institutes of Health, Bethesda, 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, 1436 International Affairs Building, Columbia University, 420 West 118th Street, 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, noncompetitive grants for school sponsored travel for architecture, 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 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 Grants and Development 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.

These awards are announced by the dean at graduation.

“School-Sponsored Kinne”

All M.Arch., AAD, UD, UP, and HP students are eligible for a one-time, individual, noncompetitive 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 by the organizing faculty member to the Office of the Dean. Students who elect to join trips over and above their one-time allocation do so at their own expense. Also, some William Kinne Fellowships may be allocated to help support organized summer and holiday group study trips internationally (under the supervision of a faculty member). 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.

The Saul Kaplan Traveling Fellowship

This fellowship is funded by a gift from Saul Kaplan (M.Arch. '57) and is awarded to the School's best design student. The recipient will be chosen on the basis of merit through a competitive process based on the submission of a portfolio of design work produced while a student at the School. As a significant component of this Fellowship is travel, prior to receiving the prize funds the recipient must submit a statement articulating goals and objectives for a travel/study program not to exceed six months. Recipients of the Kaplan Traveling Fellowship will also be named recipients of the McKim Prize for Excellence in Design. The award is announced at Commencement ceremonies in May. Following the travel/study program, the recipient is invited to return to the School to present the results of his or her studies.

Architecture Program Awards

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 traditional 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 sponsor(s). The apprenticeship period will be from June to March. As workshops and courses are conducted in Japanese, the apprentice is expected to endeavor to learn the Japanese language. The scholarship will provide the apprentice with a monthly allowance. Other arrangements will change from year to year depending on sponsor(s) and carpenter(s).

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, 1994, 1996, and 1997, 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).

Christopher Fox Memorial Scholarship

The Christopher Fox Memorial Scholarship is given each year to a second- or third-year M.Arch. student in memory of Mr. Fox's outstanding contributions to the Columbia community.

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 Awards

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 Awards

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 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 Awards

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 is given in conjunction with the Saul Kaplan Traveling Fellowship and carries a \$12,500 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 total 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

(ALI JAWAD MALIK MEMORIAL 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 \$1,000 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 Staresnier 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; drawing; computers; building technology; history/theory; conservation; photography/darkroom; slide library; model shop; exhibitions; planning workshop; publications.

Compensation consists of a combination of a tuition award 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 may also be solicited in the autumn term for positions available in the coming spring term.

Employment Opportunities for Students and Their Spouses

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.

Spouses of students may also register with the Center for term-time work. Those interested in regular full-time jobs on campus should contact the Human Resources Department, 475 Riverside Drive, Room 1901. Most of these positions are secretarial or administrative in nature, usually requiring good typing and computer skills as well as prior office experience. A complete listing of available positions can be found on the University's Web site (www.columbia.edu). Regular full-time University employees and their families may be eligible for a limited number of points of tuition exemption as outlined in the Tuition Exemption Program. However, eligibility for the Tuition Exemption Program does not imply automatic admission or ability to register for courses. The specific admission requirements of the school or division must also be met. Detailed information about the Tuition Exemption Program and other University benefits can be obtained from Human Resources.

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 *Registration and Expenses*—Auditing Courses). 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 an unpaid debt 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.

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

A student in good standing may, for a valid reason, be granted a leave of absence by the Dean of the School.

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 that 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 the 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 involved, 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 in *FACTS*, the University student handbook (<http://www.columbia.edu/cu/facts/>), and at the Office of the University Senate, 406 Low Memorial Library.

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, citizenship, 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 the 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 who are most vulnerable to discrimination and harassment.

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 or activities (including employment therein and admission thereto). Inquiries concerning the application of Title IX may be referred to Ms. Beth Wilson, Associate Provost, who heads the University's Office of Equal Opportunity and Affirmative Action (402 Low Memorial Library, 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 Section 296 prohibits discrimination against any person in employment because of age, race, creed, color, national origin, disability, sex, marital status, and genetic predisposition or carrier status.

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 or treatment 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 discrimination in public accommodation and in employment against qualified persons with disabilities. It requires the University to provide qualified applicants and employees with reasonable accommodations that do not impose undue hardship or pose a direct threat of harm to themselves or others.

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, Section 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 educational policy on discrimination, which reaffirms the University's commitment to nondiscriminatory policies and practices. The Senate reaffirmed this policy on April 27, 1990, by expanding the categories protected from discrimination and adding protection against harassment as well. Currently, the policies protect against discrimination and harassment on the basis of race,

color, gender, religion, national and ethnic origin, age, disability, marital status, sexual orientation, and status as a Vietnam era or disabled veteran.

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 compliance activities under each of the programs referred to above. Any employee who believes that he or she has been denied equal opportunity should contact this office, which may 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, color, religion, national or ethnic origin, sex, sexual orientation, marital status, age, disability, citizenship, or Vietnam era or qualified special disabled veteran status. A copy of the Procedure is available in *FACETS*, the University student handbook, and in the office of the Associate Provost for Equal Opportunity and Affirmative Action, 402 Low Memorial Library or 101 Bard Hall; telephone: (212) 854-5511.

A complaint under this Procedure is initiated through a written complaint filed with the Equal Opportunity and Affirmative Action Office. Staff in that office will assist with filing the complaint 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 for-

mal 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 or if required by law, after all reasonable steps have been taken to protect confidentiality.

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, adjudicate, or testify in any formal judicial or administrative hearing, unless compelled by legal process. 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, 660 Schermerhorn Extension; telephone: (212) 854-1234; fax: (212) 854-6046; e-mail: ombuds@columbia.edu. On Wednesdays the Ombuds Officer is at the Health Sciences campus office, 101 Bard Hall, 50 Haven Avenue; telephone: (212) 304-7026.

The Federal Family Educational Rights and Privacy Act (FERPA)

The University abides by the provisions of the Federal Family Educational Rights and Privacy Act of 1974. This act insures a wide range of rights, including but not limited to: information about student records that the University maintains, who maintains them, who has access to them, and for what purposes access is granted. The act also permits the University to release "directory information" without a student's consent. In addition, the act guarantees students access to their records and restricts the access of others.

Students who wish to restrict access to their directory information may do so at the Registrar's Office, 205 Kent. This same office can provide a set of guidelines and a policy statement. The guidelines are also available on ColumbiaWeb and in the current edition of *FACETS*. Questions about the interpretation of the guidelines should be referred to the University's General Counsel, 412 Low Library.

Protection Against Sexual Harassment

NOTE: As this bulletin went to press, the University Senate adopted a new policy on student sexual misconduct; however, the policy text had not been fully finalized. Please contact the University Senate, 406 Low Library, (212) 854-2023, or visit the Senate Web site (<http://www.columbia.edu/cu/senate/>) for current information. Current policy information will also be available in FACETS, the University student handbook.

Policy Statement on Sexual Harassment

Federal law, including Title VII of the Civil Rights Act of 1964, provides that it shall be 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 (EEOC) has issued Guidelines on the subject. While the EEOC Title VII Guidelines apply only to faculty and other employees, Title IX, administered by the U.S. Education Department's Office for Civil Rights (OCR), also protects students from sexual harassment. Accordingly, 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 may choose to 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. Advice may also be sought from the Office of Equal Opportunity and Affirmative Action, 402 Low Memorial Library or 101 Bard Hall, (212) 854-5511, or the Ombuds Office, 660 Schermerhorn Extension or 101 Bard Hall,

(212) 854-1234. If these steps do not resolve the problem, the applicable University grievance procedure should be used. The University Discrimination Grievance Procedure 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 informal mediators. Their goal is the protection and counsel of any member of the University who is made to feel personally pressured or uncomfortable because of the behavior of another University member. 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 are also 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 a timely, protective, and compassionate arm of the University, one that not only sensitizes and educates the University community but also demonstrates the University's commitment to fair treatment of all its members.

Panel Membership List

Names and contact information for members of the Columbia Panel on Sexual Harassment can be found in Appendix E of *FACETS*, the University student handbook.

Sexual Misconduct Policy and Alternative Procedure

*NOTE: As this bulletin went to press, the University Senate adopted a new policy on student sexual misconduct; however, the policy text had not been fully finalized. Please contact the University Senate, 406 Low Library, (212) 854-2023, or visit the Senate Web site (<http://www.columbia.edu/cu/senate/>) for current information. Current policy information will also be available in *FACETS*, the University student handbook.*

Romantic Relationship Advisory Statement

Faculty and staff members are cautioned that consensual romantic relationships with student members of the University community, while not expressly prohibited, can prove problematic. A faculty or staff member involved in such a relationship with a student is expected to remove him/herself from academic or professional decisions concerning the student. The Provost has, however, authorized some departments to adopt more restrictive policies. Individuals with questions about the position of their department are encouraged to raise them with their department head.

Should a romantic relationship with a student lead to a charge of sexual harassment against a faculty or staff member, the University will pursue it in accordance with its Sexual Harassment Policy and applicable grievance procedure. Questions about this Advisory Statement may be directed to Associate Provost Beth Wilson, Office of Equal Opportunity and Affirmative Action, 402 Low Memorial Library or 101 Bard Hall, (212) 854-5511. For the complete statement, please see Appendix F of *FACETS*, the University student handbook.

Governance: Schoolwide and Program Committees

Schoolwide Committees

Faculty

Full faculty meetings normally take place once a year chaired by 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 chair; 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 subcommittees. 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 com-

mittees. 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. noncompetitive 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 student suggestions. 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 may 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

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)

Avery Hall Options

Tom's Kitchen: Located on the 100-level of Avery Hall, Tom's Kitchen 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.

Vending machines are located outside 102 Avery.

Dining Services Locations

Columbia Dining Services maintains eight dining facilities conveniently located on campus. Each of our locations accepts Dining Dollars, an alternative to cash payment that is accessed by your Columbia Card (your student ID card).

With Dining Dollars, you will enjoy the ease and flexibility of cashless transactions. You will also enjoy the savings of sales tax on all food purchases—8.25 percent each time you dine with us. Many upperclass and graduate students who dine on campus open a Dining Dollars account; however, some choose to enroll in an upperclass/graduate student meal plan.

Dining Services offers two plans—the 40 Meal Plan and the 75 Meal Plan. Both plans are accessed by the Columbia Card and meals may be used *only in John Jay Dining Hall*, for *breakfast and dinner on weekdays and brunch and dinner on the weekend*. Lunch is not offered on campus on a meal plan basis.

All Columbia Dining Services locations accept cash and Dining Dollars.

John Jay Dining Hall: Located on the first floor of John Jay Hall, this dining facility serves an “all-you-care-to-eat” breakfast, including pancakes, waffles, eggs, and grilled specials. An “all-you-care-to-eat” dinner includes hot entrees (with low-fat vegetarian and vegan choices), pastas, stir-fry, salads, and delicious, hearty soups. The weekend brunch includes all the delicious foods you enjoy at breakfast, with some specialties, including quiche, grilled chicken, and a salad bar.

JJ's Place: Located in the basement of John Jay Hall, JJ's Place is a combination convenience store, grill, and snack bar. While enjoying a Freshen's Fruit Smoothie, you can also pick up chips and salsa, laundry detergent, and a prepackaged sandwich for later! Open until 2 a.m. daily, JJ's is a favorite for students with the late night munchies.

The Food Court at Wien Hall: You are likely to recognize the restaurants in Wien's Food Court, located on the first floor of Wien Hall. Our own Pizza Hut Express serves Personal Pan Pizza, bread sticks, and chicken wings, and our Taco Bell Express offers their signature Value Menu. We also carry a variety of grocery items, pastries, beverages, and snacks for convenient carryout.

Uris Deli: Located on the main floor of the Business School in Uris Hall, Uris Deli brings true Manhattan deli-style fare right into the heart of the Columbia University campus. Our sandwiches are made with the finest meats on a variety of breads, with toppings that include honey mustard, garlic mayonnaise, and

roasted red peppers. We also serve continental breakfast, gourmet soups, toasted focaccia sandwiches, frozen yogurt, and a variety of snacks.

Lenfest Café: The Café is a compact grill, salad bar, and convenience store in the Columbia Law School on the third floor of Jerome Greene Hall. You might want to stop into Lenfest for a veggie burger or a snack on your way to or from classes on the east side of campus.

Carleton Lounge: Located on the fourth floor of the Mudd Building, home of The Fu Foundation School of Engineering and Applied Science, the Carleton Lounge offers hot entrees and prepared salads, along with gourmet soups and deli sandwiches.

The Marketplace at Ferris Booth Commons: Our newest restaurant is a European-style market located on the third and fourth floors of Alfred Lerner Hall, Columbia's new student center. The emphasis here is on an abundance of fresh, convenient choices of distinctive foods prepared right in front of you. Options include a sushi bar, fresh homemade pastas, Asian stir-fry, and a comprehensive bagel bar with spreads and salads.

Café (212): Located in Alfred Lerner Hall at campus level, Café (212) is open from 7:30 a.m. until 2:00 a.m. and serves fresh salads, deli sandwiches, and carry-out snacks and beverages, including Starbucks coffee, espresso, and cappuccino. Convenience and selection make this a frequent stop for students on the move.

For further information, please feel free to write to us at Columbia University Dining Services, 2960 Broadway, MC 3701, New York, NY 10027. You may also call us at (212) 854-4076 or e-mail eats@columbia.edu.

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 an 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 GSAPP 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 alphabetically by 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 two 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 located in Lerner Hall.

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 interlibrary 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.

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

130 Uris; 854-4000. Real estate information: institutional real estate, finance, and marketing.

American Institute of Architects New York Chapter
200 Lexington Ave.; 683-0023.

Jack Brause Library
New York University Real Estate Institute, 11 West 42nd St.; 790-1300.

Citizens Housing and Planning Council
50 East 42nd St.; 286-9211.

City Planning Commission
22 Reade St.; 720-3300.
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.
Planning and Development in Manhattan: 22 Reade St.; 720-3542.
Planning and Development in Lower Manhattan: 22 Reade St.; 720-3489.

Cooper-Hewitt Museum Library
2 East 91st St. (5th Ave.); 849-8330. Hours by appointment, M-F, 9:30-5:30.

Institute of Public Administration
55 West 44th St.; 992-9898.

La Guardia Archives
31-10 Thompson Avenue, Long Island City; (718) 482-5065.

Municipal Archives and Reference and Research Center
Archives: 31 Chambers St., Rm. 103; 788-8580.
Reference and Research Center: 31 Chambers St., Rm. 112; 788-8590.

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: 160 West Broadway or 60 Hudson St.; 312-8000.

New York Public Library
42nd St. and 5th Ave.; 661-7220.

Port Authority of New York
1 World Trade Center; 435-7000.

Pratt Institute Library
DeKalb Ave. and Hall St., Brooklyn; (718) 636-3685. METRO Referral Card needed.

Real Estate Board of New York
570 Lexington Ave., 2nd Fl.; 532-3100.

School of Visual Arts Library
380 2nd Ave. (betw. 21st and 22nd Sts.); 592-2660.

The Urban Center
457 Madison Ave.; 935-3960.

Academic Calendar: 2000-2002*

The following Academic Calendar was correct and complete as of January 1, 2000; 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 may be obtained in the Office of the Registrar, 205 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.

2000-2001

Rosh Hashanah Saturday, Sunday, September 30, October 1

Yom Kippur Monday, October 9

First days of Succoth Saturday, Sunday, October 14, 15

Concluding days of Succoth Saturday, Sunday, October 21, 22

All Saints Wednesday, November 1

Immaculate Conception Friday, December 1

Christmas Monday, December 25

Id al Fitir Wednesday, December 27

Lunar New Year Wednesday, January 24

Ash Wednesday Wednesday, February 28

Id al Adha Tuesday, March 6

First days of Passover Sunday, Monday, April 8, 9

Good Friday (also Orthodox) Friday, April 13

Concluding days of Passover Saturday, Sunday, April 14, 15

Easter (also Orthodox) Sunday, April 15

Ascension Thursday, May 24

Shavuoth Monday, Tuesday, May 28, 29

Summer Session 2000

MAY

29 Monday. Memorial Day observed. University holiday.

31 and June 1 Wednesday and Thursday. Registration, including payment of fees, for summer session for Advanced Architectural Design and Urban Design Programs.

JUNE

5 Monday. Classes begin for summer session.

JULY

4 Tuesday. Independence Day. University holiday.

*The Academic Calendar is subject to review and possible modification by the School; 2000-2002 dates are provided as complete as possible as of publication of this bulletin.

5 Wednesday. First day of classes for *Introduction to architecture*.

AUGUST

1 Tuesday. 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 2000

Late registration includes payment of an additional fee.

AUGUST

29-31 Tuesday-Thursday. Registration, including payment of fees. Students allowed to register after these dates must pay a late fee.

SEPTEMBER

4 Monday. Labor Day. University holiday.

5 Tuesday. Classes begin. Late registration begins. First day to change programs and apply to audit courses.

15 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

18 Wednesday. Conferring of degrees and certificates.

19 Thursday. Midterm date.

NOVEMBER

1 Wednesday. Last day to file an application for February degrees and certificates.

6 Monday. Academic holiday.

7 Tuesday. Election Day. University holiday.

23-26 Thursday-Sunday. Thanksgiving holidays.

DECEMBER

1 Friday. 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.

11 Monday. Classes end.

12-14 Tuesday-Thursday. Study days.

15-22 Friday-Friday. Midyear course examinations. Term ends.

23 Saturday, through January 15, 2001, Monday. Winter holidays.

Spring Term 2001

Late registration includes payment of an additional fee.

JANUARY

9-11 Tuesday-Thursday. Registration.

15 Monday. Martin Luther King Day. University holiday.

16 Tuesday. Classes begin. Late registration begins. First day to change programs and apply to audit courses.

26 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

14 Wednesday. Conferring of degrees and certificates.

MARCH

5 Monday. Midterm date.

10-18 Saturday-Sunday. Spring holidays.

APRIL

30 Monday. Classes end.

MAY

1-3 Tuesday-Thursday. Study days.

4-11 Friday-Friday. Final course examinations. Term ends.

Commencement 2001

MAY

16 Wednesday. Conferring of degrees and certificates.

Autumn Term 2001

SEPTEMBER

4 Tuesday. First day of classes.

OCTOBER

17 Wednesday. Conferring of degrees and certificates.

19 Friday. Midterm date.

NOVEMBER

5-6 Monday-Tuesday. Election Day holidays.

22-25 Thursday-Sunday. Thanksgiving holidays.

DECEMBER

10 Monday. Last day of classes.

11-13 Tuesday-Thursday. Study days.

14-21 Friday-Friday. Final examinations.

Spring Term 2002

JANUARY

22 Tuesday. First day of classes.

FEBRUARY

13 Wednesday. Conferring of degrees and certificates.

MARCH

11 Monday. Midterm date.

16-24 Saturday-Sunday. Spring holidays.

MAY

6 Monday. Last day of classes.

7-9 Tuesday-Thursday. Study days.

10-17 Friday-Friday. Final examinations.

Commencement 2002

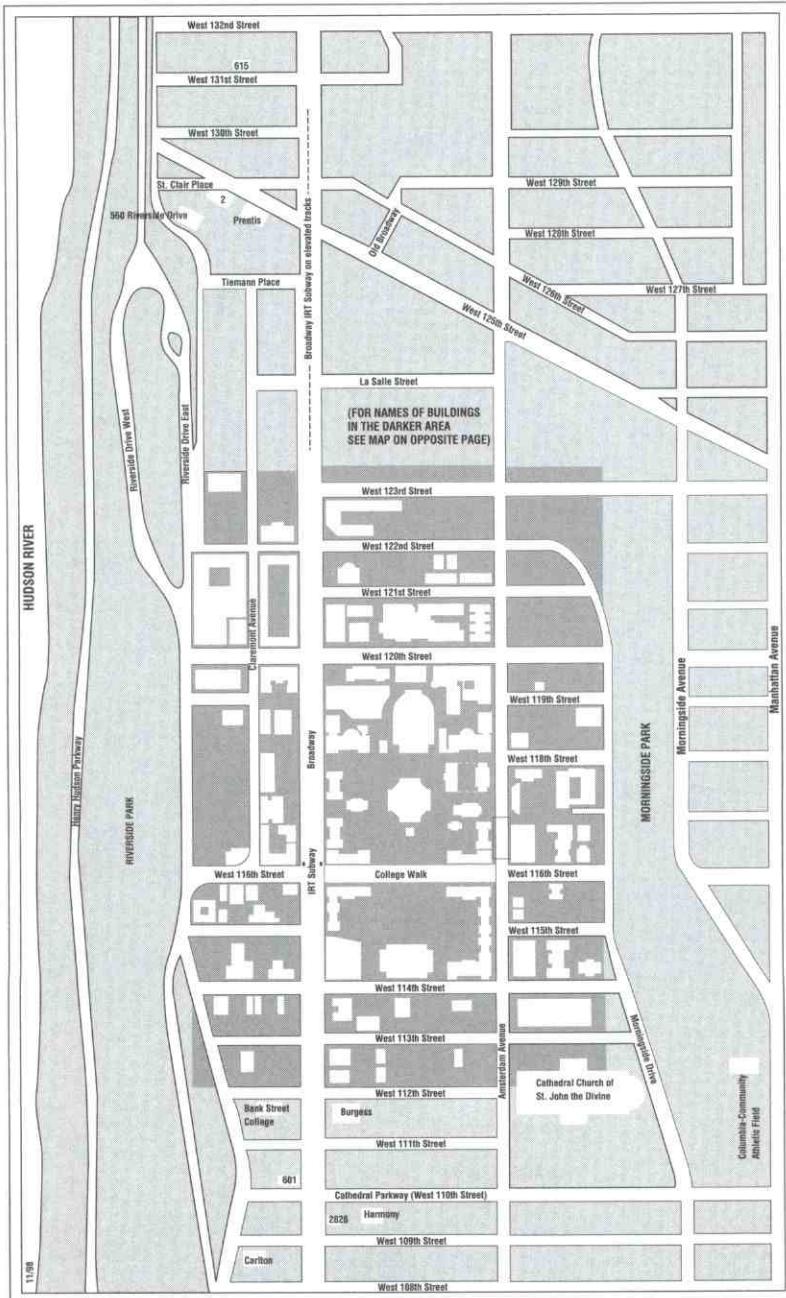
MAY

22 Wednesday. Conferring of degrees and certificates.

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D. S. S.

The Morningside Heights Area of New York City



Columbia University The Morningside Campus & Environs

