

Johnson Graduate School
of Management

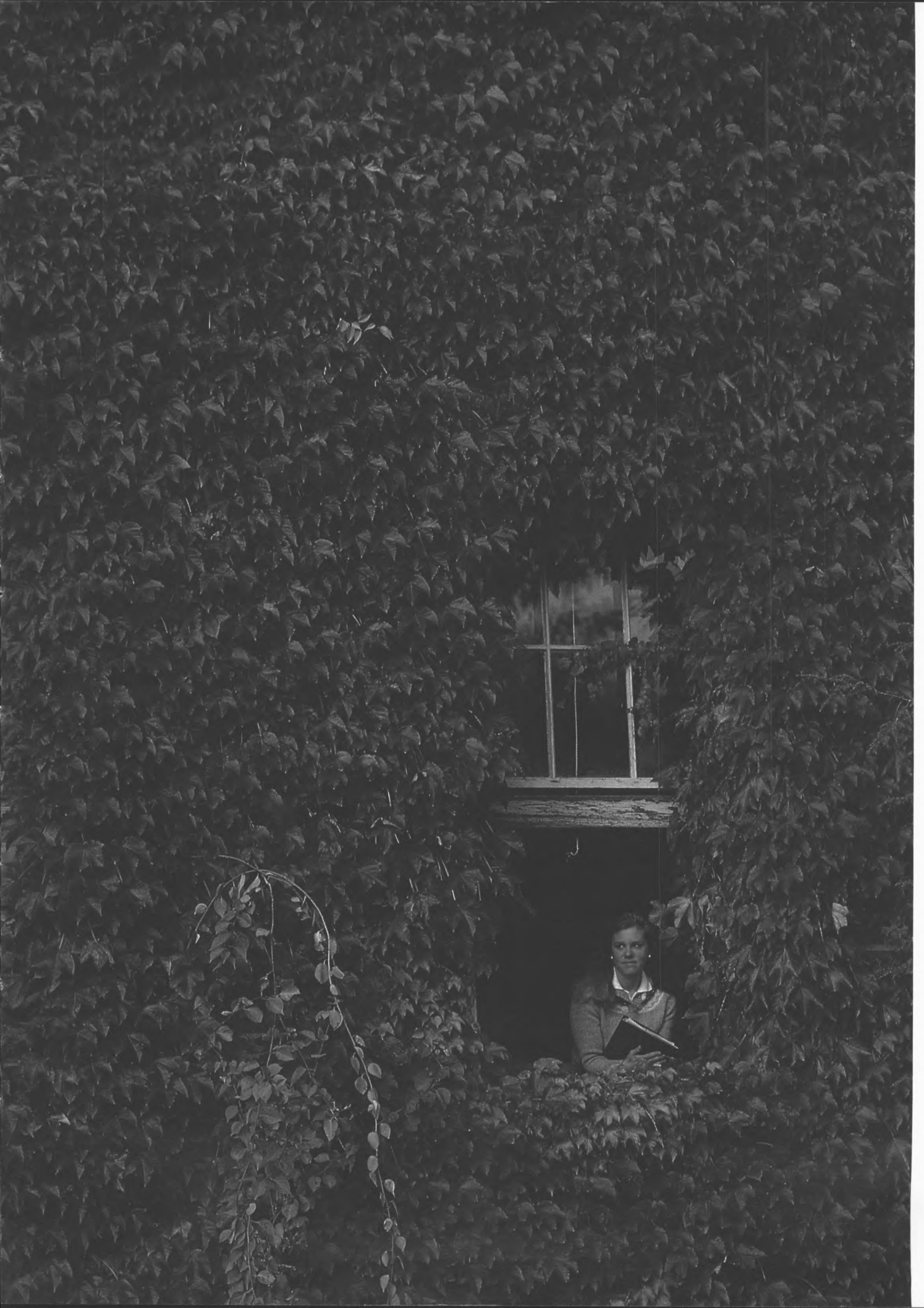
Cornell University
Announcements
1987-88



Cornell University Announcements
(ISSN 0744-4605)

Volume 79 of the Cornell University Announcements consists of nine catalogs, of which this is number four, dated July 24, 1987. Issued twice in March, once in June, three times in July, once in August, once in September, and once in October. Published by the Office of Publications Services, Cornell University, East Hill Plaza, Ithaca, New York 14850-2805. Second-class postage paid at Ithaca, New York. **Postmaster:** Send address changes to the Johnson Graduate School of Management, Cornell University, 314 Malott Hall, Ithaca, New York 14853-4201.

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



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Johnson Graduate School of Management

Graduate Management Education at Cornell



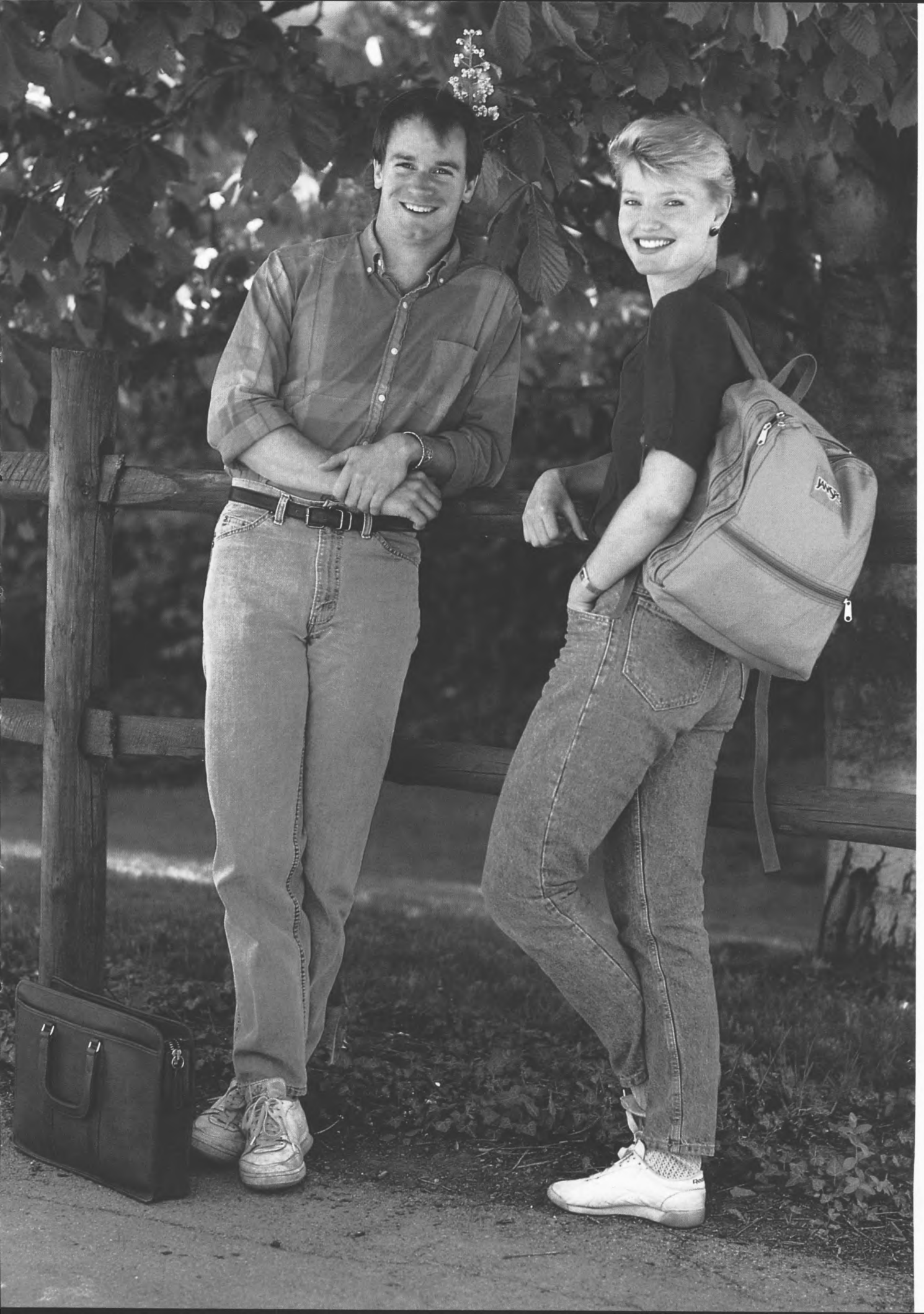
Above: Sarah Hammann and Bob Andolina, both '86, at work in the André Meyer Computing Laboratory. **Opposite:** Scott Mercer and Laural Warren, both '88, in front of Malott Hall. Laural says she was attracted to the Johnson School because of "the sense of community, camaraderie, and cooperation, rather than competitiveness, among the students."

Introducing the Johnson School
This catalog contains most of the information you will need to make a decision about applying to Cornell University's Johnson Graduate School of Management (the Johnson School, JGSM). On the pages that follow are descriptions of our M.B.A. and Ph.D. programs, placement services, faculty members, and courses, and information about student life, application procedures, and financial aid.

We hope that after reading this publication you will better understand the particular culture and personality of the Johnson School. Like most educational institutions, ours has its own special character, shaped by its past, by its self-perception, and by the people associated with it. For the nearly forty years that we've been in operation, our educational approach has emphasized a respect for the individual goals and aspirations of students, a commitment to excellence in teaching and research, and a strong sense of community among all involved with our enterprise—students, faculty and staff members, and alumni. Those values were among the attributes that led the Johnson family of Racine, Wisconsin, to make a \$20 million endowment gift to our school in 1984, the largest single gift ever made to a business school.

Our respect for individual career aspirations is best illustrated by our flexible, open curriculum. We are well aware that our students enter with diverse backgrounds and career objectives and different levels of preparation. The program we offer builds on that diversity, so that each student's Cornell M.B.A. experience is unique. A history major interested in consumer brand management, for example, will follow a different course of study here than will an electrical engineer who plans a career in manufacturing. Yet both may take advantage of our curriculum's flexibility to obtain the most from time spent in the classroom, library, case-study group, and microcomputer laboratory.

Our commitment to the individual is also evident in our approach to job placement. Instead of channeling students into preordained career niches, we encourage them to work with their academic advisers and JGSM's career counselors to develop the educational and career strategies that suit them best. Those strategies encompass classroom training, summer internships, and the identification of first-job and long-term career opportunities.



Our hand-tailored approach to education produces graduates who not only succeed but who also have a high level of job satisfaction. Some of our M.B.A.'s join Wall Street investment-banking firms; others work for giant multinational corporations like IBM, Procter and Gamble, and American Express. Still others manage smaller firms, head public and not-for-profit organizations, launch their own entrepreneurial ventures, or combine their business training with technical training and go on to become highly specialized consultants.

A key element of the Johnson School's special environment is a faculty that excels both in research and in teaching and whose members are genuinely interested in students.

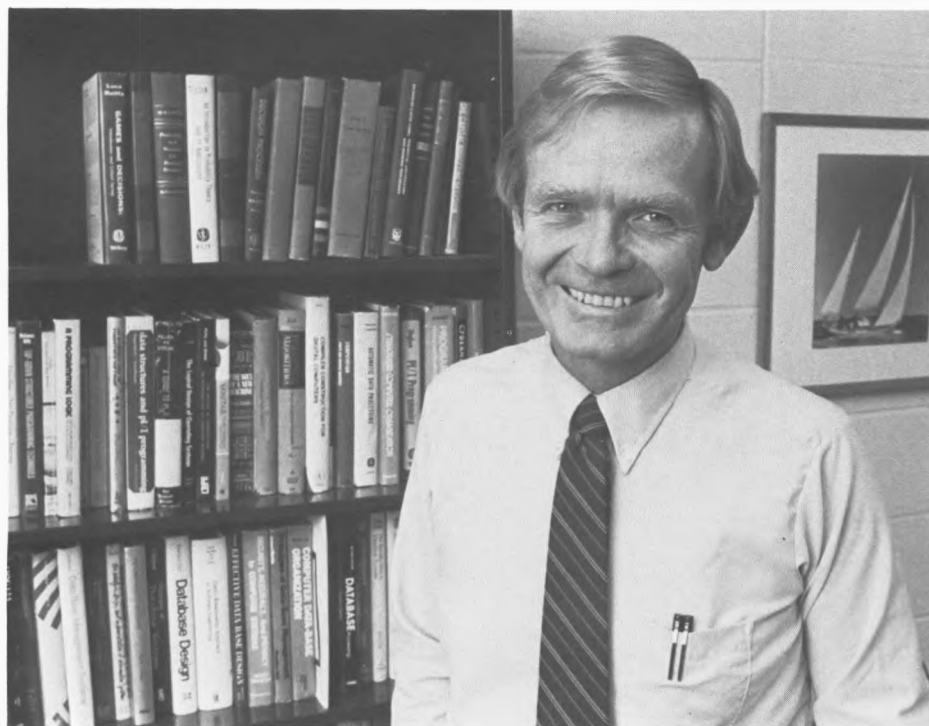
Virtually all of our professors conduct research in their fields of expertise and publish actively. Some have acquired international reputations through their work. Associate professor of finance Maureen O'Hara, for example, was recently chosen by the American Association of University Women as the most-promising young scholar of 1986. She is the first recipient of the award in a business-related field. Professor Harold Bierman, Jr., whose course Financial Policy Decisions is one of the Johnson School's more-popular offerings, recently received the prestigious Dow Jones Award from the American Assembly of Collegiate Schools of Business (AACSB) for his

contribution to collegiate business education. Bierman's selection put him in the company of such respected authorities on management and administration as Peter Drucker, Herbert Simon, Frederick Herzberg, and William Sharp. L. Joseph Thomas, Nicholas H. Noyes Professor of Manufacturing, received the 1985 AACSB Exxon Award for his proposal to adapt a factory-simulation model developed by professor of information systems Richard W. Conway. The model has been adopted by Hewlett Packard and General Motors and is marketed nationally. An educational version is currently being distributed to universities. Professor of economics and policy Robert H. Smiley developed a dynamic course entitled The External Environment of Business that received an honorable mention from the AACSB in 1987 for its innovative approach to graduate management education. Professor of economics, management, and public policy Robert C. Lind was one of the thousand most-cited living economists listed in the second revised edition of *Who's Who in Economics*. Thomas R. Dyckman, associate dean for academic affairs and Ann Whitney Olin Professor of Accounting, has twice been awarded the American Institute of Certified Public Accountants' annual prize for the most-significant contribution to the literature of accounting; in 1987 he was selected as the American Accounting Association's outstanding educator.

In the classroom our faculty members exhibit unusual skill and expertise, covering material with coherence, artistry, and diligence and making complex topics comprehensible and interesting. Those skills are especially valuable to students during the crucial first-year core courses, most of which are team taught by senior faculty members.

Our faculty prides itself on an accessibility to, and a concern for, students that even the graduates of the nation's most student-oriented liberal-arts colleges find exceptional. Each fall, first-year students are surprised to discover that some professors know them by name, even before classes begin. The open-door policy is a tradition that is taken seriously at the Johnson School. Some of our faculty members have their office doors always open to students; all are available during office hours.

Dick Conway, professor of information systems. Dick is one of the planners of the new Program in Manufacturing Management, described on page 14 of this section.



That accessibility and genuine concern for students as individuals as well as future managers sets the tone for the strong sense of community that envelops our school. The Johnson School is an environment in which students can take the initiative to put together colloquiums that address controversial issues. In 1986, for example, JGSM's Old Ezra Investment Club organized an informal question-and-answer session with former Citicorp chairman Walter Wriston in New York City. In 1985 a student group invited four faculty members with outspoken views to discuss the implications of investment in South Africa. Every seat in our largest auditorium was filled for that event, in spite of the inconvenience of the time—Friday afternoon—and the lure of the weather—a balmy spring day. The Johnson School is also an environment in which faculty members are not afraid to risk public humiliation in the ice-hockey rink in a challenge match with students or to take delight in showcasing their musical talents in our annual variety show. And it is an environment to which alumni return continually—to attend special events, to appear as guest lecturers, to recruit, or simply to visit with friends and former professors.

The sense of community at the Johnson School is perhaps best reflected in our low student drop-out rate and our high percentage of alumni who make financial contributions. Ninety-eight percent of our entering students go on to graduate. Many struggle from time to time during their two years at Malott Hall but are spurred by help, advice, and support from classmates and faculty and staff members. During the last decade the percentage of Cornell M.B.A. graduates making contributions to the Johnson School has consistently been among the very highest in the nation. We believe that that high percentage reflects in part at least the strong feelings that students develop for our school during their two years at Cornell.

The Core Courses

As a student, you will spend most of your first year building a foundation of knowledge for future, more-specialized study. The building blocks of that foundation are our core courses, listed below—courses that introduce you to a broad range of disciplines relevant to management. The demands of the core courses make the first year more intensive for most students than the second, but our graduates assure us that the skills and the knowledge they acquired during their first year at the Johnson School gave strength and substance to their M.B.A. degrees and accorded them a competitive edge in the marketplace.

► First-Year Core Courses

FIRST SEMESTER

NCC 500 Financial Accounting

NCC 501 Quantitative Methods for Management

NCC 502 Microeconomics for Management

NCC 503 Marketing Management

NCC 504 Behavioral Science

SECOND SEMESTER

NCC 505 Macroeconomics and International Trade

NCC 506 Managerial Finance

NCC 507 Management Information Systems

NCC 508 Production and Operations Management

► Second-Year Core Courses

THIRD AND FOURTH SEMESTERS

NCC 510 Business-Government Interface

NCC 511 Business Strategy and Policy

NOTE: All students must complete the prescribed menu of courses listed above. You may take NCC 505 or NCC 508—but not both—in the third semester. Other than those, no first-year core courses can be postponed until the second year. You may take NCC 510 in the first year instead of in the second year, but you are *not* advised to do so. In the third and fourth semesters NBA 577 (The External Environment of Business), NBA 580 (Industrial Policy: Lessons for the United States from Japan and Europe), or NBA 521 (Regulation, Deregulation, and Antitrust) can be substituted for NCC 510 (Business-Government Interface).



Hal Bierman, Nicholas H. Noyes Professor of Business Administration and winner of the AACSB's Dow Jones Award for outstanding contributions to management education. Hal recently spent a semester as scholar-in-residence at Prudential Bache.

The Electives

During your second year of M.B.A. studies, you design your own program of elective courses. You can make that program as broad or as narrow as you like. You may include courses from any of the Johnson School's areas—accounting, behavioral science, economics, finance, marketing, and operations management and management information systems. You may also include as many as five courses from other academic units at Cornell.

When you design your second-year program, you may choose, as many students do, to stay close to the traditional functional areas of management—accounting, finance, marketing, or operations management. For each of those areas, our faculty has developed subject-area maps to assist in course selection. There are no prescribed sequences, however. We recognize, for example, that although aspiring company controllers and investment bankers both concentrate in finance, their second-year course selections usually will be quite different.

You may choose broader areas of study—business policy, corporate planning, or general management, for example. That alternative, which is popular among more-experienced students and among those with strong technical skills, allows a sampling of the entire curriculum. It also permits you to

strengthen areas of particular concern and to fill gaps in your preparation.

You may design a program geared to a specific career. Such programs usually include elective courses from elsewhere in the university and demand a concrete notion of a career path. In recent years students who have chosen that route have designed programs in such areas as international agricultural development, business journalism, health care, manufacturing technology, performing-arts management, and real-estate development.

► Accounting

Students who take courses in accounting learn how to use accounting information to make decisions and measure performance and incentives effectively. They also acquire the technical expertise necessary to prepare, analyze, and evaluate financial statements.

Our accounting courses incorporate case studies and standard accounting problems. The case studies make extensive use of financial statements that have been prepared and published by publicly held corporations. A typical program in accounting includes second-year courses in finance, managerial economics, and computer applications, as well as in intermediate, advanced, cost, and tax accounting.

Students who elect to concentrate in accounting usually are interested in careers in public accounting,

consulting, finance, or general management. If you plan to pursue a career in professional accounting, you are advised to complete the requirements to sit for the certified public accountant (C.P.A.) examination. You can fulfill the academic requirements for the New York State C.P.A. certificate by completing the M.B.A. degree program and by meeting the following specific course and subject-area requirements:

1. Finance requirement—complete nine credits in finance at the undergraduate or graduate level.
2. Economics requirement—complete nine credits in economic principles and analysis at the undergraduate or graduate level.
3. Business-law requirement—complete four credits in business law from among the following courses:

NBA 560 Business Law

NBA 561 Advanced Business Law

NBA 562 An Introduction to Estate Planning

NBA 565 Law of Business Associations

4. Complete the following courses (or approved substitutes):

NBA 500 Intermediate Accounting

NBA 501 Advanced Accounting

NBA 502 Managerial Cost Accounting

NBA 504 Taxation Affecting Business and Personal Decision Making (NBA 507, Federal Income Tax, may be substituted)

NBA 505 Auditing

NBA 540 Financial Policy Decisions (NBA 506, Financial Information and Evaluation, may be substituted)

You must plan your schedule carefully to meet C.P.A. course requirements. We urge you to seek help in doing so by consulting with members of the accounting faculty as soon as you enroll. If you elect to fulfill the academic requirements for the New York State C.P.A. certificate and have no prior work in accounting, you may be permitted to omit one core course, with the approval of the Academic Standards Committee.

Maureen O'Hara, associate professor of finance



► Behavioral Science

Corporations and other business firms are more than simply a collection of assets. Those that do well are often successful because of effective organization, which is, in turn, essential to good management. Students of behavioral science study how to manage and organize effectively by first learning how individuals and organizations behave. They address such issues as work performance and discover why it varies enormously among individuals, work groups, and entire organizations. Courses in behavioral science focus on how decisions are often influenced by conflicting motivations, limited access to information, and biases in information processing. Topics include how groups influence and constrain the behavior of individuals and how social pressures buffet individuals between loyalty to their own goals and loyalty to the goals of the group and the organization. Students also examine how organizations often create obstacles that interfere with employees' attempts to achieve organizational goals.

If behavioral science is your special interest, you may supplement JGSM courses in that area and in the related area of behavioral decision theory by choosing from a variety of courses in human-resource management offered by the School of Industrial and Labor Relations.

► Economics

Courses in economics prepare students for careers in economic analysis in a corporate or a public-management setting. Students are expected to develop a basic foundation in microeconomics and macroeconomics and then to develop an area of specialization. Typically that will involve taking economics courses and other related courses in the Johnson School and elsewhere in the university. For example, if you are interested in a career as an economist in a financial institution, you might combine courses in macroeconomics, economic forecasting, and financial markets. If you are interested in production and pricing, you might combine courses on topics such as managerial economics, industrial organization (e.g., pricing and strategy), and operations management to develop a specialty in that area. If you are interested in public-policy analysis, you might develop the basic tools of economic analysis and then specialize in a policy

area. Students considering focusing on economics should consult with members of the economics faculty to design a curriculum that suits their personal career objectives.

► Finance

If you are interested in finance, you can take several different educational routes at the Johnson School, all built on a basic knowledge of managerial finance and finance theory. If you plan to work with investments in banks, investment-banking firms, and insurance companies, you should consider taking courses in investment management, security analysis, options and commodities, financial markets, and bank management. If you are attracted to corporate finance, you may combine courses in accounting with courses in financial policy decisions, international finance, and capital budgeting.

Courses in finance give you a solid understanding of the entire field of finance. They show you the role of finance in administrative and decision-making processes and introduce you to the mechanisms and operations of the financial system and to the relationship between business and government. Our finance courses integrate the operational aspects of business and investment finance, the functions of financial institutions and capital markets, and the basic economic framework of financial organizations.

► Marketing

Marketing is an activity that permeates all levels of management. At a strategic level, marketing considerations help managers determine an appropriate mission for a firm. Operationally, marketing helps the firm determine the best mix of products and services to offer and shows how to identify and implement suitable combinations of marketing elements to attain the firm's objectives.

Students who take courses in marketing generally are interested in managerial careers in consumer-goods, industrial-goods, or service-oriented firms. Our marketing courses emphasize concepts, theories, and frameworks, and teach you how to use current marketing tools. They show you how to formulate and carry out cohesive marketing strategies, identify new-product opportunities, predict market success, and determine pricing and advertising. They also teach you to analyze and interpret data collected for

market research, develop methods and models to support marketing decisions, and apply psychological theories and concepts to the understanding of consumer behavior.

► Operations Management and Management Information Systems

The areas of operations management and management information systems are closely related and are currently undergoing large changes because of recent advances in computer technology that have introduced new techniques in both fields.

If you choose to study operations management, you will analyze the major economic problems of production and operations management in both the manufacturing and the service sector. You will learn how to improve productivity and quality, manage production and distribution systems, and improve the return on inventory assets. The methods shown can be applied in many different settings, including small manufacturing corporations, large multilocation production and distribution systems, and service organizations such as banks and hospitals. Specific topics include project control, plant layout, warehouse and plant location, job-shop scheduling, multistage manufacturing control, and equipment selection. Students who focus on operations management develop an understanding of the effectiveness and the limitations of analytical techniques in managerial decision making.

Courses on management information systems are concerned with the effective management use of modern information systems. The topics emphasized include decision support systems, data-base management, systems analysis, distributed systems, and operational control systems. Students focusing on the area ordinarily have a significant background in the technical aspects of computing before entering the Johnson School.

Students in both areas benefit from JGSM's collaboration with the School of Operations Research and Industrial Engineering in Cornell's College of Engineering. Both schools are active in the Cornell Manufacturing Engineering and Productivity Program (COMEPP), described on page 13. If you concentrate your course work in one of the two areas, we encourage you to take courses in the other, in addition to the basic core courses. We also advise you

to enroll in a broad spectrum of general management courses, including electives in accounting, behavioral science, marketing, and finance, and courses offered by the Department of Computer Science and the School of Operations Research and Industrial Engineering.

Academic Requirements for the M.B.A. Degree

To earn an M.B.A. degree at Cornell, you must complete sixty credits of course work and have four semesters in residence. The only exceptions to that policy are made under the specific provisions for advanced standing, explained in this section.

To maintain satisfactory status, you must earn a grade-point average of at least 2.7 each semester.

► *Exemption from Core Courses*

You may be exempted from taking any or all of the Johnson School's core courses by satisfactorily passing the special exemption examinations administered for those courses during registration, at the beginning of the first and second semesters.

All students admitted to the Johnson School are encouraged to take the exemption examinations for any core courses in which they feel they have sufficient competence. If you pass the examinations for the courses you want to be exempted from, the requirements for the courses will be waived; if you pass any of the examinations at a superior level, you will receive credit toward your degree.

If you pass an exemption examination, you may still elect to take the course for credit. If you do so, however, only a grade of *Satisfactory* or *Unsatisfactory* will be assigned.

The exemption from core courses, even with credit, does not reduce the Johnson School's four-semester residency requirement. Residency is defined as enrollment, each semester, for a minimum of twelve credits.

► *Advanced Standing*

As soon as you are enrolled in the Johnson School, you may qualify to receive advanced-standing credit toward a degree. You may not receive more than sixteen credits of advanced standing or one semester of residency unless you qualify under the provisions of graduate joint degree programs or the international exchange program.

The types of advanced standing and the methods for achieving it are as follows:

1. *For graduate work taken elsewhere*—In certain cases, you may receive advanced standing for graduate work satisfactorily completed elsewhere before enrollment in the Johnson School. Advanced standing may be awarded for work taken elsewhere if it is at the graduate level, that is, taken after the baccalaureate degree (or its equivalent in foreign countries), and if it is directly comparable to studies in the core courses required by the Johnson School. Also, you must pass exemption examinations for all courses that you want to be exempted from. If you want to be considered for advanced standing, you should apply for such credit to the Office of Admissions and Student Affairs when your acceptance of admission is confirmed.
2. *For exemption examinations in core courses passed at a superior level*—Any core course may be waived by a student who passes the exemption examination for that course (see the preceding paragraphs on exemption from core courses). If you pass such an exemption examination at a level determined to be superior, you may be granted credit toward your degree in an amount equal to the credits of the course exempted. Such exemption is relatively uncommon.
3. *For courses in the Johnson School taken and passed before admission, independent of registration in joint degree programs*—You may be given advanced standing for courses that you took in the Johnson School while you were assigned special non-degree status or extramural status; you may also receive advanced standing if you were a Cornell undergraduate or graduate student enrolled in a degree program in another branch of the university.

You must resolve all questions about advanced standing before you register for the first semester.



Jim Schmutter, associate dean for administration and acting director of international studies. Jim helped launch a Graduate Management Admission Council communications campaign to attract more minority students to M.B.A. programs.

Resources of the School

► *Eastwick Library*

Considered one of the nation's best business libraries, Malott Hall's Eastwick Library contains over 152,000 volumes and 400,000 microtexts, and subscribes to more than 1,000 periodicals. It is part of the university library system, which has combined holdings of more than 5 million volumes. Under the leadership of the librarian, Betsy Ann Olive, Eastwick Library has built a collection that includes materials on business, accounting, behavioral decision theory, finance, international management, marketing, operations management, management information systems, economics, behavioral science, general management, and public administration. An extensive collection of corporate annual reports provides excellent primary source material. In 1986, the library also received national publicity for introducing the optical disk to Malott Hall and to the Cornell University library system. The disk, Compact Disclosure, provides users with 250,000 pages of annual reports, financial statements, and other current information on 10,000 publicly traded firms. It is far more cost effective than the on-line data-base service it replaced, and it is a terrific time saver as well.

The library is open until midnight each day when classes are in session. A staff of eight assists students in organizing literature searches and solving bibliographic problems. In addition, the library offers a computer-assisted search service (COMPASS) to provide on-line access to bibliographic data bases, and helps students locate books in the university library system.

► *Computing Facilities*

Computing facilities at the Johnson School are excellent and are continually being expanded. The André and Bella Meyer computing laboratories, established in 1985 and operated by the Johnson School's library, provide students with MS-DOS personal workstations. Nearly half of those workstations are Hewlett Packard high-performance Vectras. The balance are IBM PCs. The workstations, which constitute the primary computing facility for our students, are connected to JGSM's VAX system. That complex provides access to extensive software libraries, including VAX/VMS, as well as to the MS-DOS repertoire. There also is a computing laboratory equipped with fifteen Apple Macintosh computers and

a printer. All of those facilities are accessible to students daily from 8:00 a.m. until midnight during the school year. Students can also lease from us Hewlett Packard 110 lap-portable computers (more than a hundred were leased in 1986-87). In addition, the Johnson School has links with the university's central computer facility, which includes a national supercomputer center (one of only five in the nation).

► *Guest Speakers and Visitors*

Leaders in business and government play an active role at the Johnson School, helping to create a forum for ideas that invigorates our students' educational experience. In recent years distinguished guest lecturers have included former first lady of Egypt Jehan Sadat; former chancellor of West Germany Helmut Schmidt; former secretary of state Henry Kissinger; former president of France Valéry Giscard d'Estaing; Mesa Petroleum chairman and president—and corporate raider—T. Boone Pickens; Capital Cities Communications/ABC chairman and chief executive officer Thomas S. Murphy; General Electric chairman and CEO John F. Welch, Jr.; editor of *USA Today* and Gannett Company chairman Allen H. Neuharth; and former Xerox Corporation chairman of the board Sol M. Linowitz. Invited guest speakers whose talks have been a part of specific courses have included Corning Glass Works vice chairman Thomas MacAvoy, and Emerson Electric chairman and CEO Charles F. Knight. J. Stanford Smith, former chairman of International Paper; William Battle, former chairman and CEO of Fieldcrest; and John Burlingame, former vice chairman of General Electric Company, were executives-in-residence.

► *Administrative Science Quarterly*

The Johnson School publishes *Administrative Science Quarterly* (ASQ), which is the premier journal in the field of organizational behavior and theory and is rated among the best journals in the areas of policy, public administration, and general management. Founded at our school in 1956, ASQ has grown to be an internationally respected scholarly journal, publishing articles on such topics as power, decision making, group dynamics, strategy, organizations and their environments, and the birth and death of organizational populations.



***Jerry Hass, professor of
managerial economics and finance***

University Resources

Cornell University opened its doors in 1868 with a mission clearly enunciated by its founder, Ezra Cornell: "I would found an institution where any person can find instruction in any study." Ezra Cornell's commitment to educational access and diversity became his legacy to American higher education. Today that legacy is reflected in Cornell University's truly amazing curricular breadth and intellectual scope. There are eleven schools and colleges on the Ithaca campus. Cornell's scholars and teachers work on the frontiers of knowledge in fields as diverse as biotechnology, computer graphics, quantum physics, industrial relations, and hotel management. To ensure that our students make full use of the university's vast academic resources, the Johnson School encourages interdisciplinary study and interacts with the university in a variety of ways.

► *Interdisciplinary Study*

Doctoral candidates at the Johnson School regularly take courses offered by other colleges and departments, and that opportunity is available to you as an M.B.A. student as well. You can take up to fifteen credits—about five of the twenty courses required for an M.B.A. degree—outside JGSM.

Advisers from the faculty, the Office of Career Services, and the Office of Admissions and Student Affairs are available to help you make the most of academic resources or even create your own concentration. Every year adventuresome students sample an amazing variety of courses within the university curriculum—in agriculture, in law, in city and regional planning, and in the arts and sciences.

Some university course offerings hold special relevance for M.B.A. students. If you are interested in manufacturing, for example, you may choose to take advantage of Cornell's internationally recognized program in operations research and industrial engineering in the College of Engineering. If you are interested in human-resource management or industrial relations, you may enroll in courses in the School of Industrial and Labor Relations, just across the street from Malott Hall. That school boasts one of the nation's premier faculties in the fields of labor relations, personnel, and organizational behavior. If you are interested in international management, you may take advantage of the fact that nearly all of Cornell's schools and

colleges offer courses that pertain to international studies. Information on appropriate courses can be obtained from the Center for International Studies, 170 Uris Hall, and the Johnson School's International Business Association.

Three other fields at Cornell that feature courses of interest to M.B.A. students are health-services administration, real estate, and agribusiness. In the College of Human Ecology, graduate-level courses in health administration are offered by the Department of Human Service Studies. JGSM also offers several courses in health administration: NBA 574, Health-Services Organization and Financing, NBA 575, Health and Welfare Policy Analysis, and NBA 576, Alternative Health and Social-Service Delivery Systems. Specialized courses in real estate are offered by the College of Architecture, Art, and Planning, the School of Hotel Administration, and the Law School. The College of Agriculture and Life Sciences offers courses relevant to M.B.A. students interested in the latest issues in agribusiness. The Johnson School's registrar can provide lists of courses in all of those areas as well as informal student evaluations of their relevance to management studies. The brochure *Cornell Resources in International Business and Management* is available from the Office of Admissions and Student Affairs, Johnson Graduate School of Management, Malott Hall, Ithaca, New York 14853-4201, as are the brochures *Cornell Programs and Resources in Manufacturing Management*, *Cornell Programs on Japanese Business*, and *Sloan Program in Health Services Administration at Cornell*.

► *Renowned Scholars and Speakers*

The Johnson School makes the most of Cornell's best resource—its superb faculty—by inviting faculty members from throughout the university to serve as guest lecturers in such innovative JGSM courses as The External Environment of Business. In 1986–87, guest lecturers addressed the current topics of the effects of the deregulation of the airline industry, air pollution and the EPA-bubble policy, regulation and international trade, and modern product liability. The roster included Ronald G. Ehrenberg, Irving M. Ives Professor of Industrial and Labor Relations and Economics; James A. Henderson, Jr., Frank B. Ingersoll Professor of Law; Alfred E. Kahn,



Above: Joe Thomas, Nicholas H. Noyes Professor of Manufacturing and director of JGSM's Executive Development Program. Opposite: John Elliott, associate professor of accounting (right), speaks out at a doctoral seminar.

Robert Julius Thorne Professor of Political Economy and former adviser to President Carter; Peter J. Katzenstein, professor of government; Walter F. LaFeber, Marie Underhill Noll Professor of American History; Theodore J. Lowi, John L. Senior Professor of American Institutions; Neil Orloff, professor of civil and environmental engineering; T. J. Pempel, professor of government; Richard Rosecrance, Walter S. Carpenter, Jr., Professor of International and Comparative Politics; and George J. Staller, professor of economics. A course in internal management that will make use of distinguished guest lecturers from the World Bank, the International Monetary Fund, and the federal government as well as from corporate communities is in the planning stages.

During the past few years the Johnson School also has enriched its curriculum beyond the basic management sciences by inviting noted professors from Cornell's other schools and departments to design and offer courses for M.B.A. students. Such courses have included Business in Japan, taught by professor of government T. J. Pempel, former director of Cornell's China-Japan Program; and Law of Mergers and Acquisitions, taught by associate professor of law Dale A. Oesterle.

► *Cornell Manufacturing Engineering and Productivity Program*

The Cornell Manufacturing Engineering and Productivity Program (COMEPP) is a cooperative effort of the College of Engineering and the Johnson School that focuses on manufacturing and productivity issues. COMEPP makes use of the teaching and research talents of the faculty in both units and is considered one of the strongest programs of its kind in the nation. The JGSM faculty members in the program are Dean Curtis W. Tarr and Professors Richard W. Conway, L. Joseph Thomas, and John O. McClain. Students who concentrate in manufacturing management work with those professors to combine management and engineering electives.

COMEPP also sponsors the Program in Manufacturing Management, a course of study that enables students with an undergraduate degree in engineering and relevant work experience to obtain both an M.Eng. and an M.B.A. degree in two years (see page 14).

► *Program on Science, Technology, and Society*

The Program on Science, Technology, and Society (STS) addresses how science, technology, and political and social institutions interact. Courses in the program draw on resources throughout the university, and the views of various academic disciplines are synthesized and contrasted with one another. Topics of special concern include science, technology, and public policy; biology and society; citizen participation in technical decision making; arms control and national defense policies; environmental policy and ethics; biomedical ethics; operations of research universities in the United States; toxicology and public policy; and comparative public law. STS does not accept students for advanced degrees but cooperates with the Johnson School and other units at Cornell to develop courses and promote research on science, technology, and social policy. Faculty members affiliated with STS are also members of such graduate fields of study as city and regional planning, ecology, engineering, government, philosophy, sociology, and toxicology. Students may undertake research and course work in the area of science, technology, and society within those and other fields. Further information can be obtained from STS, Cornell University, 632 Clark Hall, Ithaca, New York 14853-2501.

► *Programs on Japanese Business*

Recognizing Japan's increasing importance to the United States, both as a trading partner and as a competitor in business, the Johnson School offers two programs to help future international managers develop a knowledge of the Japanese language and culture. In the first program, qualified students obtain both an M.B.A. degree and an M.A. degree in Asian studies; that option includes participation in intensive Japanese-language courses—part of Cornell's renowned FALCON (Full-Year Asian Language Concentration) program—and a summer internship in Japan. In the second program, students complete a two-year M.B.A. course of study with a concentration in Japanese business; a summer of FALCON courses in Japanese, Japanese-language courses throughout the year, and a summer internship in Japan are integrated into the M.B.A. curriculum. Cornell M.B.A. students in the program have worked in Tokyo with the Industrial Bank of Japan, Nippon Telegraph and Telephone, Mobil Sekiyu Kabushiki Kaisha, Nippon Steel, and the Chase Manhattan Bank.

Both programs are partially funded by the Japan–United States Friendship Commission, and special financial aid is available for students enrolled in either program. Further information on the programs is available from the Office of



Admissions and Student Affairs, Johnson Graduate School of Management, Cornell University, 315 Malott Hall, Ithaca, New York 14853-4201, and the Department of Asian Studies, Cornell University, 388 Rockefeller Hall, Ithaca, New York 14853-2502.

► *Graduate Joint Degree Programs*

The Johnson School, in conjunction with other Cornell academic units, offers three additional joint degree programs at the graduate level:

1. *Program in Manufacturing Management*—Students who enroll in the Program in Manufacturing Management take courses in the Johnson School and the College of Engineering and earn both an M.Eng. and an M.B.A. degree in two academic years and one summer. Intended for experienced engineers, the program allows participants to concurrently satisfy degree requirements in the management and engineering fields. To qualify, you must have an undergraduate degree in engineering and several years of work experience relevant to engineering, business, or both. The program is sponsored by the Cornell Manufacturing Engineering and Productivity Program (COMEPP). Potential applicants should write to Office of Admissions and Student Affairs, Johnson Graduate School of Management, Cornell University, 315 Malott Hall, Ithaca, New York 14853-4201, or call 800/847-2082, extension 1, or 607/255-2327 for instructions on how to apply.
2. *Joint Law/M.B.A. Program*—The Johnson School offers a combined program with the Law School in legal and administrative studies, in which you can obtain an M.B.A. degree together with a Doctor of Law degree in four years instead of the five that would be required if each were taken separately. That combination generally interests students preparing for careers in such areas as tax accounting and law, corporation law, or legal practice in government.
You can begin the program in either school; the first year's work is taken entirely within one school and the second year's entirely within the other. In the third year, the work typically is divided between the two schools, and in the fourth year it is taken entirely within the Law School.

Typically you would complete the requirements for the master's degree at the end of the third year and the requirements for the law degree at the end of the fourth.

To enter the full combined program, you usually must apply to both schools for admission and must be accepted by each school's admission committee. If you decide to apply for the program after starting your studies at the Johnson School, you should discuss your plans with both schools as soon as possible; until you are accepted by both schools, we cannot guarantee that you will be permitted to undertake the combined program.

3. *Individual Joint Program*—An individual program combining study for an M.B.A. degree at the Johnson School with study for an additional graduate degree in a field other than management can be arranged in consultation with advisers from the Johnson School. You are free to take graduate-level courses in any unit of the university. Furthermore, since most of the courses taken during your second year at the Johnson School are electives, there is ample opportunity for study in other areas. To pursue a master's-degree program in management in combination with study in another field, you must apply to both the Johnson School and the unit that administers the other graduate degree. You must be accepted in each program independently and be registered in each division. Credit for courses taken in one school while you are registered in another, however, may be applicable toward both degrees. In that way, the time required to complete two advanced-degree programs can be reduced. Students have recently designed such individualized programs to earn a second degree in city and regional planning, hotel administration, and international development.

► *Undergraduate Joint Degree Programs*

If you are a Cornell undergraduate interested in combining your undergraduate studies with an M.B.A. program, you may want to enroll in one of the two programs listed below.

1. *Five-Year Bachelor's/M.B.A. Program*—Highly qualified Cornell undergraduates can combine their undergraduate program with

graduate study at the Johnson School. Students in such a joint degree program generally receive a bachelor's degree after four years of study and a master's degree from the Johnson School after the fifth year of study, rather than after the sixth year. To be admitted to a joint degree program, you must be a particularly promising candidate. Once admitted, you must plan your course schedule carefully to integrate the two degree programs successfully. If you are interested in applying for admission to the program, you should discuss your plans with a staff member of the Johnson School's Office of Admissions and Student Affairs and apply formally during the winter of your junior year.

2. *Six-Year B.S./M.Eng./M.B.A. Program*—The Johnson School offers a combined program for undergraduates in the College of Engineering that provides them an opportunity to obtain Bachelor of Science and Master of Engineering degrees in five years and to complete the M.B.A. program in one additional year. To be admitted to the full joint degree program, you must meet the admission requirements of both the College of Engineering and the Johnson School. You should apply to both units during your junior year, and you must be accepted into the program by each.

Opportunities for Overseas Experience

Over the last several years, the Johnson School's faculty has become increasingly committed to providing opportunities for overseas experience to students interested in international management. In addition to the programs on Japanese business described on pages 13 and 14, JGSM participates in two formal student exchange programs—one with universities in Belgium and one with a school in England—and with the help of the Center for International Studies, arranges summer internships abroad for M.B.A. students. Under consideration is a yearlong course in international management featuring an overseas stint between semesters that would offer students firsthand interaction with business and government leaders.

► *Exchange Program
with Belgian Universities*

The Johnson School exchange program with two universities in Louvain, Belgium, was inaugurated in 1969. Each year up to nine JGSM students can study for either a Licence or a Maitrice degree at the Institut d'Administration et de Gestion at the Université Catholique de Louvain or study for an M.B.A. degree in the Department of Applied Economics in the Katholieke Universiteit te Leuven, a course of study offered in English. Similarly, graduate students from both Belgian universities can come to the Johnson School for master's work. Participating Belgian degree candidates are called Deneffe scholars, in memory of Paul Deneffe of Louvain, who taught at Cornell in 1968. The Université Catholique de Louvain pays the tuition and fees and offers a stipend for two JGSM students, and our school similarly sponsors two of its students; Katholieke Universiteit te Leuven pays the tuition and fees and offers a stipend for one Johnson School student, and our school similarly sponsors one of its students.

The Belgian exchange program is open to all Johnson School students. Most applicants choose to enroll because they are interested in international business or international development. You can take the one-year program either after completing your master's-degree program or, more typically, after completing your first year of studies at the Johnson School. In the latter case, you return to JGSM for one additional term of study after the year abroad. We recommend that JGSM students take an intensive French course in Europe during the summer, before they begin work at either Belgian university. Candidate selection for the program is based on motivation for studying and living abroad, academic standing, and language ability.

► *Exchange Program
with London Business School*

In 1982 the Johnson School initiated a one-semester exchange program with the London Business School. If you enroll in the program, you spend the fall semester of your second year in London and graduate from the Johnson School the following spring. Students participating in the program pay Cornell tuition. Selection for the program is competitive.

► *International Internships*

The Johnson School's Office of Career Services, our International Business Association, and the university's Center for International Studies all provide networks for first-year students who want to spend a summer working overseas. In recent years those contacts have produced rewarding internship experiences in Venezuela, South Korea, Switzerland, Australia, West Germany, England, Belgium, France, and the Netherlands.

Student Entrepreneurial Ventures

Each year, there are Johnson School students who, in addition to their studies, start and manage their own successful entrepreneurial ventures. Those ventures provide them with skills and experience that often have proved invaluable later in their careers. The ventures have ranged from the predictable—designing and marketing Johnson School ties, mugs, and sweatshirts—to the unusual—for example, running a clamming operation. One student supplemented her income by operating her own graphic-design business. Another took a semester off to launch a word-processing business that she continued to manage after returning to school.

Student Agencies—a student-run organization associated with Cornell—provides start-up capital to small student-owned businesses. The

organization and the Johnson School jointly award a fellowship every three years to an incoming JGSM student. The student to whom the fellowship is awarded earns an M.B.A. degree in three, rather than two, years and manages the Student Agencies' venture fund part-time during those years.

The JGSM course NBA 565, Entrepreneurship and Enterprise, is now taken by nearly half of the Johnson School's students. A prominent entrepreneur and Cornell alumnus, Christopher B. Hemmner, recently established five annual prizes of \$5,000 each for the best business plan presented by students enrolled in the course.

The following is a list of some of the entrepreneurial ventures our students have been involved in in recent years:

Wordservice (word processing and duplication), Cortland, New York

Custom Designs Construction (renovation and landscaping), Ithaca, New York

Commercial Clammer (clamming operation), Beach Haven, New Jersey

Compusoft (software and hardware peripherals marketing), Endwell, New York

Computer Architects (microcomputer and related peripherals), Ithaca, New York

RLS '85 (sportswear designing and marketing), Ithaca, New York

HRM (human-resource-management consulting for small businesses), Ithaca, New York



Doctoral Program and Research Activities



Above: Dick Wittink, professor of marketing and quantitative methods and director of the doctoral program. Opposite: Betsy Ann Olive, librarian, and Don Schnedeker, associate librarian. "The library has kept abreast of new technology in preserving the past and present for the future," says Betsy Ann. It has its own optical disk and also manages JGSM's computing laboratories and software collection.

Doctoral Program
Our doctoral program in management provides education and training for students who want to pursue academic careers in research and teaching. The program is tailored to individual needs, interests, and backgrounds. Doctoral students select a major field of interest and two minor subjects from related areas. They must obtain substantial knowledge of at least one discipline that is central to their major field of interest.

Because the program prepares students for careers that require intensive research activities, students commonly are assigned to faculty members to assist with, and to learn about, ongoing research projects. Participating in joint research projects with faculty members and with other doctoral candidates benefits students in several ways: it fosters close interaction between students and faculty members, and it allows students to evaluate critically the theoretical and empirical foundations of the field of management and to help build new foundations.

► Requirements

When you enroll in the doctoral program, the director of the program assembles for you a temporary committee of faculty members. Those faculty members have interests similar to your expressed interests, which aids them in helping you plan an effective program of study. Ultimately, usually during the second year of study, you assemble your own Special Committee of at least three faculty members, who direct your dissertation research and help you plan your course work for the remainder of the program.

A comprehensive examination is given on your major and minor subject areas after you have had adequate preparation, ordinarily after you have completed four terms of residence if you have a master's degree and six terms if you have a bachelor's degree. The comprehensive examination is always given in two parts, one written and one oral. A thesis is required, and you prepare it under the direction of the chairperson of the Special Committee. After your manuscript has been approved in substance by the Special Committee, you are given an oral thesis examination.

The thesis typically takes one full year of work. If you have a master's degree, you should expect to complete the doctoral-degree program in three years, and if you have a bachelor's degree, you should expect to complete the program in four years.



The requirements for the Ph.D. degree are established and administered by the Graduate School of Cornell University. For more information you should obtain the publication *Cornell University Graduate School* by writing to Cornell University Catalogs, Building 7, Cornell Industry Research Park, Ithaca, New York 14850-1247. You should also look at *Doctoral Program in Management*, a separate booklet containing information on the Johnson School's doctoral program. It is available from the director of the doctoral program, Johnson Graduate School of Management, Cornell University, Malott Hall, Ithaca, New York 14853-4201.

► Major and Minor Subjects

Doctoral study in the Field of Management emphasizes applied areas of research. Solving applied problems requires a strong background in a disciplinary field. Doctoral graduates who have such a background are able to engage in scholarly research throughout their careers. To help you acquire a strong background in a discipline and in an applied area, fields of study are segregated into two groups: *Group I—disciplinary areas* relevant to managerial problems, and *Group II—areas of application*.

You must select your major field from the subject areas in Group I or Group II, listed below. Usually the first minor must be selected from the group not

used for the major. For example, if you select a major subject in Group II, you may want to take a first minor in a basic discipline offered in another field of the Graduate School. That is permitted whenever the proposed minor is a basic discipline related to your major subject. Also, if you select a major subject from Group I, you may want to take your first minor in an applied subject offered in another field. That is also permitted if you can demonstrate that the choice is relevant to your career objectives. The director of the doctoral program must approve all substitutions for the areas in Group I and II, however.

The first minor must be relatively extensive and must demand a level of competence equivalent to that demanded by majors. The second minor may be selected from the subjects listed below or from another field. If the first minor is taken at the Johnson School, you may take the second minor outside our school, provided that the second minor is relevant to the program.

If you are pursuing an advanced degree and choose to major in a field other than management, you may minor in the Field of Management, provided that you have sufficient preparation to do the graduate work involved. At least fifteen credits for course work are usually required of students who minor in the field, depending on whether they are candidates for a master's degree or a Ph.D. degree, and depending on the extent of their prior preparation.

A short description of the major subjects in the Field of Management follows:

GROUP I *Behavioral science* uses methods from the social and behavioral sciences to study human activity in organizational settings. Systematic observation, theoretical analysis, and empirical investigation are stressed. If you choose to study in this area, you can specialize in either behavioral decision theory or organizational behavior; you should already have had a fundamental grounding in at least one of the basic behavioral disciplines. Some of the course work is taken in the Departments of Psychology, Sociology, and Rural Sociology, and the School of Industrial and Labor Relations.

Managerial economics concentrates on economic analysis for decision making in management. You can study the problems of a total economy, of industries, or of a firm. You can concentrate on such topics as international economics, economic development, competitive strategy,

econometrics, or business-government relations. If you choose this area, you should have a thorough grasp of relevant economic theory and institutions and a basic understanding of both qualitative and quantitative analysis. Some of the course work in the area is normally taken in the Departments of Economics and Agricultural Economics.

Quantitative analysis for administration shows how to use mathematical and statistical tools and computer technology to resolve managerial problems. A high level of mathematical competence is an essential requirement for study in this area. Some of the course work is taken in the School of Operations Research and Industrial Engineering (College of Engineering) and the Departments of Economic and Social Statistics (School of Industrial and Labor Relations), Computer Science (College of Engineering), and Economics and Mathematics (College of Arts and Sciences).

GROUP II *Accounting* shows how to use financial data to enable management to control and plan the development of the enterprise and to enable others to appraise its condition.

Business and public policy involves the study of the relationship among individuals, business firms, and government in the United States and abroad. If you choose this area, you should have a substantial knowledge of the political and economic background of public policy.

Finance includes theoretical and empirical studies of the financial functions that are present in modern economies. Among the subjects studied are the methods that corporations and others use to allocate capital among projects and to raise funds from financial institutions or financial markets, and the operations of those institutions and markets. Included are the behavior of investment bankers and market makers; the operational and informational efficiency of financial markets; the pricing of debt, stock, options, futures, and other financial instruments; and the effects of financial decisions and structure on the value of corporations. Some prior training in economic theory, mathematics, or statistics is helpful, as those disciplines are used extensively.



Marketing is concerned with the effective and efficient matching of demand and supply. It provides the tools to assess market demand for existing and new products and services and to match the appropriate products with well-defined target markets. Areas of study range from work at the individual-consumer level to analysis and modeling of the effects of market actions at various levels of aggregation.

Production and operations management and *management information systems* emphasize the study of quantitative methods of analysis, including the use of the computer, in solving major economic decision problems involved in the operation of large organizations. Typical problems are scheduling production, managing complex distribution systems, choosing locations for production facilities, and maintaining the quality of physical goods and services. Some of the course work can be taken in the College of Engineering's School of Operations Research and Industrial Engineering.

► *Placement of Graduates*

Recent graduates of the doctoral program have accepted teaching positions at major colleges and universities, including the University of Alberta; the University of British Columbia; the University of California, Berkeley; Carnegie-Mellon University; the University of Chicago; City University of New York; Columbia University; Duke University; Harvard University; the University of Illinois; Indiana University; Northwestern University; Ohio State University; the University of Oregon; the University of Texas; the University of Toronto; the University of Washington; and the University of Wisconsin.

► *Application, Admission, and Financial Assistance*

Application for admission to the doctoral program should be made on the forms of the Graduate School of Cornell University and submitted to the Graduate School, Cornell University, Sage Graduate Center, Ithaca, New York 14853-6201. If you intend to major in the Field of Management, you should indicate that on your application. Do not use the application included in the center of this catalog. It is intended only for those applying to the Johnson School's M.B.A. program.

Eligibility for admission is determined by your academic record, the suitability of prior work for the intended program, career objectives, test scores, and the opinions expressed in the letters of recommendation that you present. Many applicants to the doctoral program have master's degrees, but a previous master's degree is not required. If you are trained in disciplines other than management—physics, mathematics, engineering, economics, or psychology, for example—we especially encourage you to apply.

All applicants, whether from the United States or abroad, are required to take either the Graduate Record Examinations (aptitude test) or the Graduate Management Admission Test. In addition, if your native language is not English, you must take the Test of English as a Foreign Language unless you have completed at least one year of full-time study at an American university at the time you apply. Those tests are given several times a year in the United States and abroad. For information about the examinations, write to the Educational Testing Service, Princeton, New Jersey 08540.

The Johnson School has funds available to support doctoral students through fellowships and assistantships. They are awarded on a competitive basis to both new and continuing students; renewals are based on performance. Support will continue for three to four years based on satisfactory progress, as evaluated by your Special Committee. Typically, students with master's degrees are supported for three years, and students with undergraduate degrees for four years. Support is also available for students pursuing their degrees during the summer. In addition to the fellowships and assistantships offered by the Johnson School, a few university fellowships and scholarships are available and are awarded in a general competition that closes on January 15. Applicants interested in fellowships should apply by that time.

Research Activities

Our faculty members conduct theoretical and empirical studies of private and public organizations. Through their theoretical research they aim to develop new theories or broaden existing theories of managerial and economic behavior and decision making. Through their empirical research they abstract management

problems and develop analytical or behavioral models to describe or solve the problems. They also test and validate models in relation to empirical data. That approach not only breaks new ground in management research but also provides a foundation for research theory.

Past projects at the Johnson School included a large-scale analysis of how accounting information affects stock prices and decision making; a study of the effects of inflation on the behavior of security prices; an experimental and financial evaluation of alternative pricing systems on the use of electric energy; a study of the price-quality relationship; an inquiry into the processes of subjective evaluation of multi-attributed decision alternatives; and an analysis of methods of dealing with multi-item, multi-echelon, and multi-location production-distribution systems.

Currently our faculty members are involved with the following research topics: the development of capital budgeting in both business and government; the economic impact of pension accounting; the factors influencing direct foreign investments; economic and behavioral analysis of the effects of advertising; alternative approaches to market segmentation; the use of Universal Product Code scanner data to determine marketing programs; efficient capital markets; the economics of the energy industry; strategic-entry deterrents; the determinants of new-firm start-ups; organizational structure; the development of interactive graphical computer systems for the design and operation of manufacturing facilities; and the integration and use of findings from the behavioral sciences in organizational activity.

Our school maintains close associations with Cornell offices and departments concerned with social and organizational research. We encourage doctoral students to take advantage of courses offered through other departments and schools, particularly the Departments of Psychology, Economics, Agricultural Economics, and Mathematics, and the Schools of Operations Research and Industrial Engineering, and Industrial and Labor Relations.

A

n Overview of Career Services at JGSM

The Johnson School's Office of Career Services provides you with the tools and opportunities you'll need to obtain the right employment—positions in which you'll really put to use your skills, experience, and education. In terms of placement services, you should view your two years at the Johnson School as four distinct semesters, each with its own objective.

During your first semester, the Office of Career Services offers workshops on résumé and letter writing and interview skills. You'll have the opportunity to hear corporate recruiters in fields such as investment banking and consulting discuss job-search strategies and interview techniques.

Your second semester is your opportunity to explore summer-employment possibilities in your chosen field. In 1987, the office arranged for more than 140 summer internships for JGSM students. Because summer jobs are pivotal for students making career shifts, the office is committed to increasing the number and diversity of summer-employment opportunities.

You can begin interviewing for full-time positions during your third semester. The office tries to ensure that companies making offers in the fall allow you until the end of March in your final semester to make your job choice. That enables you to interview with all the companies recruiting during the spring.

In your final semester, you may want to schedule interviews on campus with additional firms. The office also provides individual counseling to assist you in fine-tuning your job search and in deciding which offer to accept.

In addition, throughout the academic year senior speakers from diverse companies will address career choices in finance, marketing, operations management, real estate, consulting, and international business, as part of JGSM's revamped Management Forum, described on page 31. Combined with company presentations, those talks will give you insight into functional disciplines and career choices.

The Office of Career Services also sponsors a series of job fairs in New York City and Boston and on the West Coast. More than a hundred firms are represented at those fairs. Many firms that do not interview on campus use the fairs as a way to meet with students and select them for additional job opportunities.

Career Services



Above: *Lynelle Jones '81, a vice president in fixed-income mortgages with Goldman, Sachs. "They call it work, but I love my job," says Lynelle, who credits the Office of Career Services with helping her find a position that was just the right fit for her skills and abilities. Opposite: Ira Weinman '84, vice president, Bankers Trust Company.*



Summer Internships

Each summer, students who have completed their first year at the Johnson School take jobs in areas related to their interests. Our goal is to ensure employment for everyone who desires it.

To assist students with their search for summer work, the Johnson School has developed a major outreach program. The program makes use of the support of individual alumni and JGSM clubs in various cities to locate summer positions for JGSM students. Additionally, each spring the Office of Career Services obtains commitments to support summer internships from a large and growing number of firms. Of particular pride is JGSM's expanding portfolio of international job opportunities.

Internships have given our students head starts in their careers. They also have helped students test potential areas of interest and sometimes change their career plans as a result.

The following is a selected list of firms that provided summer internships in 1986 and 1987:

MARKETING

American Express Company
Apple Computer
BBDO Promotions
Cadbury-Schweppes
Exxon Corporation
General Foods Corporation
H. J. Heinz Company
Hewlett Packard
Johnson and Johnson
S. C. Johnson and Son
Lehn and Fink
Eli Lilly and Company
Nabisco Brands
Pet
Procter and Gamble
Richardson-Vicks
3M Corporation
Time

FINANCE AND ACCOUNTING

Aetna Life and Casualty
Air Products and Chemicals
American Airlines
AT and T
Communications
Bristol-Myers Company
CBS
Coopers and Lybrand
Cushman and Wakefield
Data General
Emerson Electric Company
IBM Corporation
Eli Lilly and Company
NCR Corporation
Paine Webber Group
Peat, Marwick, Main
Price-Waterhouse
Xerox Corporation

COMMERCIAL BANKING

Bank of New York
Bankers Trust Company
Chase Manhattan Bank, N.A.
Chemical Bank
Citibank, N.A.
First National Bank of Chicago
Manufacturers Hanover
Marine Midland
Morgan Guaranty Trust Company
Toronto Dominion Bank

INTERNATIONAL

CitiCorp Investment Bank—Switzerland
Chase Manhattan Bank—Japan
GREDES—Peru
Japan Society—Japan
Kline, S.A.—Belgium
Manufacturers Hanover—England
Nippon Telegraph and Telephone—Japan
Nippon Steel—Japan
Petroleum Authority of Thailand—Thailand
Raychem—England
Salomon Brothers—Japan
TIP—Netherlands
XPOR, Port Authority
Trading Company of New York and New Jersey—Belgium, England, Korea, Taiwan, Japan, Switzerland

INVESTMENT BANKING AND VENTURE CAPITAL

Donaldson, Lufkin and Jenrette
Drexel Burnham and Lambert
First Boston
General Atlantic
Horsley, Keogh and Associates
Lord, Abnett and Company
Mentor Financial Group
Merrill Lynch
Prudential-Bache
Salomon Brothers
Travelers Corporation

Second-Year Placement

About 150 organizations interview JGSM students on the Cornell campus each year. They include *Fortune* 500 companies, major banks, consulting firms, and investment banks.

About 55 percent of the job offers that students receive begin with on-campus interviews. Because of the large numbers of recruiters, interviews take place during both the third and the final semester; most activity occurs in the final semester. The Johnson School's priority bidding system ensures that all students have the opportunity to interview with the organizations that most interest them. The average number of interviews for each graduating student in 1987 was sixteen.

The Office of Career Services works closely with student clubs to arrange for career-oriented panels, colloquiums, talks, and presentations. It also invites alumni and other business executives to come to the Johnson School and provide students with additional career insights and contacts. You will find that

Class of 1987 Statistics

SALARIES BY JOB FUNCTION

Function	Percentage of Respondents	Mean	Placement Salary Range
Finance	28.3	\$45,260	\$35,000–\$55,000
Consulting	17.9	42,158	32,000– 65,000
Marketing	13.2	40,200	30,000– 45,000
Sales and trading	12.3	50,385	36,000– 55,000
Accounting and auditing	5.7	33,000	27,500– 36,500
Commercial lending	4.5	44,500	40,000– 47,000
Real estate	3.5	43,250	42,000– 45,000
Operations and production	3.4	42,050	33,700– 48,500
General management	1.9	51,000	42,000– 60,000
Research	1.9	40,500	31,000– 50,000
Other	7.4	44,400	34,000– 55,000

SALARIES BY TYPE OF INDUSTRY

Industry	Percentage of Respondents	Mean	Placement Salary Range
Nonmanufacturing			
Investment banking	20.2	\$49,955	\$36,000–\$55,000
Commercial banking	16.5	46,250	34,000– 55,000
Accounting and auditing	11.0	34,375	27,500– 46,000
Management consulting	9.2	47,400	37,000– 65,000
Insurance	3.7	46,000	43,000– 47,000
Real estate	2.8	42,667	40,000– 45,000
Communications	1.8	39,250	36,500– 42,000
Health services	0.9	31,000	28,000– 35,000
Other	2.4	47,400	34,000– 60,000
Manufacturing			
Electronics	15.6	\$38,953	\$30,000–\$50,000
Chemicals and pharmaceuticals	4.6	40,600	33,700– 44,000
Household products	4.6	41,240	38,700– 43,500
Diversified	1.8	36,500	35,000– 42,000
Energy	1.8	43,500	41,500– 47,500
Food products	0.9	41,500	40,000– 43,500
Other	2.2	42,387	39,500– 45,600

particularly helpful if your interests lie slightly off the beaten track. The office maintains for students a special list of alumni who have volunteered to help with career counseling. The alumni network helps you locate jobs in diverse geographic locations and in small and large businesses. International students should be aware, however, that many firms that recruit at the Johnson School will not interview or hire graduates who are not American citizens.

Placement statistics for the class of 1987, based on a survey with a 54 percent response rate, are given in the table below. Each graduate had an average of 2.9 job offers. The highest salary awarded to a graduate of the class of 1987 was \$65,000. The mean salary was \$43,698, a 10 percent increase over the previous year. Many of the students stated that they valued job satisfaction more than a high salary and did not accept their highest offer. The top functional areas were finance (29%), consulting (18%), marketing (13%), and sales and trading (12%).

A more-complete placement statistics summary for the 1987 class will be mailed on request if you write to Office of Career Services, Johnson Graduate School of Management, Cornell University, Malott Hall, Ithaca, New York 14853-4201.

The following is a selected list of the firms that interview at the Johnson School:

Aetna Life and Casualty
Agway
Air Products and Chemicals
American Airlines
American Cyanamid
American Express Company
American Management Systems
Analog Devices
Arthur Andersen and Company
Applied Materials
Elizabeth Arden
J. Aron and Company
AT and T Communications
Bankers Trust
Bank of Montreal
Bank of New York
Bank of Nova Scotia
Barnett Banks
Bases
BASF
Bristol-Myers Company
Bristol-Myers United States
Pharmaceutical Nutrition Group
Cadbury-Schweppes
Caltex
Campbell Soup Company
Canaan Group
Chase Manhattan Bank, N.A.
Chemical Bank
Chevron Land and Development
Citibank, N.A.
Cleveland Consulting
Combustion Engineering
Connecticut National Bank

Conning and Company
Continental Grain Corporation
Coopers and Lybrand
Cornell University
Endowed Accounting Department
Cornell University Office of the University Auditor
CPC International
Cresap, McCormick and Paget
Data General
Deloitte, Haskins and Sells
Digital Equipment Corporation
Donaldson, Lufkin and Jenrette
Drexel Burnham Lambert
Dun and Bradstreet Corporation
Emerson Electric Company
Ensign Bank
Ernst and Whinney
Exxon Corporation
Federal Express
Fidelity Management and Research Company
Ford Motor Company
French American Banking Corporation
Frito-Lay
GenCorp
General Electric Company
General Foods Corporation
General Mills
Glenbrook Laboratories
Goldman, Sachs and Company
Grey Advertising

GTE Service Corporation
Hano Business Forms
A. S. Hansen
Harris Corporation
Hewlett Packard Company
IBM Corporation
Irving Securities
Irving Trust
Johnson and Johnson
Kidd, Kamm, and Company
Kimberly Clark
Lehn and Fink
Kenneth Leventhal Associates
Eli Lilly and Company
Lord, Abbott and Company
McKinsey and Company
M and T Bank
Manufacturers Hanover
Marine Midland
Marriott Corporation
Mellon Bank
Merck and Company
Merck, Sharp and Dohme
Merrill Lynch and Company
Metropolitan Life Insurance Company
Mobil Oil Corporation
Morgan Guaranty Trust Company
Nabisco Brands
New Holland-Ford
NYNEX
Paine Webber
Paul Revere Insurance Company
Peat, Marwick, Main
Price Waterhouse
Procter and Gamble Company
Prudential-Bache Securities
Prudential Insurance Company of America

Red Lobster
Richardson-Vicks
Rochester Telephone
Royal Bank of Canada
Salomon Brothers
Schering-Plough
Senn-Delaney
Shearson Lehman
Soabar
Sparkomatic Corporation
Standard Oil
Sun Company
Swiss Bank
Teachers Insurance and Annuity Association
Texas Instruments
Timken
Toronto Dominion Bank
Towers, Perrin, Forster and Crosby
Travelers Corporation
TRW
United Health Systems
United States General Accounting Office
Warner-Lambert
Westvaco
World Bank
Xerox Corporation
Yankelovich, Clancey and Schulman
Arthur Young and Company

SALARIES BY GEOGRAPHIC LOCATION

Location	Percentage of Respondents	Placement Salary	
		Mean	Range
Northeast	73.8	\$44,595	\$27,500-\$65,000
West and Rocky Mountains	9.7	38,278	33,000- 43,500
Midwest	8.7	41,411	30,000- 60,000
South-Southwest	4.9	43,925	35,700- 60,000
Outside the United States	2.9	49,000	48,000- 50,000

SALARIES FOR M.B.A. WITH ADDITIONAL GRADUATE DEGREE

Additional Degree	Number of Respondents	Placement Salary	
		Mean	Range
Master of Engineering	6	\$46,450	\$33,700-\$65,000
Master of Arts	2	52,000	49,000- 55,000
Master of Science	2	45,000	44,000- 46,000
Doctor of Law	1	60,000	60,000

SALARIES BY UNDERGRADUATE MAJOR

Major	Percentage of Respondents	Placement Salary	
		Mean	Range
Business	15.2	\$43,417	\$27,500-\$55,000
Economics	31.6	43,460	31,000- 55,000
Engineering	12.7	48,400	30,000- 65,000
Humanities	12.6	45,100	34,000- 52,000
Physical sciences and mathematics	15.1	42,533	32,000- 55,000
Social sciences (excluding economics)	5.2	49,075	37,500- 60,000
Other	7.6	38,132	32,000- 43,500

SALARIES BY PREVIOUS WORK EXPERIENCE

Number of Years	Percentage of Respondents	Placement Salary	
		Mean	Range
Fewer than two years	36.7	\$42,551	\$30,000-\$55,000
Two to four years	47.7	44,250	31,000- 65,000
More than four years	15.6	44,706	27,500- 60,000

The Johnson School, housed in Malott Hall, is centrally located on Cornell's magnificent campus. Few other campuses can compare with it for sheer scenic beauty. Flanked on the north and south by splendid gorges, and overlooking Cayuga Lake, the campus is further distinguished by long quadrangles lined with oak and maple shade trees, carefully tended gardens, rambling paths and walkways, brooks, an apple orchard, and an arboretum. And there are countless other places to discover and explore.

The Ithaca campus has a total student population of around 17,500 and offers a scope of activities wide enough to suit everyone's tastes. There are concerts given by classical performers like Mstislav Rostropovich, Itzhak Perlman, and Ruth Laredo, and by rock, reggae, and jazz musicians and other popular performers; folk-music and dance concerts; and a yearly gospel-music festival. There are theatrical performances staged by internationally known directors; a superb selection of films, both old and new, screened on campus; and lectures by Nobel and Pulitzer Prize-winning researchers and authors. There are exciting art collections on display at the Herbert F. Johnson Museum of Art, housed in a building designed by renowned architect I. M. Pei that has received several prestigious architectural awards.

Cornell's varsity and intramural sports programs are impressive. There are teams in more than a hundred sports. The lacrosse, lightweight-football, and women's polo teams were defending league champions in 1986-87, and the basketball and football teams contended for the top positions in their leagues. Cornell is in the process of upgrading and expanding its already-extensive athletic facilities. For fitness enthusiasts, there are gymnasiums with Nautilus and free-weight equipment for working out, two large pools for swimming, outdoor and indoor tracks, saunas, an ice-skating rink, numerous tennis courts and basketball, racquetball, and squash facilities, riding stables, and a number of playing fields. There are also bicycling, boating, and sailing clubs that take advantage of the terrain and of nearby Cayuga Lake.

Student Life



Above: Enjoying a break on the steps of Malott Hall. Opposite: Eric Werblow and Kathleen Streett, both '87, in the azalea garden adjacent to Malott Hall. Few campuses can compare to Cornell's for sheer scenic beauty.



Cornell is situated in Ithaca, New York, a small city of character and vitality that has been greatly influenced by its close ties to the university. Ithaca offers to residents and visitors a broad range of community activities and cultural events throughout the year. Some of the features that make Ithaca special are farmers' markets and a food cooperative that feature local produce; a pedestrian commons in the heart of the city, designed by a Cornell professor of landscape architecture, that has received awards for its innovative design; an experimental theater company; fourteen cinemas; three dance companies; a rich variety of concerts and club performances; a yearly community festival; and an international video festival.

Ithaca is part of the Finger Lakes region of New York State, a beautiful area of rolling hills, deep valleys, clear lakes, open countryside, state parks, and year-round recreational facilities. Excellent sailing, swimming, skiing—both cross-country and downhill—hiking, and other outdoor activities are available. There are vineyards on Cayuga Lake and in nearby Hammondsport and Penn Yan and the Corning Glass Works Museum in Corning to visit.

Ithaca, which is serviced by USAir and Piedmont Airlines, is one hour by plane and five hours by car from New York City, and is easily accessible by air from other major metropolitan areas—

Boston, Pittsburgh, Washington, D.C., and Chicago. For more information on getting to Ithaca, see pages 68 and 71.

University-owned Housing for Single Students

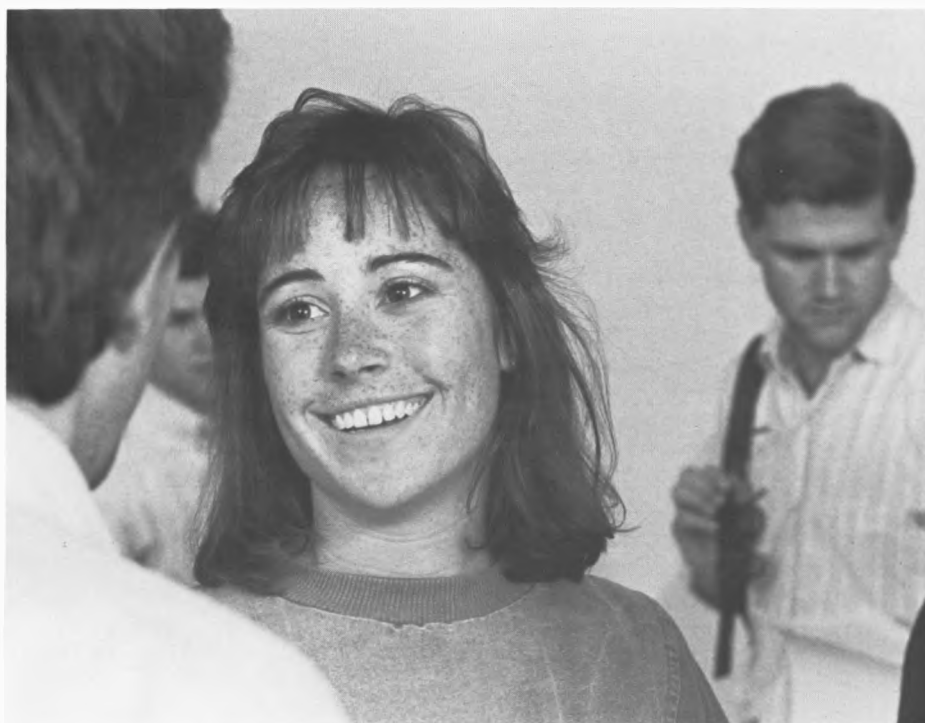
Coeducational housing exclusively for graduate students is available in Schuyler House, in 112 Edgemoor Lane, and in Thurston Court Apartments. Schuyler House, near campus in the Collegetown area, houses 153 students. One Twelve Edgemoor Lane, on the southwest campus, houses 20 students. Thurston Court Apartments, on Thurston Avenue on the northwest campus, has eighteen units, which range from one to three rooms. The apartments are usually rented to continuing graduate students.

Students seeking an international ambience might want to reside in the Jerome H. Holland International Living Center, situated on the northeast campus. About half of the center's residents are from foreign countries. The center is one of the university's residential program houses, living units that have individual community themes and that accommodate both graduate and undergraduate students. The others are Ecology House, Risley Residential College for the Creative and Performing Arts, Language House, and Ujamaa Residential College.

Detailed information on those residence units and on the Cornell-owned small residences, which also accept graduate students, is provided in the booklets *Living on Campus: Housing for Single Students* and *Residential Program Houses*. Both are available from the Housing Assignment Office, Department of Residence Life, Cornell University, 1142 North Balch Hall, Ithaca, New York 14853-1401. When requesting either booklet, mention the name of the graduate program in which you are enrolled and ask for a housing application. For additional information about the center, write to Resident Director, Jerome H. Holland International Living Center, Cornell University, North Campus Student Residence 8, Ithaca, New York 14853-6006.

University-owned Housing for Families

The university maintains three family-housing complexes of unfurnished apartments: Cornell Quarters, Pleasant Grove Apartments, and Hasbrouck Apartments. One- and two-bedroom units are provided for 421 families. All units are moderately priced,



comfortable, and situated near the campus. To be eligible for an apartment, you must be currently registered at, or admitted to, Cornell as a candidate for either an undergraduate or a graduate degree. In addition, you must meet at least one of the following criteria:

(1) be married and living with your spouse; (2) be married and living with your spouse and one or two legally dependent children; (3) be single and living with one, two, or three legally dependent children. Detailed information about the apartments can be obtained from Family Housing Office, Cornell University, Building 40, Hasbrouck Apartments, Pleasant Grove Road, Ithaca, New York 14850-2662, 607/255-5333.

Off-Campus Nonuniversity Housing

Off-campus nonuniversity housing varies greatly in quality, cost, and desirability. We urge you to search for housing as soon as possible. A good first step is to obtain the brochure *Guide to Off-Campus Housing* from Off-Campus Housing, Dean of Students Office, Cornell University, 103 Barnes Hall, Ithaca, New York 14853-1601 (607/255-5373).

It is only through personal inspection that you can compare and evaluate housing. We therefore suggest that you visit Ithaca no later than the end of July for that purpose.

Listings of available housing are posted in the Off-Campus Housing office. Because the notices are constantly changing, it is not possible to mail listings or to maintain a waiting list of people seeking accommodations.

Rental prices of off-campus rooms range, on the average, from \$195 to \$250 a month for single rooms and from \$295 to \$395 a month for small efficiency quarters to more than \$500 a month for larger apartments accommodating families or groups of students.

Food Services

The university operates a wide variety of food services on campus, which are conveniently situated near university housing and Malott Hall. Cornell Dining offers a range of meal plans designed to be economical without sacrificing quality or abundance (call 607/255-8581 for information). Food is served at the following locations: Willard Straight Hall, Robert Purcell Union, Noyes Center, Balch Hall, Sage Hall, Noyes Lodge, Risley Hall, the Statler Hotel and Conference Center, the Big Red Barn, Hughes Hall, Stocking Hall, Martha Van

Rensselaer Hall, the Veterinary Research Tower, and Warren Hall. Those facilities are open to all students on a cash or credit basis, whether or not they live in university residence halls or subscribe to a specific dining plan. There are also several grocery and sundry stores on campus and food-vending machines in all major buildings.

Health Services

The Department of University Health Services provides facilities for comprehensive medical care for students and their spouses. All regularly registered graduate students and their spouses are eligible. The cost for most services for students is included in university charges; the cost for spouses is on a fee-for-service or prepaid basis.

The following services are available at Gannett Health Center to all full-time students and spouses who have paid Cornell University tuition or the prepaid fee and who are in Ithaca:

1. unlimited visits to Gannett Health Center;
2. overnight care at Gannett Health Center;
3. ordinary laboratory work, X-ray examinations, and physical therapy services ordered by health-services staff members that are performed on site;
4. counseling at the center by health-services clinicians, by the Psychological Service staff, and by the sex counselor;
5. physical therapy.

The following health services are not available from the university:

1. hospital charges and fees for surgical procedures;
2. visits to physicians or health-care facilities other than those of the Department of University Health Services (consultations with specialists authorized by department physicians are covered by the elective health-insurance plan discussed below);
3. prenatal or obstetrical care;
4. expenses of illness or injury occurring (a) outside of Ithaca while in transit to and from the university or on weekend trips and vacations, or (b) during the summer unless enrolled as a summer student.

► Gannett Health Center

Outpatient care and emergency after-hours care are provided at Gannett Health Center, 10 Central Avenue. The center's medical staff includes

attending physicians, health associates, nurses, laboratory and radiology technologists, and physical therapists.

Medical care is available through the center twenty-four hours a day, 365 days a year. Regular hours for patient visits are 8:30 to 11:30 a.m. and 1:00 to 4:30 p.m. Monday through Friday, and 9:30 a.m. to 1:30 p.m. Saturday (fall and spring semesters only). Except for urgent problems, appointments are required for health services; they can be made by the staff at the main desk (telephone: 255-4082). Outside normal working hours and on holidays, a clinician either is at the center or can be reached by telephone. A student who has an urgent health problem should call either the health center (255-5155) or the Department of Public Safety (255-1111) to arrange to see a clinician.

► Elective Accident and Sickness Insurance

An elective health-insurance plan for registered students and their spouses and dependents is available to cover hospitalization, consultations, sickness, accidents, and most services not provided by the Department of University Health Services. Students are automatically enrolled every year. Dependents must reenroll annually. Information about the insurance is available at Gannett Health Center, where a representative of the elective-insurance company has an office. Students can also call 255-6363.

► Health History

Once you have been accepted for admission to JGSM, you must promptly submit your health history to Gannett Health Center on forms supplied by the university. A university physician reviews the material before it becomes part of your permanent health record. All information given is confidential. After arriving at Cornell, you may be given an appointment with a physician at the center if your medical history indicates a need for that. If you have been away from the university for more than a year, when you reenter you must submit an interim health history on a university form.

► Immunizations

Cornell requires that all new students be adequately immunized against tetanus, diphtheria, measles, and rubella before entering the university.

Employment Opportunities for Students and Spouses

Although students enrolled in the Johnson School do find part-time employment as a means of earning needed funds, we advise you not to accept outside employment during your first semester, because of the heavy demands of the first-year courses. Our director of admissions, student adviser, and director of placement are all available to provide counseling and guidance to second-year students seeking employment at the university and in the Ithaca area.

As in many other university communities with unusually high numbers of well-educated men and women, finding employment in the Ithaca area can be difficult. Competition is very keen, and highly skilled people often accept work in semiskilled jobs outside their professions.

The key to finding employment in Ithaca is to apply in person during the summer. Since most students leave Ithaca at the beginning or end of the summer, the majority of job openings occur at those times. To learn about jobs offered to students by the university, you can inquire at the Student Employment Office, 203A Day Hall. Positions open to students during the academic year and summer are posted on job boards in the corridor adjacent to the Student Employment Office in Day Hall. They are also listed on CUINFO, which is accessible from any public computer-terminal facility on campus. Spouses can obtain employment applications at Staffing Services, 160 Day Hall, or at the Staffing Services Office, East Hill Plaza, Judd Falls Road. Opportunities for spouses include full-time, part-time, and temporary positions. The Office of Admissions and Student Affairs and the Office of Career Services of the Johnson School provide assistance whenever possible.

Student Enterprises and Associations

Black and Hispanic Graduate Business Students Association—The Black and Hispanic Graduate Business Students Association promotes activities and sponsors programs that enhance the academic, social, and professional welfare of Black and Hispanic students in the Johnson School. It serves as a liaison between minority students and the administration, the faculty, the alumni, and other students. Some of its

activities include sponsoring guest speakers and round-table discussions of economic events that affect the minority community, and recruiting minority students for incoming classes.

Business Computing Group—The members of the Business Computing Group are students who are interested both personally and professionally in management information systems (MIS). They see the increasing role that computers are playing in business today as an opportunity for advancement. The group provides a chance for its members to explore career directions in MIS-related fields by sponsoring speakers from high-technology and MIS consulting industries. It also provides instruction and support for its members in computer-related areas. For example, it offers tutorials on the MIS applications of core-course material like Lotus 1-2-3, the spread-sheet program; dBase, the data-base management program; Minitab, the regression-analysis program; and Lindo, the linear-programming package. Furthermore, the group has established a public-domain software lending library within the JGSM library in Malott Hall.

Consulting Club—Now in its third year, the Consulting Club is the third-largest club at the Johnson School. Its chief objective is to promote understanding of the management-consulting industry. To achieve that goal, the club sponsors presentations by company representatives, issues a newsletter, and assembles for students an extensive contact network of consulting firms. Club members meet annually in New York City with alumni involved in consulting to discuss the field and the unique aspects of those firms represented. The club also sponsored presentations at the Johnson School by McKinsey and Company; Arthur D. Little; Towers, Perrin, Forster, and Crosby; Cambridge Associates; and Cresap, McCormick, and Paget.

Cornell Associate Real Estate Council—The Cornell Associate Real Estate Council is a JGSM-sponsored club that aims to promote contact between alumni of the university and students interested in a career in real estate. It sponsors symposia, guest lectures, career counseling, and other activities that promote an interest in the real estate profession. It is linked with the Cornell Real Estate Council, a nationwide organization of Cornell alumni and friends involved in the field of real estate.



Above: Bob Smiley, professor of economics and policy. The External Environment of Business, a course he coordinated in 1987 that featured talks by Cornell's top scholars, won an honorable mention from the AACSB for innovative teaching. Opposite: A student-faculty hockey game.

Cornell Business Women's Association—The Cornell Business Women's Association, whose membership includes both men and women, seeks to inform Johnson School students about the opportunities and problems confronting women in the workplace. It achieves that goal in two ways: by providing members with opportunities to form friendships and professional relationships, and by sponsoring a dynamic program of colloquiums, lectures, and brown-bag seminars and discussions. In recent years the association has sponsored colloquiums on two-career couples and on women in the workplace, seminars on comparable worth and on the experiences of female international students in their native countries, and presentations on personal financial planning.

Doctoral Students Association—The Doctoral Students Association provides numerous services to Johnson School Ph.D. students. Members supply information to prospective students about the Johnson School's doctoral program, sponsor orientation programs for incoming students, and provide support services for continuing students. The association holds an annual faculty-student reception in the fall and other commemorative celebrations throughout the year. All Johnson School doctoral students are eligible to join.

Entrepreneurs Association—The Entrepreneurs Association seeks to expose would-be entrepreneurs to the ideas of successful entrepreneurs, to teach them how businesses are launched. Accordingly, the association sponsors talks by guest speakers from such diverse fields as food services, trading, banking, venture capital, communications, and law. The speakers candidly share their entrepreneurial experiences with students and often provide them with role models for success. Through the association, students also undertake consulting and new-venture projects. In recent years they have commissioned, and successfully marketed, Johnson School silk ties and coffee mugs, have consulted for local businesses, and have been active in the Johnson School's Entrepreneur of the Year Program. They also have assisted the Don and Margi Berens Professor of Entrepreneurship in sponsoring guest lecturers.

Frozen Assets—The Frozen Assets is the JGSM women's hockey team. The team's assets range from the talents of ex-varsity hockey players to those of players still wobbly on ice skates. The team competes in intramural games against other Cornell graduate-student teams and plays against the JGSM faculty team and the Puck Bunnies—the JGSM men's amateur team. It also participates in an annual Ivy League business-school tournament.

International Business Association—The International Business Association (IBA) is one of the largest of the Johnson School's professional associations. Its members, who come from all over the world, share an interest in international management and world affairs. IBA encourages all first-year students to plan and organize a wide range of events. In recent years, the association has sponsored an international-marketing symposium with leading multinational corporations; speakers from various organizations; summer internships for first-year students; and an all-around-the-world party.

JGSM Canadian Club—The JGSM Canadian Club was established to promote the unity and the interests of Canadian and Commonwealth residents attending the Johnson School. An important activity of the club is the compilation of a résumé book, sent to a host of prospective Canadian employers

each year, that describes the experiences and skills of those who plan careers in Canada or abroad with Canadian firms. The club also works to improve awareness at JGSM of the Canadian corporate world and to generate recruiting opportunities and speaking engagements that will foster stronger ties between Cornell University and the Canadian business community.

JGSM Hockey Club (Johnson Icers)—The members of the JGSM Hockey Club (the Johnson Icers) skate in a men's competitive league from November through March and participate in Cornell's intramural hockey program. The team also competes in the Business School Ice Hockey Tournament, in Hanover, New Hampshire.

JGSM Student Association—The JGSM Student Association coordinates a variety of social events, including barn parties, cocktail hours, offbeat sports events, and a semiformal bash, held each spring and fall to counter the core-course blues. Association activities—which play up the lighter, brighter side of the Johnson School by providing students with an opportunity to relax, mingle with one another, and take a break from studies—help students achieve a balanced perspective. Past activities included a "suitcase party" (a raffle whose winners flew to Puerto Rico to bask in the sun just for the weekend), a comedy night featuring student



comedians, and "puck bunny" hockey games between male and female M.B.A. students and between students and faculty members.

Malott Times—The *Malott Times* is the Johnson School's student newspaper. Its readership includes students, faculty members, and administrators. It is published five to six times each semester and is staffed exclusively by students, who serve as editors, writers, photographers, and advertising managers.

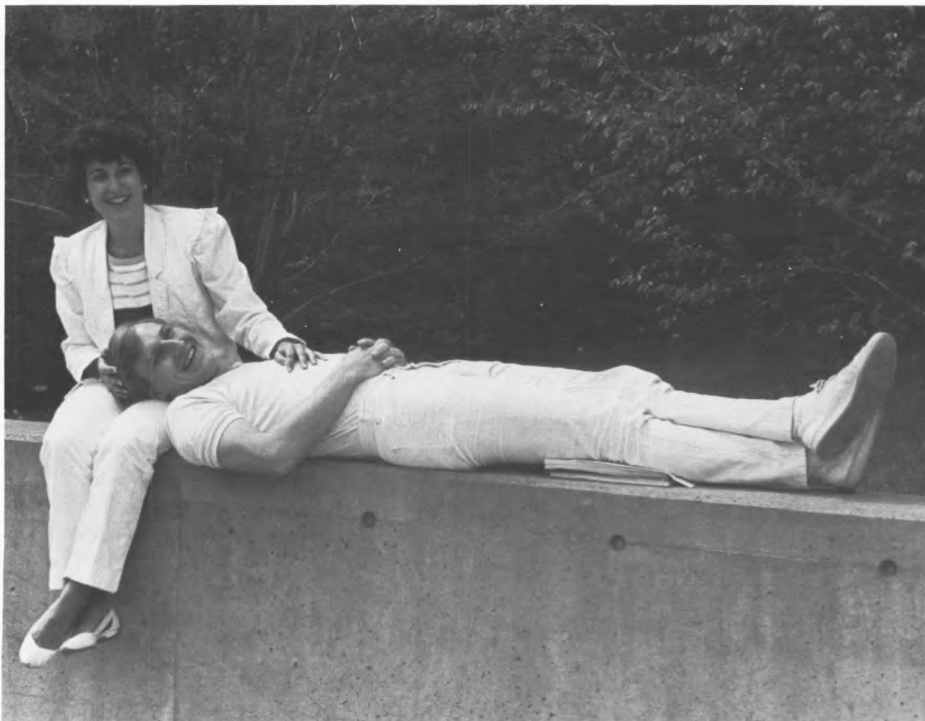
Marketing Association—The Marketing Association helps students go beyond the classroom walls to learn more about developments and careers in marketing. Each fall the association sponsors a series of company presentations by such leading consumer-goods firms as Procter and Gamble, General Foods, Richardson-Vicks, Frito-Lay, and Nabisco, as well as advertising agencies like J. Walter Thompson, Ogilvy and Mather, and Dancer Fitzgerald Sample, and high-technology firms like IBM, Hewlett Packard, and Du Pont. It also cosponsors a financial-marketing symposium with the Old Ezra Investment Club and an international-marketing forum with the International Business Association. Its one-hundred-plus members explore their career interests through alumni contacts, résumé-writing and job-hunting workshops, consulting projects, case competitions, and a newsletter.

Old Ezra Investment Club—The Old Ezra Investment Club is JGSM's finance club. Members are interested in corporate finance, investment banking, securities trading, commercial banking, treasury concerns, and accounting. The club's objective is to enhance the members' academic and professional experiences. Club-sponsored activities in 1986–87 included numerous breakfasts and simulated interviews with recruiters, corporate presentations and colloquiums, and seminars such as "How to Get a Job on Wall Street," "How to Read the *Wall Street Journal*," and "The Effect of the New Tax Law." Each year the club hosts an event in New York City, during which students visit several Wall Street firms and commercial banks and attend a reception for a well-known member of the financial community. Receptions in recent years have been held for Walter Wriston, former chief executive officer of Citicorp, and Arthur Levitt, former president of the American Stock Exchange. Members participate in the club's yearlong stock-market game and compete with other leading graduate business schools in Merrill Lynch's Investment Challenge. In 1986–87, the club's entry won first place (a \$1,000 cash award) in the financial-planning category of that contest.

Operations Management Society—The Operations Management Society organizes activities for students interested in operations management or general management. Presentations by industry representatives and faculty members cover career opportunities and current issues and developments in the area of operations. Plant tours are arranged to supplement the presentations. The society also acts as a liaison between students and JGSM's Office of Career Services, to help coordinate career presentations and placement activities and to maintain reference material.

Sound Investments—The Sound Investments is an *a cappella* singing group of male M.B.A. students. It has performed at functions ranging from formal dinners and meetings at Cornell's museum of art to impromptu concerts at local pubs. Always seeking ways to grow but also retain its original character, the group looks for members with a willingness to risk embarrassing

Below: Relaxing between classes on Malott Hall's south wall. Opposite: Four students, who developed a successfully implemented marketing plan to promote Cornell basketball, take time out on the court.



themselves in front of their peers and professors while pursuing vocal harmony.

Student-Faculty Committee—The Student-Faculty Committee (SFC) is the liaison between the students, the faculty, and the administration of the Johnson School. It is composed of twelve student representatives elected by students and three faculty representatives appointed by JGSM's associate dean for academic affairs. As the representative student-government organization of the Johnson School, SFC is involved in a wide variety of projects and activities, including orientation week, the Placement Council, and new programs to benefit students.

Management Forum

The Management Forum series takes place during the fall semester and presents visiting speakers who have a broad range of management backgrounds. Each forum focuses on various career options for students. It is a student-coordinated activity, and the topics covered each year reflect students' career interests. The forums are informal and help students to learn more about career opportunities in the companies represented, to assess the corporate cultures at those companies, and to determine if their own needs mesh with the attributes and values of the companies. In recent years the forum has hosted representatives from such organizations as McKinsey and Company; Goldman, Sachs and Company; Eli Lilly and Company; S. C. Johnson and Son; Procter and Gamble Company; IBM Corporation; Booz-Allen and Hamilton; Bankers Trust; and Chase Manhattan Bank, N.A.

Partners Program

Firms that are members of the Partners Program become involved with the Johnson School by providing guest lecturers, helping to present seminars and forums, and offering financial support in the form of student scholarships and fellowships. Members also support the recruiting process by sponsoring summer-job internships and by interacting with students in advance of the recruiting seasons. The exposure helps students find companies with which they are compatible. Other links with students include a partner-sponsored M.B.A. sports tournament and student-club visits to partner-firm plants and facilities.



Alumni Association and Alumni Executive Council

The Johnson School's Alumni Association recently has played an increasingly active role in class, club, and reunion activities. A hundred alumni serve for three-year terms on the Johnson School's prestigious Alumni Executive Council, an associated group. Alumni are encouraged to maintain close ties with JGSM in a variety of ways. They serve as guest lecturers in seminars, supply case materials to professors, interview prospective students for the Office of Admissions and Student Affairs, and assist graduating students in career planning and job searches. Alumni also have the opportunity to continue friendships and lifelong intellectual ties with the Johnson School through JGSM alumni clubs established in major metropolitan areas in the United States, Europe, and Japan.

Cornell Enterprise

Cornell Enterprise is a magazine produced and published twice a year by the Johnson School and distributed free to all students, faculty members, alumni, and friends. It contains interviews with alumni and members of the business community, like Roderick Chu, New York State commissioner of taxation and finance. It reprints talks of guest speakers at the Johnson School, like Helmut Schmidt, former chancellor of West Germany, and illustrious Cornell faculty members, like Michael Kammen, Pulitzer Prize-winning Cornell historian. It publishes articles by faculty members and keeps its readers informed about the Johnson School and its students, faculty, alumni, and friends. In 1987, *Cornell Enterprise* was awarded a bronze medal for all-around excellence by the Council for the Advancement and Support of Education.

Criteria
If you hold a baccalaureate degree from an accredited college, university, or technical school in the United States or abroad, you are eligible to be admitted to the Johnson School's M.B.A. program. When you apply, our admissions committee uses a variety of factors to evaluate your application. Among them are academic records, test results, and work experience. If we interview you (not all applicants are interviewed), we also consider what we learn about you during that process. We hope to find a good fit between your academic goals and our program. We look carefully at you as a total person and take into consideration your work experience, your involvement in extracurricular activities, and your goals. We take special note of those applicants who have had supervisory experience as well as those who are fluent in a second language. Our criteria are both objective—for example, academic records and test results—and subjective—for example, interview contents. Although work experience is not required, we recommend that you do have prior work experience. More than 90 percent of the students we accept have full-time work experience.

We accept those candidates whom we consider to be most attractive to the Johnson School. That means that sometimes we select applicants with work and life experiences, personalities, and philosophies that complement our school's characteristics rather than applicants with top grades and high GMAT scores.

It is the policy of Cornell University actively to support equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, age, or handicap. The university is committed to the maintenance of affirmative action programs that will assure the continuation of such equality of opportunity.

Cornell University is committed to assisting those disabled students who have special needs. A brochure describing services for the disabled is available from the Office of Equal Opportunity, Cornell University, 234 Day Hall, Ithaca, New York 14853-2801. Questions or requests for special assistance can also be directed to that office.

Admission to the Johnson School



Above: Mariea Blackburn, director of admissions. **Opposite:** Valerie Hayes '87 at commencement. "We have probably the most-personalized admissions process in the country," says Mariea. "We value our applicants and treat them as individuals." Valerie agrees: "When I visited campus before enrolling, there was a special feeling about the place. That was the deciding factor in my coming here."



Undergraduate Preparation

Because graduate-level professional education is so specialized, we welcome applicants with a broad undergraduate education. Taking courses in business administration as an undergraduate does not necessarily enhance your chances for admission to the Johnson School. Only 23 percent of our students majored in business as undergraduates.

No specific courses are required for admission, but because a number of core courses and electives assume a working knowledge of algebra and basic calculus, we suggest that you strengthen your background in mathematics. That is particularly important if your background is in the social sciences and liberal arts, and you have had little or no work in mathematics. We also advise students who plan to enter our program to include courses in economics, American government, the humanities, and the behavioral and social sciences in their undergraduate studies.

If you are unsure whether your calculus background is sufficient, you should know that a working knowledge of the following topics is assumed when the first semester begins:

1. the concept of a limit
2. the differentiation and integration of polynomials, exponential functions, and logarithmic functions
3. the partial differentiation of simple algebraic functions
4. the use of differentiation to find maxima and minima
5. the use of integration to find areas
6. the use of vectors and matrices to represent and solve systems involving several equations

You can enhance your mathematics background by taking an introductory calculus course before coming to Cornell. If you have had previous work in calculus but feel you need a review, the Johnson School offers the Pre-enrollment Mathematics Review Course each August. The two-week course is an intensive review of algebra as well as an introduction to, and a review of, basic calculus. Dates and tuition fees for next summer's course will be announced in late May 1988. For a brochure on the program or for further information, write to the Office of Admissions and Student Affairs, Johnson Graduate School of Management, Cornell University, Malott Hall, Ithaca, New York 14853-4201.



Above: Charlotte Rosen, senior lecturer in management communication. Opposite: Two students using Compact Disclosure, an optical disk that holds 250,000 pages of information on firms. The JGSM library received national publicity for introducing the first optical disk to the Cornell library system.

Although a majority of our entering students have had some course work in, or work experience with, computers, previous work in computer programming is not required for admission, nor is conventional programming required in any of the core courses. The core course in management information systems does involve programming in a data-base management system (dBase), but that can be done without having had previous experience in programming. The most-valuable preparation in computing that you can bring to the Johnson School is reasonable competence in the basic "personal productivity tools"—in particular, the MS-DOS operating system and a word-processing and a spread-sheet system, preferably Lotus's 1-2-3. Workshops in those topics are offered in the early fall, however, for students who enter without such competence.

Graduate Management Admission Test

We require all applicants to take the Graduate Management Admission Test (GMAT), a three-and-a-half-hour aptitude test administered by the Educational Testing Service (ETS). It is designed to measure certain mental skills important to the graduate study of management. The test is not a measure of achievement or knowledge in any specific subject area, and those who take the test are neither required nor expected to have had undergraduate preparation in management subjects.

To obtain an application for the GMAT and an explanatory pamphlet, write to GMAT, Educational Testing Service, CN6103, Princeton, New Jersey 08541-6103 or call 609/771-7330. The completed test application and payment of the testing fee should be received in Princeton at least three weeks in advance of the test date if you are taking the test in the United States or Canada, and at least six weeks in advance if you are taking it in another country.

The GMAT is given at many education centers in the United States and abroad, although it is not given at every test center on every date. If the testing center nearest you is a long distance from your residence, the Educational Testing Service will, on request, arrange to administer the test at a more-convenient location on the same date, but you must make arrangements for such testing at least two months in advance.

If you are currently enrolled in college, you should take the test during your senior year, even if you intend to defer application for admission. The test dates for 1987–88 are:

<i>Regular Saturday</i>	<i>Monday</i>
<i>Administration</i>	<i>Administration</i>
October 17, 1987	October 19, 1987
January 23, 1988	January 25, 1988
March 19, 1988	March 21, 1988

Monday test dates are limited to those whose religious convictions prevent their taking tests on Saturdays.

You may take the test a second time, but doing so is not encouraged unless you were ill the first time or were confronted with some other serious handicap or emergency. The average increase in retaking the test is about thirty points; however, 25 percent of those who take the test over again actually score lower the second time. The score report of each applicant has space for two previous GMAT scores. In general, if the test is taken more than once, the Johnson School Admissions Committee uses the higher set of scores. We must have the official test scores from ETS before we can evaluate your application.

January Admission

New students are permitted to enter the Johnson School only at the beginning of the fall semester. Because of the integrated and sequential order of our core program, midyear admission in January is not permitted.

Deferred Admission

If you are admitted but decide to pursue employment or to delay enrollment because of medical or financial problems, you can request a deferral. Deferral is granted one year at a time for up to a maximum of two years. If you have been admitted and want to apply for deferral, submit your request in writing to our office. If a deferral is granted, we will ask you to send a \$350 confirmation deposit to reserve a place in a future class.

Application Procedures and Timetable

Our application is in two parts. Part 1 is included at the center of this catalog. To apply for admission, complete Part 1 and submit it in the envelope supplied, along with payment of the application processing fee. We determine if and when we will interview you. You should mail both Part 1 and the fee payment to us as early as possible during the

academic year preceding the year in which you would like to attend. We must receive them no later than March 1.

As soon as we receive Part 1 and payment of the application processing fee, we will send you Part 2 of the application. We must have a completed Part 2 by April 1. We strongly recommend that you take the required GMAT in October or January. If you are completing the senior year of your undergraduate education when you apply, make sure that the registrar's office at your undergraduate college sends your fall-term transcript to the JGSM Office of Admissions and Student Affairs as soon as it is available.

Our admission decisions are made by a committee of three members. All completed applications are read by the committee. The two-part application process allows us to forward applications to the committee soon

after we receive Parts 1 and 2. It is not unusual for applicants to receive a decision days after our office receives all application materials.

Decisions are made on a rolling basis. We begin as early as February and continue through April. During the height of the admission cycle, however, some of our responses may be delayed because of the large number of applications we process. We do consider *completed* applications after April 1, but the chances of being admitted are greatly reduced after that date.



Documents

A complete application for admission to our M.B.A degree program consists of the following:

1. *Part 1 of the application*—Due in our office (the Office of Admissions and Student Affairs) by March 1 (Part 1 and a return envelope are included at the center of this catalog).
2. *Payment of application fee*—Due in our office by March 1, along with Part 1 of the application. Application fees are nonrefundable, are payable to Cornell University, and are as follows: for regular applicants, \$50; for foreign applicants, \$80; for reactivations, \$20.
3. *Graduate and Professional School Financial Aid Service (GAPSFAS) form*—The form, which should *only* be filed if you are applying for financial aid, can be obtained from our office or from a financial-aid office at any college or university. It is due at GAPSFAS, Educational Testing Service, Princeton, New Jersey 08541-6660, by February 15. If it is received after that date, we cannot ensure that you will be considered for financial aid.
4. *A copy of your 1987 tax returns*—The copy, which should *only* be sent if you are applying for financial aid, is due in our office by February 15. You must also send us a copy of your parents' 1987 tax returns if you do not meet federal guidelines for financial independence.
5. *Part 2 of the application*—Due in our office by April 1. As soon as we receive Part 1 and payment of the application fee, we will send you Part 2 of the application. If you meet the March 1 deadline for Part 1, you should have ample time to obtain, complete and submit Part 2 by April 1. Part 2 includes request forms for an essay, recommendations, and transcripts.
6. *Official score reports of the GMAT and, if required, of the Test of English as a Foreign Language (TOEFL)*—The tests should be completed by the January testing dates.
7. *Transcripts of all previous academic work beyond the secondary level*—Due in our office by April 1. NOTE: Before fall registration, entering students must have on file in our office a final transcript from each institution attended.

8. *Two confidential letters of evaluation*—Due in our office by April 1. The forms for the letters are contained in Part 2. The letters should be from persons who have known you well for more than a year, preferably both classroom instructors and supervisors at work.

You are responsible for assembling all application materials and ensuring that they are received by our office on or before April 1. Because of space limitations, we cannot guarantee that completed applications received after that date will be considered.

Interview

We consider the interview an important part of the admission procedure because it provides us with a full picture of you, beyond your academic records and test scores. However, because of the large number of applications, we can only interview applicants who are competitive. We determine that by reviewing information supplied on the application.

Please *do not contact* our office to arrange for an interview. We will contact you during the application process. Interviews will be scheduled to take place on campus, near your home, or by telephone.

Admission Deposit

After you are accepted for admission, we ask you to confirm your September enrollment by sending a deposit of \$350, payable to Cornell University, by the date stated in your letter of acceptance. Of that \$350, \$50 becomes the university registration fee, and the remaining \$300 is applied toward tuition. The deposit is required regardless of any prior connection with Cornell. Students receiving any form of financial aid that will cover full or partial tuition are still expected to remit the full deposit. If you decide after June 1 not to enroll in the Johnson School, the admission deposit is not refundable.

Health Requirements

As an entering student, you are expected to assume personal responsibility for fulfilling the health requirements adopted by the Cornell University trustees. Permission to register for a new semester will not be granted unless all health requirements pertaining to the previous semester have been fulfilled. (See "Health History" and "Immunizations," p. 27.)





Johnson Graduate School of Management

Instructions for Applying

W

e are pleased that you are interested in the Johnson School. Our admission application is in two parts. Part 1 of the application is on the following pages. To apply for admission to the M.B.A. program, fill it out and mail it in the envelope supplied, along with payment of the application processing fee, to Office of Admissions and Student Affairs, Johnson Graduate School of Management, Cornell University, Malott Hall, Ithaca, New York 14853-4201. Once we receive those materials, we will start a file for you and send you Part 2 of the application, which includes requests for an essay, transcripts, and letters of evaluation. You may find it helpful to make a copy of Part 1, as you will need some of the information contained in it to complete Part 2. If you have questions, please do not hesitate to call our toll-free number: 800/847-2082, extension 1. Please do not submit the following application if you are a doctoral candidate. You can obtain the appropriate application for the doctoral program by writing to Professor Dick Wittink, Johnson Graduate School of Management, Cornell University, 506 Malott Hall, Ithaca, New York 14853-4201.

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

Deadlines

March 1 is the deadline for Part 1 and the fee payment. April 1 is the deadline for Part 2. We recommend that you submit Part 1 as soon as possible, so that you can obtain, complete, and submit Part 2 before April 1.

Interview

See the section entitled "Interview" on page 36 of this catalog for information about the interviewing of applicants.

Mailing Address

Enter the address to which you want all correspondence sent, including the decision letter. If we interview you, we will use that address to contact you to schedule the interview.

United States Social Security Number

Where a social security number is requested on the application, enter your United States social security number. If you do not have one, leave that space blank. If you obtain a United States social security number after you submit Part 1 of the application, please give that number as soon as possible to the Office of Admissions and Student Affairs.

CEEB Code Number

Please refer to the *GMAT Bulletin of Information* for the CEEB code

number. The codes for colleges are listed under Appendix A in the back of the bulletin. You can obtain the bulletin by writing to Graduate Management Admission Test, Educational Testing Service, CN 6103, Princeton, New Jersey 08541-6103, or by calling 609/771-7330.

Areas of Interest and Program

Please refer to pages 8–10 and 14 in this catalog for an explanation of the electives and joint programs we offer.

GMAT and TOEFL Test Information

Be sure to have the Educational Testing Service submit your test results to Office of Admissions and Student Affairs, Johnson Graduate School of Management, Cornell University, 315 Malott Hall, Ithaca, New York 14853-4201. Our code number is 2098.

We strongly recommend that you take the GMAT and the TOEFL no later than on the January test dates. *Your application will not be processed until we receive the official test scores for the GMAT examination administered on the date indicated on your application.*

Race and Ethnic Background Information

Cornell tries to enroll a diverse student group. Although providing us with information on your race or ethnic background in the application is optional, obtaining that information will help us assist the university in achieving that objective.

Financial Aid

If you are applying for financial aid, you must submit the Graduate and Professional School Financial Aid Service (GAPSFAS) form on or before February 15. You can obtain the form from our office, from a financial-aid office at any college or university, or from GAPSFAS, Educational Testing Service, Princeton, New Jersey 08541-6660. After you complete the form, submit it to GAPSFAS, Educational Testing Service, at the above address. Our college code to be used on the GAPSFAS form is 2168. The form can *only* be submitted to us through GAPSFAS. You must also submit to our office a copy of your 1987 federal income tax returns—and if you do not meet federal guidelines for financial independence, a copy of your parents' most-recent tax returns—by February 15.

You must submit both the GAPSFAS form and a copy of your 1987 federal income tax returns to be considered for financial aid.



Johnson Graduate School of Management

Do not file this application if you are applying for the doctoral program. For instructions on how to apply to that program, contact Professor Dick Wittink, Johnson Graduate School of Management, Cornell University, 506 Malott Hall, Ithaca, New York 14853-4201.

Please read the instructions on the preceding page carefully before completing this form. Type or print clearly in black ink. Attach payment of the **nonrefundable** application fee and return it as soon as possible to the Office of Admissions and Student Affairs, Johnson Graduate School of Management, Cornell University, Malott Hall, Ithaca, New York 14853-4201. Part 2 will be forwarded upon receipt of Part 1 and the fee payment.

APPLICATION FEE (NONREFUNDABLE)

United States citizens: \$50

Foreign students: \$80 (United States currency)

Reactivation: \$20

Payable to Cornell University

PART 1

1988 M.B.A. Application for Admission

Deadline: March 1

GENERAL INFORMATION

Name: _____
last first middle

suffix nickname

Mailing address: _____
number and street

city state

zip or postal code country

Home telephone: _____
area code/number

Business telephone: _____
area code/number

Final date I can be reached at the above address: _____
mo./day/yr.

Permanent address (if different from above):

number and street

city state zip or postal code

_____ Telephone: _____
country area code/number

Date of birth: _____
mo./day/yr.

Sex: ☐ Male ☐ Female

United States social security number: _____

Have you applied to the Johnson School before? ☐ Yes ☐ No

If yes, for which year: _____ (Attach \$20 fee payment.)

EDUCATION

Colleges or universities previously attended: _____

CEEB CODE NUMBER of colleges or universities attended: _____

Degrees received, month/year received, and majors: _____

Check the areas that best describe your undergraduate academic program:

- | | | |
|---|--|-----------------------------------|
| <input type="checkbox"/> 1. Business | <input type="checkbox"/> 4. Humanities | <input type="checkbox"/> 7. Other |
| <input type="checkbox"/> 2. Economics | <input type="checkbox"/> 5. Mathematics | |
| <input type="checkbox"/> 3. Engineering | <input type="checkbox"/> 6. Social science | |

AREA OF INTEREST

Check the **one** area on which you expect to focus in the M.B.A. degree program:

- | | | |
|--|--|---|
| <input type="checkbox"/> 1. Accounting | <input type="checkbox"/> 4. Finance | <input type="checkbox"/> 7. Marketing |
| <input type="checkbox"/> 2. Behavioral science | <input type="checkbox"/> 5. International business | <input type="checkbox"/> 8. Operations management |
| <input type="checkbox"/> 3. Economics | <input type="checkbox"/> 6. Management information systems | |

WORK EXPERIENCE

Check the amount of **full-time work experience** you will have had between your graduation from college and your anticipated enrollment in JGSM:

- | | | |
|--|---------------------------------------|---|
| <input type="checkbox"/> 1. None | <input type="checkbox"/> 5. 2-3 yrs. | <input type="checkbox"/> 9. 10 or more yrs. |
| <input type="checkbox"/> 2. 6 mos. or less | <input type="checkbox"/> 6. 3-5 yrs. | <input type="checkbox"/> 10. Other: _____ |
| <input type="checkbox"/> 3. 6 mos.-1 yr. | <input type="checkbox"/> 7. 5-7 yrs. | |
| <input type="checkbox"/> 4. 1-2 yrs. | <input type="checkbox"/> 8. 7-10 yrs. | |

Note: If more than two years have passed since you last applied to JGSM, a full application and payment of the \$50 fee must be submitted.

INTENDED PROGRAM

Intended joint degree program (if any):

- ☐ Program in Manufacturing Management
(for information on how to apply, contact JGSM's Office of Admissions and Student Affairs)
- ☐ Joint Law/M.B.A. Program
(application must also be made to the Cornell Law School)
- ☐ Joint M.A./M.B.A. Program
(application must also be made to Department of Asian Studies)
- ☐ Six-Year B.S./M.Eng./M.B.A. Program
(applicants must be Cornell juniors majoring in engineering)
- ☐ Five-Year Bachelor's/M.B.A. Program
(applicants must be Cornell juniors) with _____
Cornell college, school,
or department

TEST INFORMATION

When did you, or will you, take the GMAT?

mo./day/yr.

What was your total score? _____
(NOTE: In addition to your indicating your test score here, the Educational Testing Service must send us your official test score.)

If English is not your primary language, and you do not have two or more years of college-level education in the United States, when did you, or will you, take the TOEFL?

mo./day/yr.

What was your total score? _____

Cumulative grade-point average on a 4.0 scale at the end of your last term in college:

CITIZENSHIP

Country of citizenship: _____

If you are not a United States citizen, do you hold a permanent United States resident visa?

☐ Yes ☐ No

If not, state the type of United States visa you hold:

Have you had more than two years of education in the United States?

☐ Yes ☐ No

OPTIONAL (to aid in issuing I-20 forms to accepted foreign applicants)

Are you married? ☐ Yes ☐ No

RACE AND ETHNIC BACKGROUND

Submission of the following information about your racial-ethnic group is voluntary:

- | | |
|--|---|
| <input type="checkbox"/> American Indian or Alaskan Native | <input type="checkbox"/> Puerto Rican |
| <input type="checkbox"/> Asian or Pacific Islander | <input type="checkbox"/> Mexican American |
| <input type="checkbox"/> Black, not of Hispanic origin | <input type="checkbox"/> Other Hispanic |
| <input type="checkbox"/> Caucasian, not of Hispanic origin | |

FINANCIAL AID

To be considered for financial aid, you must submit a GAPSFAS form and a copy of your 1987 federal income tax return.

Are you applying for financial aid?

☐ Yes ☐ No

Have you filed a GAPSFAS form?

☐ Yes ☐ No

Have you submitted a copy of your 1987 federal income tax return to JGSM's Office of Financial Aid?

☐ Yes ☐ No

The following is to be filled in by all applicants:

My signature below indicates that all the information contained in my application is factually correct and honestly presented.

Signature: _____

Date: _____

Information for Applicants from Foreign Countries

From its beginning Cornell has encouraged the attendance of students from other countries. In 1985-86 there were about seventeen hundred international students registered at the university. About 1,400 were graduate students. The 1987 incoming class at JGSM has 35 international students. The Johnson School welcomes applications from qualified persons from other countries, but such applicants must have qualifications that compare favorably with those of applicants from the United States. The application procedure for applicants from abroad is identical to that for United States citizens. The April 1 deadline applies in all cases.

In the United States, most students who enroll as undergraduates in a college or university have completed twelve years of study in primary and secondary schools. Students are usually admitted to the graduate division of a university only after receiving a bachelor's or comparable degree, normally awarded after four years of college or university education.

Study techniques, classroom practices, teaching methods, and examinations in the United States can differ significantly from those in other countries. Regular class attendance, active participation in group discussions, frequent written examinations, extensive reading, and required papers are all part of the pattern of education in the United States. Grades are often based not only on written examinations but also on papers, reports, research projects, and class participation. To complete the demanding program of study and derive full benefit from an educational experience in this country, you must adjust to those practices.

Entering students must have a mastery of the English language. Lectures, discussions, and examinations at Cornell are conducted in English, and you must be able to follow lectures closely and express thoughts quickly and clearly in both speaking and writing. To complete the rigorous reading assignments, you must read English with ease.

NOTE: Applicants from foreign countries should be aware that they might encounter difficulties finding employment in management positions in the United States after graduation. Many American firms that recruit at the Johnson School do not interview

international students, and as a result of those policies, the Office of Career Services is not always able to assist international students in their job search.

► *Test of English as a Foreign Language (TOEFL)*

For all applicants whose native language is not English and who have studied at a United States college or university for fewer than two years, the Test of English as a Foreign Language (TOEFL) is also required. TOEFL and the other tests mentioned are administered throughout the United States and in many major cities of the world by the Educational Testing Service. Inquiries and applications should be addressed to the Educational Testing Service, Princeton, New Jersey 08540 (telephone: 609/771-7330). Although the tests are administered five times each year, taking the examinations in the fall is most convenient for the Johnson School and for you. *You are responsible for arranging to have your test results sent directly to the Office of Admissions and Student Affairs, Johnson Graduate School of Management, Cornell University, Malott Hall, Ithaca, New York 14853-4201.*

TOEFL Testing Dates

October 24, 1987	January 9, 1988
November 21, 1987	March 12, 1988





Profile of 1987 Entering Master's-Degree Candidates

General Statistics

Number in class	267
Females	66 (25%)
Males	201 (75%)
Mean age	26.9 years
Mean GMAT score	619
Mean TOEFL score	620
Mean grade-point average	3.15
Full-time work experience	94%
Average number of years of work experience	3.4

Race and Ethnic Background

Caucasian	187 (70%)
Asian	33 (12%)
Black	7 (3%)
Puerto Rican	2 (1%)
Mexican/Hispanic	3 (1%)
Not specified	35 (13%)

Geographic Distribution

Mid-Atlantic	93 (35%)
Pacific Coast	42 (16%)
New England	34 (13%)
Southeast	31 (11%)
West	17 (6%)
Midwest	14 (5%)
International	37 (14%)

Undergraduate Major

Economics	66 (25%)
Business administration	63 (24%)
Engineering	44 (16%)
Humanities	32 (12%)
Social sciences	29 (11%)
Mathematics	22 (8%)
Other	11 (4%)

Area of Interest in Management

Finance	104 (39%)
International business	54 (20%)
Marketing	46 (17%)
Operations management	29 (11%)
Behavioral science	10 (4%)
Accounting	9 (3%)
Economics	7 (3%)
Management information systems	7 (3%)

► Financial Support

Applicants from foreign countries should realistically assess their financial needs for the period during which they will be pursuing graduate study in management. The Johnson School does not offer any kind of financial aid to international students. You are therefore required to attest before leaving your country that you possess adequate financial support from your own funds or from other sources to cover all expenses for the entire two-year course of study.

The United States Immigration Service prohibits international students who enter the United States on visas from engaging in part-time employment during the first year in the United States. Furthermore, the United States visa-granting authority in your country of origin (ordinarily the United States embassy) requires proof that sufficient funds are available for you to cover expenses for your entire course of

study before you are granted either a student visa (F-1) or an exchange visa (J-1). Requirements for immigration visas are even more stringent. Estimated living costs for students attending Cornell are summarized on page 40 of this catalog.

The publication *Study Abroad*, published by UNESCO and available at United States Information Agency libraries and from UNIPUB, may help you find financial support. *Handbook on U.S. Study for Foreign Nationals*, compiled by the Institute of International Education, 809 United Nations Plaza, New York, New York 10017, provides information on awards for study and research. Also available from the Institute of International Education is a pamphlet entitled *Graduate Study in the United States: A Guide for Foreign Students*.

**Profile of 1987
Entering Master's-Degree
Candidates Who Are
Members of Minority Groups**

Race and Ethnic Background

Black 6 (54%)
Mexican/Hispanic 3 (28%)
Puerto Rican 2 (18%)

Geographic Distribution

Mid-Atlantic 4 (37%)
Pacific Coast 3 (27%)
Southeast 3 (27%)
Midwest 1 (9%)

Undergraduate Major

Engineering 3 (27%)
Humanities 3 (28%)
Economics 2 (18%)
Social sciences 2 (18%)
Business administration 1 (9%)

Area of Interest in Management

International business 4 (40%)
Operations management 3 (30%)
Finance 2 (20%)
Management information
systems 1 (10%)

NOTE: The Johnson School, in conjunction with the Black and Hispanic Graduate Business Students Association, works actively to expand the number of minority students who apply to, and enroll in, JGSM. Current minority students assist the Johnson School by personally contacting minority applicants, answering their questions, and making sure that all aspects of the application process flow smoothly. That approach, inaugurated in 1986-87, enabled JGSM to make significant gains in enrolling minority students last year. We hope to make even stronger gains this year.

**Profile of 1987
Entering Master's-Degree
Candidates from
Foreign Countries**

Race and Ethnic Background

Asian 20 (59%)
Caucasian 5 (15%)
Black 1 (3%)
Not specified 8 (23%)

Undergraduate Major

Economics 9 (26%)
Engineering 7 (20%)
Business administration 4 (12%)
Mathematics 3 (9%)
Social sciences 3 (9%)
Humanities 2 (6%)
Other 6 (18%)

Area of Interest in Management

Finance 15 (44%)
International business 8 (23%)
Marketing 5 (15%)
Operations management 3 (9%)
Accounting 1 (3%)
Behavioral science 1 (3%)
Management information
systems 1 (3%)

Shika Jones (left) and Mary Ellen Hartley, Office of Admissions and Student Affairs staff members



The Johnson School is committed to admitting the best and brightest applicants, without regard to financial status.

Given the inevitable changes in existing loan programs and the increasing costs connected with graduate management education, providing adequate scholarship funding will continue to be an essential concern at the Johnson School. Our goal is to be able to offer at least a partial scholarship to every one of those "best and brightest" applicants who have a demonstrated need for financial assistance. Our strong commitment to that goal is making the possibility a reality for an increasing number of our students each year.

Costs

Tuition at the Johnson School is currently \$6,475 a semester. New students who have not previously enrolled at Cornell pay a registration fee of \$50.

NOTE: Tuition in 1988-89 will reflect any increases deemed necessary by the administration. The amount, time, and manner of payment of tuition, fees, or other charges may be changed at any time without notice.

Estimated living costs for the 1987-88 academic year are presented below. Cornell University establishes the guidelines yearly, based on the cost of living in the Ithaca area. The estimated cost for housing is based on a shared dormitory accommodation. You may find it more expensive or less expensive to live off campus than the guideline figures suggest, depending on your living arrangements.

ESTIMATED LIVING COSTS FOR THE 1987-88 ACADEMIC YEAR

Single Student

Tuition	\$ 12,950
Room and board	4,560
Books	600
Personal	2,640
Total	\$ 20,750

Married Student

Tuition	\$ 12,950
Room and board	8,060
Books	600
Personal	2,640
Total	\$ 24,250

(plus \$1,820 for each dependent child)

Costs and Financial Aid



Above: A student presentation. On the Johnson School's policy toward financial aid, Jim Schmotter, associate dean for administration, says: "We're committed to enrolling a diverse group of students. We put our money where our rhetoric is through creative packaging of government loans with our own scholarships and loans." Opposite: One of Cornell's shade trees.



Financial Awards from University General Funds

All financial-aid awards at the Johnson School are based on both need and merit. Scholarships are available for students enrolled in our school. Application for financial aid is made separately from application for admission, and awards of aid are made independently of admission decisions.

The Johnson School is a participant in the Graduate and Professional School Financial Aid Service (GAPSFAS), which permits candidates to request aid at several participating schools in one application, thus eliminating the need to provide information to each school. The GAPSFAS form can be obtained from the JGSM Office of Admissions and Student Affairs or from a financial-aid office at any college or university. If you are applying to the Johnson School and are requesting financial aid, you must file a GAPSFAS application for financial aid with the Educational Testing Service. The form should be sent directly to GAPSFAS, Educational Testing Service, Princeton, New Jersey 08541-6660. *To ensure that you receive timely consideration for financial aid, you should send your form to GAPSFAS no later than February 15.*

Susan Stone, director of financial aid



In addition, you must submit a copy of your most-recent tax returns to the Johnson School by February 15. You must also submit a copy of your parents' most-recent tax returns if you do not meet federal guidelines for financial independence. No awards can be made unless we receive those copies.

Students who apply for financial aid are expected first to have exhausted all possible outside sources of assistance. Only in that way can we adequately respond to those students who have no access to outside sources of support.

Students who enroll without financial assistance from the Johnson School should not expect to receive aid from us during their second year. Although the Financial Aid Committee attempts to respond to requests of second-year students for assistance, our policy and perceived obligation is to respond first to requests for continued financial aid from those students who received assistance their first year. We will try to help if an emergency arises or a sudden change in a student's financial situation occurs, but such help will generally be in the form of a loan.

Any questions or problems concerning financial aid should be addressed to the Office of Financial Aid, Johnson Graduate School of Management, Cornell University, 312 Malott Hall, Ithaca, New York 14853-4201.

Special Awards

In addition to the general funds of the Johnson School and of the university for scholarships, the following special awards are available:

Ruth and Morris Abner Scholarships.
Allied Signal Fellowships.
American Can Company

Scholarship, awarded on the basis of academic merit to a second-year business student studying finance.

Neal Dow Becker Scholarship Fund Awards.

Fredrick T. Bent Memorial Scholarship.

Bristol-Myers Company Scholarship, awarded to a minority student.

Earl Brooks and Frank F. Gilmore Scholarship.

William H. Burns Scholarship of the Tompkins County Trust Company, awarded to a resident of Tompkins County.

Chase Manhattan Bank Scholarship, awarded to a minority student.

Chemical Bank Scholarship.

Melvin G. de Chazeau Scholarship, awarded to a student entering the second year of study who has broad interests in the United States political economy.

John W. de Forest Memorial Fellowship, awarded to a Canadian citizen or a member of the Cornell chapter of the Delta Upsilon fraternity who is a candidate for the M.B.A. degree.

Emerson Electric Scholarship, awarded to students with interests in manufacturing.

Exxon Minority Fellowships.

Edward S. Flash Memorial Scholarship.

FMC Prize, awarded on the basis of merit to a second-year student.

Thomas Gellert Memorial Scholarship, awarded to a graduate of Cornell's College of Agriculture and Life Sciences.

GTE Graduate Fellowship.

Harris Entrepreneurial Scholarship, awarded to a student who has demonstrated entrepreneurial aptitude.

Hemmeter Prize, awarded to the student group that produces the best business plan for an entrepreneurial venture in the JGSM course Entrepreneurship and Enterprise.

S. C. Johnson and Son Fellowship, awarded to a minority-group candidate for the M.B.A. degree.

Junior Achievement Scholarships, awarded to students who have participated in, or who have been counselors in, the Junior Achievement Program. Applicants interested in the awards should indicate their past association with the Junior Achievement Program on the application for admission.

Chuji Kabayama Fellowship, awarded to a student from Japan.

Ada Howe Kent Foundation Scholarships.

Lester B. Knight Scholarships, eight \$4,000 scholarships for students in the Program in Manufacturing Management, provided by a gift from Lester B. Knight '29 to the Johnson School and the College of Engineering.

Stanley H. Krusen Scholarship Fund.
Donald McAllister Prize, awarded annually, and by competition, to the student writing the best essay on specialized business publications.

Deane W. Malott Fellowship of the Owens-Corning Fiberglas Corporation, in honor of Mr. Malott, president emeritus of Cornell University.

Deane W. Malott Fellowship/Teagle Foundation, in honor of Mr. Malott, president emeritus of Cornell University.

Menahem and Claire Mansoor Scholarship, awarded to a student in the Five-Year Bachelor's/M.B.A. Program.

Henry Morgenthau, Jr. Fellowships.

Edward R. Novicky Scholarship Fund, awarded in memory of Edward R. Novicky '76.

Michael R. Riordan Scholarship.

Nelson Schaenen Revolving Loan Fund, low-interest loans awarded to students who show financial need as well as exceptional academic merit and professional potential. The fund was established in 1985 by Mrs. Rose Schaenen in memory of her husband, Nelson Schaenen, Sr., B.S. '22. Also contributing to the fund are David Schaenen, Nelson Schaenen, Jr., and Constance B. Strand. Nelson Schaenen, Sr., was chief executive officer of Smith Barney and Company.

J. Stanford Smith Scholarship, in memory of the Johnson School's executive-in-residence from 1981 to 1983 and funded by donations from students, faculty and staff members, and business colleagues.

Kathryn A. Smith Scholarship.

William S. Smith Memorial Scholarship, awarded to a candidate with career interests in financial management.

Spencer Stuart and Associates Scholarship.

Student Agencies Fellowship, provides a three-year scholarship to a student who directs Student Agencies' venture fund.

Richard Wm. Talley Scholarship.

Walter C. Teagle Memorial Fellowship of the Standard Oil Company (New Jersey).

David A. Thomas Scholarship, awarded to the most-outstanding member of the top 10 percent of the second-year class in honor of dean emeritus David A. Thomas.

TRW Minority Scholarship.

UNYSIS Scholarship.

H. Wittink Prize, awarded at graduation to the best student in marketing.

David and Sandra Yeater Scholarship Fund.

With the exception of the Junior Achievement awards, there are no special application procedures for the awards listed above. The Financial Aid Committee makes all scholarship awards on the basis of both financial need and merit and decides which candidates are best qualified for specific scholarships. Candidates need only file the GAPSFAS forms, mentioned earlier, to be considered for the specified awards or the awards from the general funds.

New York Tuition Assistance Program

If you are a master's-degree candidate at JGSM and have been a legal resident of New York State in the preceding year, you are eligible for the Tuition Assistance Program for each term in which you are registered as a full-time degree candidate. The amount of the award is based on the net taxable balance of your income and the income of those responsible for your support, as reported on the New York State income tax return for the previous calendar year.

Further information and application forms can be obtained by writing to New York Higher Educational Services Corporation, Student Financial Aid Section, Empire State Plaza, Tower Building, Albany, New York 12255.

G.I. Bill Assistance

If you are a veteran or if you are otherwise eligible for G.I. Bill payments, you should contact the Office of the University Registrar, Cornell University, 222 Day Hall, Ithaca, New York 14853-2801. You should have a copy of the DD-214 form or other proof of eligibility. For advance payment, a request must be presented in writing on the proper form. Enough time should be allowed so that the office can process and submit the form to the Veterans' Administration regional office at least thirty days before you register.

Guaranteed Student Loan (GSL) Program

The GSL program was established by the Higher Educational Act of 1965. The program is usually operated by state agencies and is specifically designed to provide deferred-payment private loans to full-time students. Although the program differs somewhat from state to state, the various state programs are similar in that commercial lenders make loan funds available at 8 percent for the first four years of repayment; there is a cap of 10 percent during the fifth year of repayment. The state and federal governments pay the interest charges

while the student borrower is enrolled in an accredited education institution.

The maximum yearly loan disbursement to each student is \$7,500, although some lending institutions may not agree to lend the full amount. The cumulative limit of loans for graduate students under the program is \$54,750 (which includes outstanding undergraduate loans). Students interested in applying for such loan assistance should begin the process by contacting a loan officer at a local bank or lending institution. All students requesting financial assistance from the Johnson School or Cornell University are expected to apply for a GSL.

Supplementary Loans to Assist Students

Formerly called Auxiliary Loans to Assist Students (ALAS), Supplementary Loans are available to augment GSLs and other financial-aid resources. Interest rates are set at the rate of the United States Treasury Bill plus 3.75 percent; there is a 12 percent cap. Interest payments are due while the student is enrolled in school. The maximum yearly loan disbursement for each student is \$4,000.

Loans Administered by Cornell University

► *Perkins Loan Program*

Cornell University is a lending agent for federal funds from the Perkins Loan Program, formerly called the National Direct Student Loan (NDSL) program. The loan funds available are used to help students meet financial need. The program is essentially the same as the GSL program except that the interest on funds is only 5 percent a year, beginning six months after the student graduates, and the federal estimate of need tends to be strict.

► *University Loan Program*

Cornell also has its own long-term loan program to complete your financial-aid package. University loans are offered at 8 percent interest, and repayment is deferred until six months after you leave Cornell. The loans must be repaid within ten years.

► *Work-Study Awards*

Work-study awards are part of the financial-aid package. To apply for a work-study position you must first verify your eligibility with the Office of Financial Aid, Johnson Graduate School of Management, Cornell University, 312 Malott Hall, Ithaca, New York 14853-4201.

O

ur faculty members received their doctoral training at some of the most-prestigious business schools in the country—for example, at Stanford, the University of Chicago, Yale, the Wharton School, Carnegie-Mellon, Massachusetts Institute of Technology, the University of Rochester, Northwestern University, the University of Michigan, and the Johnson School. Excellent teachers as well as researchers, they keep abreast of current research concerns in each other's fields of interest through weekly workshops and through joint projects. They also stay in touch with managerial concerns through consulting assignments with *Fortune* 500 companies, entrepreneurial firms, and federal and state government agencies, and through classroom exchanges with executives in our school's Executive Development Program. Their doors are open to students, and they are often a resource for sound career advice as well as expertise on managerial issues. A faculty roster with biographical sketches follows.

► *Full-Time Faculty*

Mitchel Y. Abolafia, Ph.D. (State University of New York at Stony Brook), Assistant Professor of Organizational Behavior

Professor Abolafia's teaching interests are in organizational theory and strategy and interorganizational relations. Recently his research has focused on self-regulation in the financial and scientific communities, competition and conflict between organizations, and behavioral models of market crises. Other research areas include intergovernmental coordination and the social correlates of seismic hazards.

Philip C. Anderson, Ph.D. (Columbia), Assistant Professor of Organizational Behavior

Professor Anderson's interests are in organizational theory and strategy, management of innovation, and entrepreneurial behavior. His research focuses on patterns of technological change, organizational and industrial evolution, and strategic adaptation to changing environments. Other research areas include measurement of birth and death phenomena, timing of innovations, and the dynamics of high-technology industrial zones.

Roster of Faculty Members



Above: **Tom Dyckman**, Ann Whitney Olin Professor of Accounting and associate dean for academic affairs. Opposite: **Sy Smidt**, Nicholas H. Noyes Professor of Economics and Finance. Sy describes JGSM students as an extraordinary group whose talents flourish in the kind of environment the Johnson School provides. "It's a rare professor who doesn't get to know some students on a personal level," he says.



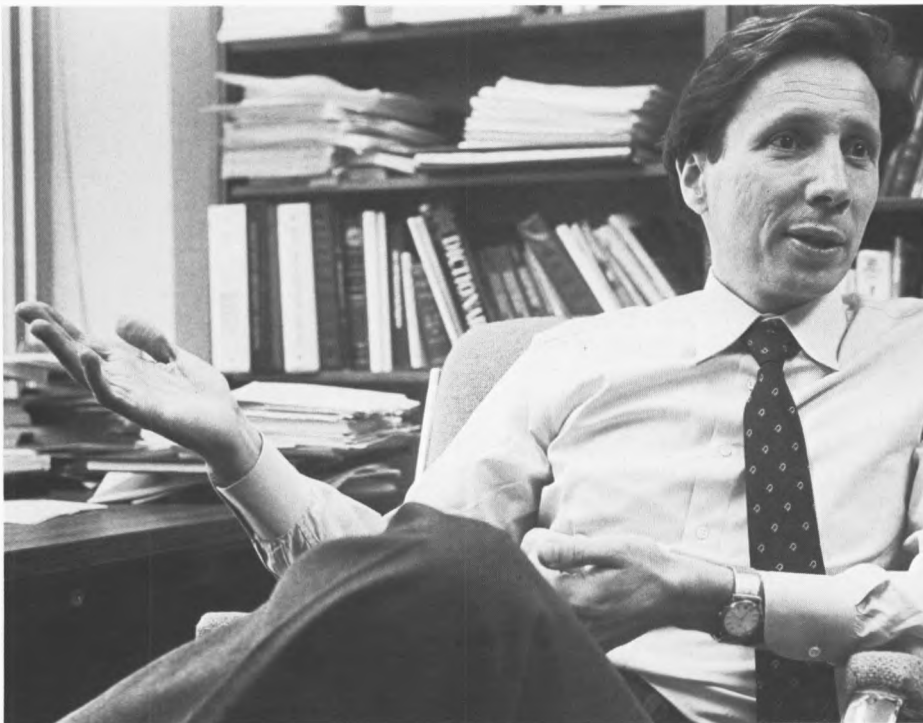
Roger M. Battistella, Ph.D. (Michigan), Professor of Health Policy and Management

Professor Battistella is principally interested in public-policy issues involving the organization, financing, and delivery of health and welfare services in the United States and other highly developed countries. He has written about health affairs, regional and comprehensive health planning, and medical sociology. He is a seminar chairman in the university's Health Executive Development Program and is active as a consultant to the federal department Health and Human Services, to state and local government bodies, and to the World Bank.

Barry L. Bayus, Ph.D. (Wharton School, Pennsylvania), Assistant Professor of Marketing

Professor Bayus's teaching and research interests are in the areas of marketing management, market research, planning, and the dynamic modeling of marketing phenomena. His research has focused on measuring and evaluating the impacts of marketing resources, examining the marketing of consumer durables, investigating the power of word-of-mouth advertising, and modeling the effect of corporate communications on reputations. He has consulted for several government and commercial organizations and was a member of the corporate-operations research group at RCA.

Jay Russo, associate professor of marketing and behavioral science



Nancy E. Bell, Ph.D. (California, Berkeley), Assistant Professor of Organizational Behavior

Professor Bell's teaching interests are in organizational behavior, particularly in the areas of social-psychological approaches to understanding organizational behavior, the management of groups, and negotiations. Her research focuses on the attribution of responsibility and blame in organizations, the role of personality in organizational behavior, and the role of affect and emotion in organizations. Other research areas include theories of the relationship between attitudes and behavior, particularly impression management theories.

David BenDaniel, Ph.D.

(Massachusetts Institute of Technology), Don and Margi Berens Professor of Entrepreneurship

Professor BenDaniel holds degrees in physics and engineering. He has been a visiting fellow at Harvard's Graduate School of Business Administration. In addition to his teaching and research, he is active in investing venture capital. He held a senior vice presidency in Textron Corporation's American research and development division and a group vice presidency in Exxon Enterprises' advanced energy and technology components division. He started and managed General Electric's technical-ventures operation. He has been featured in articles in *Fortune*, *Business Week*, *Physics Today*, and other magazines for his entrepreneurial activities.

Harold Bierman, Jr., Ph.D.

(Michigan), Nicholas H. Noyes Professor of Business Administration

Professor Bierman's interests are in corporate investment, financial policy decisions, and business strategy. He has consulted for public organizations and industrial firms and is the author of more than one hundred books and articles in the fields of accounting, finance, investment taxation, and quantitative analysis. He is the market-planning and strategy-formulation coordinator of the Johnson School's Executive Development Program. In 1985 he was named the winner of the prestigious Dow Jones Award of the American Assembly of Collegiate Schools of Business, for his outstanding contributions to collegiate management education.

Joseph B. Bugliari, J.D. (Cornell), Professor of Agricultural and Business Law

Professor Bugliari has been an associate with a law firm in New York City, an assistant to an associate justice of the Appellate Division of the New York State Supreme Court, and director of legal services for Cornell University. He is interested in the law pertaining to farming operations, business associations, taxation, estate planning, and government regulation of business. He is currently serving as dean of the University Faculty. Professor Bugliari will be on sabbatical leave during the 1987–88 academic year.

Louis Kuo Chi Chan, Ph.D. (Rochester), Assistant Professor of Finance

Fields included in Professor Chan's research interests are capital market and portfolio theory and macroeconomics. Other interests include applications of econometrics and time-series analysis to economics and finance. He has taught courses in economics, finance, and applied statistics.

Richard W. Conway, Ph.D. (Cornell), Professor of Information Systems
Professor Conway is concerned with computer use in planning, communication, and control. His research concerns computer systems in the control of manufacturing operations. He is currently involved in the development of a real-time scheduling system in conjunction with Hewlett Packard Laboratories' Manufacturing Research Center. He is the originator of the XCELL Factory Modelling System. He has been the project director of the Cornell PL/I Project (PL/C, PL/CT), used in more than 250 universities, and has been responsible for the design and implementation of industrial systems for scheduling, factory design, inventory control, order processing, and medical billing, and for communication and personal-filing systems for office principals. He has served as chairman of the university's Department of Computer Science and as director of Cornell Computer Services and has done extensive consulting on information systems and operations-research problems in industry.

Patrick J. DeGraba, Ph.D. (Pennsylvania), Assistant Professor of Economics

Professor DeGraba's teaching interests are in industrial organization and microeconomic theory. He has conducted research on the effects of price restrictions on competition between local and national firms and on oligopolistic market behavior. He has taught both microeconomics and macroeconomics at the University of Pennsylvania. He is a recipient of the GEICO Achievement Award in economics and has consulted for Econsult Corporation, in Philadelphia. His research interests include game theory, predatory behavior, models of product differentiation, and contracting with incomplete information.

Thomas R. Dyckman, Ph.D. (Michigan), Ann Whitney Olin Professor of Accounting, Associate Dean for Academic Affairs

Accounting, statistics, and quantitative approaches to decision making are Professor Dyckman's fields of interest. His publications have dealt with econometric models of the automobile industry, accounting theory, the investment decision, the effects of alternative accounting techniques on management decisions, the behavioral effects of accounting reports, the economic consequences of accounting policy decisions, statistical cost-control techniques, bond refunding, capital markets, utility theory, and statistical techniques. He is currently engaged in research on issues associated with normative and descriptive decision making in accounting. In 1987 he was the recipient of the American Accounting Association's Outstanding Educator Award.

John A. Elliott, Ph.D. (Cornell), C.P.A., Associate Professor of Accounting

Professor Elliott teaches the core accounting course. His published research has focused on audit opinions and security price behavior, insider trading and information events, and the effects of SFAS2. He is currently investigating what determines an organization's choice of accounting methods.

John H. Freeman, Ph.D. (North Carolina at Chapel Hill), Professor of Organizational Behavior, Editor of *Administrative Science Quarterly*

Professor Freeman's interests are in organizational behavior, organizational theory, methodology, population ecology, and military sociology. He came to the Johnson School from the University of California, Berkeley, where he was a professor in the School of Business Administration. He served for several years on the editorial board of the Johnson School's *Administrative Science Quarterly*, the premier journal in the field of organizational behavior, before being named editor, in September 1985. He is perhaps best known for developing a population-ecology model of organizations that has had a major influence on the field of organizational behavior. *Organizational Ecology*, a book he wrote with Michael Hannan, is being published by Harvard University Press.

Jerome E. Hass, Ph.D. (Carnegie-Mellon), Professor of Managerial Economics and Finance

Professor Hass's fields of interest are corporate and capital market finance, business strategy and policy, and the economics of energy and regulation. His publications have dealt with transfer pricing, capital budgeting, the pricing of natural gas and electricity, financing the energy industry, natural-resource allocation, and the theory of merger and acquisition decisions. He was chief of the Division of Economic Studies at the Federal Power Commission in 1976–77 and has been a consultant to a number of organizations, including the Executive Office of the President, the Department of Energy, the state of Alaska, the New York State Public Service Commission, the Environmental Protection Agency, the Brookings Institution, the American Enterprise Institute, the United States Congressional Office of Technology Assessment, and numerous corporations. He has been an expert witness in more than twenty regulatory proceedings. He is a special consultant for National Economic Research Associates.

Richard A. Highfield, Ph.D. (Chicago), Assistant Professor of Economics

Professor Highfield was a business administrator at the University of San Francisco and at Stanford University before obtaining his doctoral degree in economics from the University of Chicago, where he also was a lecturer in economics. A member of the American Statistical Association and the

Econometric Society, he also holds an M.B.A. degree from Santa Clara University. His research interests include international forecasting, the use of state-space models for business and economic forecasting, and Bayesian econometric methods.

Ronald W. Hilton, Ph.D. (Ohio State), Professor of Accounting

Professor Hilton's interests are in financial and managerial accounting and in quantitative methods. His current research focuses on issues in the economic theory of information and incentive systems. Professor Hilton will be on leave during the 1987-88 academic year.

Robert A. Jarrow, Ph.D. (Massachusetts Institute of Technology), Associate Professor of Economics and Finance

Professor Jarrow's teaching and research interests involve the study of economic theory under uncertainty. He is interested in capital-market theory, general equilibrium theory, and game theory. He is currently engaged in theoretical research relating to the pricing of securities in the capital markets. He is a graduate faculty representative in two fields, management and applied mathematics. He has been associate editor of the *Journal of Financial and Quantitative Analysis* since 1983.

David M. Krackhardt, Ph.D. (California, Irvine), Assistant Professor of Organizational Behavior

Professor Krackhardt's interests lie in studying social networks in organizations. His research focuses on the effect of such networks on employees' attitudes and behavior, on the power they accrue, and on the functioning of the organization as a whole. Other research areas include employee turnover, decision theory, and the development of statistical methods for analyzing networks.

Robert C. Lind, Ph.D. (Stanford), Professor of Economics, Management, and Public Policy

Professor Lind's major interests are the analysis of public investment and economic policy decisions. He also has a major interest in the relationship between government and business and its implications for corporate strategy. His publications range from theoretical papers dealing with the social rate of discount, uncertainty in public-sector decision making, and the theory of

rents, to policy-oriented papers on energy, natural resources, criminal justice, and land use. His current research is on national economic policy and on how business, government, and public policy influence one another. Professor Lind has consulted widely for both public and private organizations. He was recently named in *Who's Who in Economics* as one of the thousand most-cited living economists.

Alan K. McAdams, Ph.D. (Stanford), Associate Professor of Managerial Economics

Professor McAdams's interests and publications are in managerial economics and in business-government relations, especially science policy. He has served as a senior staff economist with the president's Council of Economic Advisers and as a consultant and expert witness for the government in *United States v. I.B.M.* He has been a consultant to industry, government, and the Ford Foundation.

John O. McClain, Ph.D. (Yale), Professor of Quantitative Analysis

Professor McClain is studying the application of quantitative methods to managerial problems. His interests are in the design and operation of production systems in the manufacturing, service, and health-care industries.

Deborah J. Mitchell, Ph.D. (Chicago), Assistant Professor of Marketing

Professor Mitchell's research interests involve nonanalytic information processing in consumer choice and consumer decision making in problem situations. Her doctoral thesis was on mental simulation in memory-based choice. In addition to a Ph.D. degree, she holds an M.B.A. degree in marketing from the University of Chicago.

Dale Morse, Ph.D. (Stanford), Associate Professor of Accounting

Professor Morse's primary interests are in financial accounting, finance, and information economics. He is currently working on the topic of private information in a market setting. His research findings have been published in the *Rand Journal of Economics*, the *Accounting Review*, and other scholarly journals in his field.

Maureen O'Hara, Ph.D. (Northwestern), Associate Professor of Finance

Professor O'Hara's research and teaching interests are financial institutions and monetary economics,



Louis Chan, assistant professor of finance

particularly the structure of the securities market. She is currently examining the role of the block trader in the process of price adjustment. Professor O'Hara has also consulted for the Federal Savings and Loan Insurance Corporation on default-prevention policies for savings and loan institutions. She was named by the American Association of University Women as the most-promising young scholar of 1986.

George S. Oldfield, Ph.D. (Wharton School, Pennsylvania), Professor of Economics and Finance

Professor Oldfield's current research and teaching interests are in valuation theory and in monetary economics. He has published articles on efficiency in foreign-exchange markets, private-pension finance, and the mathematical properties of security returns. Professor Oldfield has worked for the New York and Philadelphia Federal Reserve banks and consults for several commercial banks and investment-banking firms. He will be on leave during the 1987-88 academic year.

Levent Orman, Ph.D. (Northwestern), Associate Professor of Information Systems

Professor Orman's primary interest is in management information systems. He has taught courses and written articles on system design, data-base management, decision support systems, and report generators. He is currently working on the specification and design of decision support systems. Professor Orman will be on sabbatical leave during the 1987-88 academic year.

Alan Pike, M.A. (Cornell), Lecturer, Management Communication

Mr. Pike teaches written and oral communication. His background is in English literature and linguistics. His main interests are the writing of fiction and the development of programs in adventure-based leadership and management training.

Vithala R. Rao, Ph.D. (Wharton School, Pennsylvania), Professor of Marketing and Quantitative Methods
Professor Rao's interests lie in the development and application of analytical models for marketing research and strategy. His publications have dealt with such topics as the role of price in product-quality judgments; product positioning and product design; application of multidimensional scaling and conjoint models for the

analysis of consumer preferences and perceptions; market structure analysis; and evaluation of subsets of multi-attributed items. He has consulted for various industrial firms and is currently engaged in research on issues associated with brand switching, resource allocation, and competitive reactions.

Lawrence W. Robinson, Ph.D. (Chicago), Assistant Professor of Operations Management

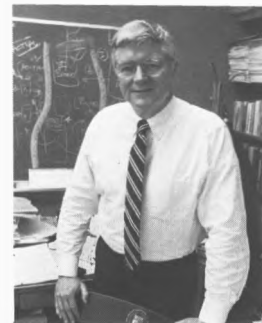
Professor Robinson's interests center on inventory-stocking policies for firms facing uncertain demand for their products. He is currently examining policies for firms with a number of retail outlets that can resupply each other if the need arises. Other interests include supplier-retailer interactions and the joint problem of forecasting demand and stocking inventory. He has taught management science at the University of Chicago and has also been a computer programmer.

Charlotte Rosen, Ph.D. (Cornell), Senior Lecturer/Coordinator, Management Communication

Ms. Rosen's teaching fields are oral and written communication. Her background is in theater arts. She has written articles and delivered presentations on communication skill building and has run communication workshops for managers. She is currently involved in developing videotaped material for communication skill training.

J. Edward Russo, Ph.D. (Michigan), Associate Professor of Marketing and Behavioral Science

Professor Russo holds a master's degree in probability and statistics and a doctoral degree in mathematical psychology. He has consulted for the General Motors Corporation, the Federal Trade Commission, and the National Bureau of Standards. His research centers on decision making and on decision aiding for managers and consumers. His published work has dealt with advertising, behavioral methodologies, consumer-information aids, decision strategies, memory for events, the new information technologies, and product knowledge. Currently he is working on a book for managers on the behavioral aspects of decision making. He was an associate professor at the University of Chicago and taught at the University of California, San Diego.



Alan McAdams, *associate professor of managerial economics*

Wayne H. Shaw, Ph.D. (Texas at Austin), C.P.A., Assistant Professor of Accounting

Professor Shaw's primary research and teaching interests are in financial accounting and federal income taxation. He is currently examining the impact of changes in corporate tax law on the security-market valuation of firms. He was a tax-law specialist for A. M. Pullen and Company as well as for the Internal Revenue Service and taught taxation and financial accounting at the University of Texas at Austin. He has received numerous fellowships and awards, including the Ernst and Whinney Doctoral Dissertation Fellowship and several awards for outstanding teaching.

Seymour Smidt, Ph.D. (Chicago), Nicholas H. Noyes Professor of Economics and Finance

Professor Smidt's main interests are in the areas of finance and managerial economics. He is a coauthor of textbooks on capital budgeting, corporate finance, and statistical decision theory. He has also conducted research on the stock market, on commodity futures markets, and on electric-rate regulation. He has served as director of the Johnson School's research program on agricultural industries, as chief of party to the Johnson School's project at Middle East Technical University in Ankara, and as associate director of the Securities and

Exchange Commission's Institutional Investor Study. He was mayor of the Village of Lansing, New York, for six years.

Robert H. Smiley, Ph.D. (Stanford), Professor of Economics and Policy
Professor Smiley's research and teaching interests are in the fields of microeconomics, energy economics, industrial organization, and public-policy analysis. His current research projects include competitive strategy, energy economics, and the economics of regulation. Professor Smiley will be on sabbatical leave during the 1987-88 academic year.

Curtis W. Tarr, Ph.D. (Stanford), Dean of the Johnson Graduate School of Management, Professor of Management
Curtis W. Tarr assumed the deanship at the Johnson School in July 1984.

Throughout his career Dean Tarr has held positions of managerial leadership in higher education, government, and business. He holds an A.B. degree in economics and a Ph.D. degree in American history from Stanford University, as well as an M.B.A. degree from Harvard University, where he also taught briefly. He was president of Lawrence University in Appleton, Wisconsin, from 1963 to 1969. Following that, he served as assistant secretary of the air force, director of selective service, and under secretary of state, in Washington, D.C. In 1973 Tarr left government service for Deere and Company, the Moline, Illinois, farm and construction-equipment manufacturing firm. During his ten years with Deere he was vice president for overseas development, vice president for parts distribution and materials management, and vice president for management development. He is the author of numerous publications on such diverse topics as economic history, foreign and military affairs, production management, and agriculture. He holds honorary degrees from five colleges and universities and has been a director of many business, civic, and educational organizations and a member of high-level government commissions.

Richard H. Thaler, Ph.D. (Rochester), Professor of Economics and Behavioral Science

Professor Thaler's research is on the border between microeconomics and cognitive psychology. He has developed descriptive models of the decision-making process in which the usual economic assumption of complete

Jim Wiggins, assistant professor of finance



rationality is relaxed. Those models have been used to study various applied problems, including saving behavior and optimal pricing of consumer products, and such public-policy questions as the value of saving lives. His courses combine economics and psychology. In the recent past he has taught the core course on microeconomics, courses on pricing and strategy and behavioral decision theory, and a doctoral seminar on psychology and economics. Before joining JGSM, Professor Thaler taught at the University of Rochester's Graduate School of Management.

L. Joseph Thomas, Ph.D. (Yale), Nicholas H. Noyes Professor of Manufacturing, Director of the Executive Development Program Professor Thomas specializes in operations research. His teaching interests are production, inventory, distribution management, and quantitative analysis. His publications have dealt with inventory management, forecasting, material-requirements planning systems, and the effect of marketing decisions on production planning. He has consulted for, and been involved in management education programs for, several companies. His current research interests involve mathematical models for managing complex production-distribution systems.

James B. Wiggins, Ph.D. (Sloan School of Management, Massachusetts Institute of Technology), Assistant Professor of Finance

Professor Wiggins has research interests in the areas of options pricing, financial markets and institutions, and monetary and banking theory. His doctoral dissertation evaluated the impact of random volatility on option values and on determining stock-market returns. He is currently studying the efficiency of stock and options markets and the pricing of stock-index futures.

Dick R. Wittink, Ph.D. (Purdue), Professor of Marketing and Quantitative Methods, Director of the Doctoral Program

Professor Wittink's teaching interests are in marketing management and research, new products, applied statistics, and econometrics. His research interests include econometric model building and consumer-preference models. Currently he is using grocery-store scanner data to study the effects of promotional programs on brand sales.

► *Adjunct, Visiting, and Part-time Faculty*

John M. Abowd, Ph.D. (Chicago), Associate Professor of Labor Economics Professor Abowd's teaching and research interests are in economics and econometrics. His most-recent research involves wage settlements arrived at through collective bargaining, and the value of common stock. He has conducted research and published papers on wage differentials between Hispanics and non-Hispanics, union and nonunion members, and men and women. Since 1985, he has been the principal investigator for the design and execution of an annual survey of newly matriculated students in graduate schools of management. The survey is sponsored by the Graduate Management Admission Council. He was an associate professor of econometrics and industrial relations at the University of Chicago and a visiting associate professor of economics at the Massachusetts Institute of Technology and Princeton University.

Julia E. S. Grant, M.S., Ph.D. expected in 1988 (Cornell); Lecturer, Accounting Ms. Grant's interests are in financial and managerial accounting. Her current research interests include accounting for pensions and other postretirement benefits.

Dale A. Grossman, J.D. (American University), Lecturer, Tax and Business Law

As the judicial administrator for Cornell University from 1977 to 1980, Ms. Grossman was responsible for the day-to-day operation of the campus judicial system, as well as policy implementation in that area. Currently a lecturer with the College of Agriculture and Life Sciences and the Johnson Graduate School of Management, she teaches courses in agricultural law, communication law, taxation, and business law. A member of the bar of the state of New York, she has served on numerous university and professional judicial committees.

Jan H. Katz, Ph.D. (Massachusetts Institute of Technology), Visiting Assistant Professor of International Business and Marketing Professor Katz's research and teaching focus on the special problems that organizations face when they expand beyond their national boundaries. Her research has focused on the means of developing cohesive management staffs



Dick Thaler, professor of economics and behavioral science

from multicultural labor pools and on the techniques used by corporations to analyze and manage their noneconomic environment.

Barbara Mink, M.A. (Cornell); Lecturer, Management Communication
Ms. Mink's background is in broadcasting. She was news director at WHCU—a radio station formerly owned by Cornell University—for eight years and was the recipient of an Associated Press award in 1982. She has lectured in radio and television news writing, broadcast journalism, and news ethics at Ithaca College and Cornell. She has published numerous articles in such publications as *American Demographics* and has moderated televised political debates in Ithaca and Binghamton, New York.

James W. Schmotter, Ph.D. (Northwestern); Lecturer, Business History; Associate Dean for Administration

Dean Schmotter's academic interests include international management, the history of American business, and the study of the professions and professional education. The author of articles in the *Journal of Social History* and the *American Quarterly* as well as in a number of popular management periodicals, he is executive editor of the Johnson School's prize-winning magazine *Cornell Enterprise* and also edited its predecessor, *Executive*. Dean Schmotter is the former chairman of the board of trustees of the Graduate Management Admission Council (GMAC) and is currently a member of the GMAC's National Task Force on Admission to Graduate Management Education. He is also working on a history of graduate management education at Cornell.



Alan Pike, lecturer in management communication

T. J. Pempel, Ph.D. (Columbia), Professor of Government

Professor Pempel was director of the China-Japan Program from 1980 to 1985. He is interested in comparative public policy abroad, focusing on public policy making in Japan. He is currently editing a series of seven books on comparative public policy, which are being published by Temple University Press, and he is the author of five books on comparative public policy, including *Policy and Politics in Japan: Creative Conservatism* (Temple University Press, 1982). He has been the recipient of numerous fellowships and research grants, including a Herbert A. Lehman fellowship from 1967 to 1970 and Fulbright-Hays fellowships in Japan in 1970-71 and 1975-76. His most-recent book, co-written with Thomas Ilgen, is *Trading Technology: Europe and Japan in the Middle East* (Praeger, New York City, 1986).

► *Executive-in-Residence*

John F. Burlingame

Mr. Burlingame is the former vice chairman of the board and executive officer of General Electric Company. He received a B.S. degree in physics from Tufts University in 1942. In 1946, after service in the United States Navy, he joined General Electric Company. In 1973 he was named senior vice president and senior executive of the firm's international sector. He became vice chairman in 1979 and held that post until his recent retirement. He is listed in *Who's Who in America* and the *International Who's Who*.

► *Professors Emeriti*

Earl Brooks, M.S., Professor of Administration Emeritus

Frank F. Gilmore, S.M., Professor of Business Administration Emeritus

John G. B. Hutchins, Ph.D., Professor of Business History and Transportation Emeritus

John M. Rathmell, Ph.D., Professor of Marketing Emeritus

David A. Thomas, Ph.D., Professor of Accounting Emeritus, Dean Emeritus of the Johnson Graduate School of Management

The courses offered by the Johnson Graduate School of Management, including those offered jointly with other schools and colleges on the Cornell campus, are described in this section. Core courses are listed first, followed by electives under the categories of accounting, behavioral science, economics, finance, general management, international management systems, marketing, operations management, and research and advanced studies. For the most-current course information, we suggest that you consult the course schedules published by the Johnson School's Office of the Registrar.

There are many courses in other units of the university—including the Departments of Economics, Government, Psychology, and Sociology in the College of Arts and Sciences; the College of Human Ecology; the School of Industrial and Labor Relations; the School of Operations Research and Industrial Engineering in the College of Engineering; and the Department of Agricultural Economics in the College of Agriculture and Life Sciences—that may be of interest. For information on the content of those, consult the Cornell publication *Courses of Study* as well as the following brochures: *The Sloan Program in Health Services Administration at Cornell*, *Cornell Resources in International Business and Management*, *Cornell Programs and Resources in Manufacturing Management*, and *Cornell Programs on Japanese Business*. *Courses of Study* is available from the University Admissions Office, Cornell University, 410 Thurston Avenue, Ithaca, New York 14850-2488. The Sloan Program brochure is available from the Department of Human Service Studies, College of Human Ecology, Cornell University, N132 Martha Van Rensselaer Hall, Ithaca, New York 14853-4401. The three other brochures are available from the Office of Admissions and Student Affairs, Johnson Graduate School of Management, Cornell University, Malott Hall, Ithaca, New York 14853-4201.

NOTE: Brackets surrounding a course description indicate that the course will not be taught in the academic year 1987–88. Some courses mentioned, but not described, in this publication are described in *Courses of Study*.

Management Curriculum



A view of Malott Hall

Core Courses

► First Year

NCC 500

Financial Accounting Fall; Elliott. Three credits.

The course covers a broad spectrum of topics in financial accounting at an introductory level. The topics include transactions analysis, the accounting cycle, financial-statement preparation and use, revenue recognition and cost measurement, present value, problems in financial-accounting disclosure, financial-statement analysis, and price-level accounting. The entire course focuses on accounting information for users external to the organization.

NCC 501

Quantitative Methods for Management Fall; Wittink, Thomas. Three credits.

The course deals with basic elements of decision making under conditions of uncertainty. Topics discussed include descriptive statistics, probability theory, classical statistics (including an introduction to regression analysis), and statistical (Bayesian) decision theory. Although the course is taught at an introductory level, the student is required to have a limited knowledge of calculus.

NOTE: For those students who have had little or no mathematics, the Johnson School conducts an intensive preparatory course in algebra and calculus in late August each year. For more information about the course, send for the brochure *Pre-enrollment Mathematics Review Course*, available from the Office of Admissions and Student Affairs, Johnson Graduate School of Management, Cornell University, Malott Hall, Ithaca, New York 14853-4201.

NCC 502

Microeconomics for Management Fall; DeGraba, Highfield. Three credits.

The fundamental concepts and principles of microeconomic theory are introduced and developed in the context of applications that are relevant for managers. The course covers the

basic elements of consumer demand, production and supply, and the operation of markets.

NCC 503

Marketing Management Fall; Bayus, Rao, Russo. Three credits.

The course is designed to introduce concepts, perspectives, and problems of marketing management of a multiproduct firm operating in a contemporary environment. Decision aspects of product planning, communication, pricing, distribution, and competitive strategy are discussed. Emphasis is placed on the marketing decisions facing a manager and the uncontrollable variables that relate to those decisions. Relevant quantitative and behavioral concepts are applied to marketing decision making.

NCC 504

Behavioral Science Fall; Abolafia, Krackhardt, Russo. Three credits.

Concepts and methods from the social sciences reveal the tasks and roles of managers as individual decision makers, as members of work groups, and as specialists within the larger organization. Barriers to effective decision making are examined, including cognitive limitations, personal styles, and the pitfalls of group decision making. The dynamics of groups and organizations are treated under such topics as leadership and supervision, motivation, stress management, and communication processes. Managerial problems such as conflict, resistance to change, growth, and organizational politics are presented, and solutions are discussed. The course is presented through readings and discussion of theory and empirical research. Cases and exercises are used.

NCC 505

Macroeconomics and International Trade Fall; Highfield. Spring; Highfield, Lind. Three credits.

Basic macroeconomic theory is developed and integrated with basic concepts of international trade and finance. The first nine weeks of the course are devoted to the development of macroeconomic theory, emphasizing its

Below: The André Meyer Computing Laboratory. Opposite: Barry Bayus, assistant professor of marketing, in class.



application to the analysis of such major modern economic issues as inflation, unemployment, economic growth, and productivity. During the last five weeks, the influence of those issues on international trade is addressed. Among the topics covered are the theory of comparative advantage and the terms of trade, the foreign-exchange market, the balance of payments, and alternative international monetary systems. The goal of the course is to teach students to be informed observers of national and international economic policy and critical users of economic analyses and forecasts. NOTE: Students can take either NCC 505 or NCC 508, but not both, in the third semester.

NCC 506

Managerial Finance Fall; Wiggins. Spring; Bierman, Hass. Three credits.

The student is introduced to the principles and practices of business finance by developing theory and analyzing practices and cases that apply that theory. The first section of the course deals with the capital-budgeting decision, modern portfolio theory, and the capital-asset pricing model. The second section considers the cost of different long-term financing instruments and the effect of the mix of those securities employed on the entity's cost of capital. The third section deals with the management and financing of short-term assets, option pricing, and international finance.

Prerequisites: Previous completion of, or concurrent registration in, NCC 500 and NCC 501, or permission of the instructor. Only graduate students can take the course. Non-JGSM graduate students are encouraged to do so during the fall semester.

NCC 507

Management Information Systems Spring; Conway. Two credits.

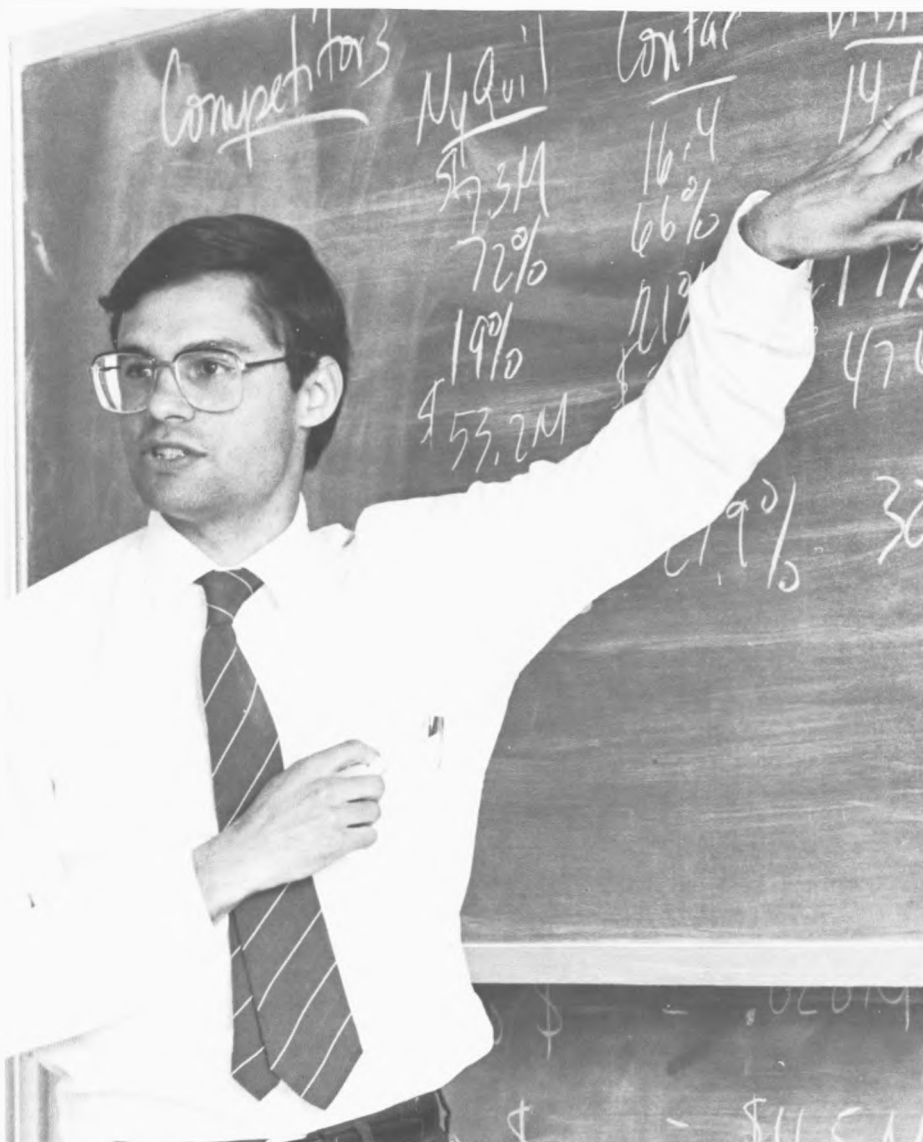
The course is an introduction to the basic concepts of contemporary information systems, including systems for transaction processing, financial reporting, operational control, decision support, and general communication. It assesses state-of-the-art developments and weighs prospects for the future. It covers an introduction to the relational and entity-relationship models of data and involves some use of a data-base management system on a personal computer.

NCC 508

Production and Operations Management Fall; McClain. Spring; McClain, Robinson. Three credits.

The course introduces major economic-decision problems of production and operations management that occur in various settings, including manufacturing, health services, and other service areas. Among the decisions considered are the following: aggregate production and work-force scheduling; multiplant allocation of product; large-scale project control (PERT); materials management; production and inventory control; demand forecasting; quality assurance; and capacity planning. The course examines methods for managing operations to obtain high levels of productivity and quality by employing new technology, effective coordination, and work-force commitment. Emphasis is placed on the effectiveness, and the limitations, of quantitative techniques in the decision-making process. The interaction of production with other functional areas is also considered.

Prerequisites: NCC 501 and NCC 507 or the equivalent. NCC 507 can be taken concurrently with NCC 508. NOTE: Students can take either NCC 505 or NCC 508, but not both, in the third semester.



► *Second Year*

NCC 510

Business-Government Interface First five weeks of spring semester; McAdams. One credit. The course explores the economic foundations for government interaction with business. The characteristics of existing economic and political institutions are examined. Other points investigated are how institutional interactions and social concerns shape or constrain choices, and how current changes in attitudes, values, and institutions may affect the future environment for administrative decision making. NOTE: The following courses can be substituted for NCC 510: NBA 521, Regulation, Deregulation, and Antitrust — Government Regulation of Business; NBA 577, The External Environment of Business; NBA 580, Industrial Policy: Lessons for the United States from Japan and Europe.

NCC 511

Business Strategy and Policy Fall; Burlingame, Hass. Three credits.

The course is designed to draw on the various disciplines taught at JGSM. It focuses on the development and implementation of a comprehensive strategy for a business, including such considerations as product-service innovation, global competition, corporate culture, incentive systems, and planning-control processes. The course incorporates Harvard and Cornell case studies, guest lectures by visiting business executives, and a computerized strategic-planning exercise. Only second-year students registered in the Johnson School can take the course. *Prerequisites:* NCC 503, 506, and 508. NCC 508 can be taken concurrently with NCC 511.



Bob Jarro, associate professor of economics and finance, assists students in JGSM's Pre-enrollment Mathematics Review Course.

Elective Courses

► Accounting

NBA 500

Intermediate Accounting Fall; Dyckman. Spring; Shaw. Three credits.

The course is intended to motivate and facilitate students' learning the concepts and terminologies that are essential to an understanding of financial accounting and financial statements. Relatively brief cases drawn from, or based on, actual corporate financial reports are used to enhance students' understanding of how accounting information is collected, adjusted, or modified and presented to investors and others; their understanding of, and ability to critically evaluate, published financial statements; and their obtaining a practical working mastery of those concepts and terminologies. *Prerequisite:* NCC 500 or the equivalent.

NBA 501

Advanced Accounting Spring; Morse. One and one-half credits.

The course, a continuation of NBA 500, deals with advanced topics of financial accounting. Among the specialized situations covered are partnerships, multinational operations, fund accounting, pension accounting, and bankruptcy. *Prerequisite:* NBA 500 or permission of the instructor.

NBA 502

Managerial Cost Accounting Fall and spring; Dyckman, Grant. Three credits.

The course concentrates on the controller's function in the decision-making process. The course is specifically designed for those who either will be responsible for the cost records of an organization or will use the data for decision making. Topics discussed include the budgeting process, accumulating costs for product costing, standard costs, the analysis of cost variances, cost estimation and prediction, cost-price-volume decisions, performance measurement, nonmanufacturing cost analysis, cost allocation, and transfer pricing. *Prerequisites:* NCC 500, NCC 501, and NCC 502, or the equivalent.

NBA 504

Taxation Affecting Business and Personal Decision Making Spring; Grossman. Three credits.

The course deals with federal taxation and its impact on business and personal decision making. After a brief discussion of tax policy, an in-depth examination is conducted of federal income and estate and gift taxes affecting individuals and businesses. Both tax management and tax reporting are stressed. *Prerequisite:* one course in accounting.

NBA 505

Auditing Spring; staff. Three credits.

The course is designed for the student who is interested in a career in public accounting or who wants to fulfill the New York State requirements for certified public accountancy. The focus is on the auditing profession, the audit process, and audit reports. *Prerequisites:* NBA 500 and NBA 501 or permission of the instructor.

NBA 506

Financial Information and Evaluation Fall and spring; Morse. Three credits.

The course focuses on the evaluation of accounting information; special emphasis is placed on the use of financial statements by decision makers outside the firm. The implications of recent research in finance and accounting for external reporting issues are explored. The usefulness of financial-statement data is also discussed in several decision contexts, such as solvency determination, value of the firm, security returns, security risk, and dividend policy. *Prerequisites:* NCC 506 and concurrent enrollment in NBA 500 or permission of the instructor.

NBA 507

Federal Income Tax Spring; Shaw. Three credits.

Federal taxation of corporate income is examined. The intent is to develop an understanding of the essential provisions affecting tax liability and thus taxpayer decision making and planning. Illustrative tax provisions are traced to the Internal Revenue Code and Tax Court decisions. Consideration is given to the structuring of business activity to minimize income tax liability. Current legislation is used to illustrate the legislative process. The Internal Revenue Code is viewed as a tool of economic and social policy as well as a source of revenue. *Prerequisite:* NCC 500 or the equivalent.

NBA 508**Accounting for Mergers and Consolidations**

Spring; Morse. One and one-half credits.

The course focuses on accounting problems related to corporate takeovers and the consolidation of accounts of existing subsidiaries. *Prerequisite:* NBA 500 or permission of the instructor.

▶ *Behavioral Science***NBA 660****Strategy Implementation: Process and Politics**

Fall; Abolafia. Three credits.

The course focuses on the implementation of rationally derived corporate and business strategies. It examines the behavioral barriers to the successful implementation of change within an organization. It also deals with relations between organizations in a competitive economy and discusses strategies for managing competition, conflict, and cooperation. Class sessions consist of case analyses of a variety of situations, as well as conceptual and empirical readings from several social-science disciplines.

NBA 661**Organizational Theory**

Spring; Freeman. Three credits.

The course considers organizations in terms of three fundamental dimensions: the division of labor (who does what), subordination or superordination (who tells whom what to do), and staffing (who works for the organization). Differing ways of organizing tend to be better or worse under varying environmental and technological conditions. Understanding those relationships allows students to predict what they are likely to experience as managers.

NBA 662**Power and Interpersonal Influence**

Fall; Krackhardt. Three credits.

The course examines the process and applications of power and influence in organizations. Discussion of readings is supplemented with experiential exercises during class time. In addition to examining conventional views of power (e.g., leadership, authority, expertise), informal and nontraditional forms (e.g., organizational politics, the power of networks) are discussed. The implications of power at the organization, group, and individual level are explored. Emphasis is placed on how practicing managers can better identify and use power in an organizational setting.

NBA 663**Behavioral Decision Theory**

Fall; Thaler. Three credits.

Most decision problems are too ill structured to develop a quantitative model. The course deals with decision behavior in such situations. It exposes and analyzes the difficulties that occur when decisions must be made in such poorly structured contexts. The difficulties are caused by information-processing limitations, the nature of human memory, and heuristics that reduce effort. The goal of the course is to provide an understanding of concepts that is deep enough for students to perceive and execute applications in professional environments.

[NBA 664]**Decision Aiding**

Three credits. Not offered in 1987–88.

Current techniques for decision aiding are surveyed. Included are multi-attribute utility analysis, knowledge-based (expert) systems, linear models for judgment, and several less-known techniques. The first goal of the course is to convey an understanding of the normative

status of those techniques, the decision environments to which they can be applied, their acceptance by users, and their efficacy. The second goal is to enable participants to use the techniques to aid in making decisions in applied settings. *Prerequisites:* NBA 663 and permission of the instructor.]

NBA 665**Managing Innovation and Technological Change**

Spring; Anderson. Three credits.

The course focuses on the strategic management of innovation and technological change. It examines how effective firms organize and administer research and development, marketing, manufacturing, and finance to promote flexibility and innovativeness. It also explores how industries are transformed by new technologies and how government policies and cooperative ventures foster or hinder technological progress.

NBA 666**Negotiations**

Spring; Bell. Three credits.

Managers often use negotiation techniques in solving problems and implementing decisions. The goal of the course is to provide students with negotiation skills that they can use in their careers as managers. Through a combination of lectures and class exercises, students learn about managing intragroup relations, integrative and distributive approaches to negotiations, and negotiating in a variety of contexts, including multilateral negotiations and negotiating with the assistance of a third party.

NBA 667**Managing Groups**

Spring; Bell. Three credits.

Much of the work of organizations is performed in group settings. The course examines current knowledge of group dynamics and the leadership of groups. Topics covered include group problem solving and decision making, social-comparison processes, group norms and role taking within groups, stages of group development, interpersonal and intergroup conflict, participation in group decision making, and the role of the leader in managing group performance. Case discussions and class exercises supplement the course readings, so that students have opportunities to hone their skills as group members and group managers.

NBA 668**Organizational Politics**

Spring; Freeman. Three credits.

The course considers power phenomena from a structural point of view. It portrays organizations as politics. The organization provides information, structured occasions for decision making, and rewards and punishments that push some individuals toward compliance with the directives of others but that also generate opposition. The course is about the processes that lead to those divergent outcomes.

NBA 669**Organization Design and Management**

Fall; Anderson. Three credits.

The course focuses on managing effectively in different types of business entities. It examines alternative ways to organize firms and groups of firms and explores the characteristic strengths and weaknesses of each structure. Among the structures examined are bureaucracies, conglomerates, "intrapreneurial" corporate ventures, franchises, partnerships, matrix organizations, joint ventures, and industry cooperative associations. Problems of the brand manager and the project manager are also addressed.

Mitch Abolafia, assistant professor of organizational behavior



► *Economics*

NBA 520

Pricing and Strategy Spring; DeGraba. Three credits.

The course examines pricing and other strategy issues, using articles and cases, from the perspective of economics and marketing. It analyzes economically optimal pricing; strategic pricing; price discrimination; estimation of price elasticities of demand; tie-in sales; legal restrictions on pricing behavior; transfer pricing; oligopolistic pricing models; coupons, sales, and other types of price promotions; and other economic and marketing models of pricing behavior. Also considered are first-mover advantages, research and development strategy, and advertising. *Prerequisite:* NCC 502.

NBA 521

Regulation, Deregulation, and Antitrust: Government Regulation of Business Fall; McAdams. Three credits.

The course deals with the interaction between business and government in a mixed economy. Cases and problems are discussed from the viewpoint of the business manager. The major topics are government policies in markets in which competitive structure is feasible (antitrust); public policies in markets in which monopoly structure is the most-efficient means of producing goods or services (natural monopolies such as public utilities); and public policies in areas in which government intervention is required for efficient resource allocation (e.g., environmental and work-place regulation, subsidies for research and development). Emphasis is given to the business opportunities that result from waves of deregulation in the broad sectors of the economy.

NBA 522

Managerial Economics Fall; McAdams. Three credits.

The course is designed to assist the student in developing analytic capabilities for dealing with economic choices. After a review of applied microeconomics, the student is encouraged to use

that, and prior economic training, to seek solutions to actual problems that require managerial decisions. The class focuses on several problems, cases, and research projects from various sectors of the economy. Individual and group papers—especially short-decision memorandums on particular topics—are assigned. Students are occasionally asked to submit papers in draft form, for critique and revision. Oral presentations of analyses and recommendations are also assigned. Classes are generally conducted using a discussion format.

NBA 523

Business and Economic Forecasting Spring; Highfield. Three credits.

The course develops modern techniques for time-series forecasting in a business setting. The objectives are to provide a toolbox of useful, proven forecasting methods and to develop the ability to choose the appropriate tool for the business situation at hand. Topics include the Box-Jenkins method, more-traditional forecasting methods, the prediction of turning points, the relationship of forecasting to decision making, the evaluation of forecasts, and the optimal combination of forecasts obtained from different sources. The emphasis is on application rather than theory.

[NBA 524]

Competitive Industry Analysis Three credits. Not offered in 1987–88.

The course uses economic and financial principles to analyze the behavior of firms in American industries. The focus is on formulating strategies and predicting responses to strategic moves. Topics covered include industry structure and evolution, barriers to entry, pricing models, vertical integration, international competition, and preemption strategies such as research and development.]

NBA 525

The Economics of Pay and Performance Spring; Abowd. Three credits.

The course presents an overview of the role of labor markets in the performance of firms. It begins with executive-compensation plans, considers managerial plans, and concludes with production and clerical plans. The course examines the structure of compensation, the methods by which compensation is linked to performance, and the methods by which performance is influenced by compensation. It focuses on recent theoretical and empirical analyses that study the relation in a firm between performance and compensation. For executives and managers those methods include implicit and explicit pay for performance plans, career compensation systems, and job tournaments. For production workers those methods include implicit and explicit links between collective-bargaining agreements and firm performance.

NOTE: Students interested in managerial economics should also consider the following courses offered by the Johnson School:

NBA 543

Financial Markets and Institutions

NBA 580

Industrial Policy: Lessons for the United States from Japan and Europe

NBA 582

International Trade and Finance

NOTE: Students interested in the broader aspects of economics should also consider courses in economics offered by other units of the university, such as those listed below.

Below: A classroom scene.
Opposite: John McClain, professor of quantitative analysis.



DEPARTMENT OF ECONOMICS

561

International Trade Theory

641

Labor Economics (I&LR 744)

651

Industrial Organization and Regulation

662

Seminar in International Economics

684

Seminar in Advanced Economics

DEPARTMENT OF AGRICULTURAL ECONOMICS

710

Econometrics I

711

Econometrics II

► Finance

NBA 540

Financial Policy Decisions

Fall; Bierman. Three credits.

The course deals with basic and advanced decision models for different types of corporate financing methods, starting with leases and bonds and proceeding to preferred stock and convertible securities. Other topics likely to be covered include common stock, capital-structure decisions and cost of capital, dividend policy, mergers, and acquisitions. The decision models are developed from the point of view of the issuing firm, but consideration is also given to the investor's viewpoint. A combination of lectures, discussions, and cases is used. *Prerequisite:* Open only to second-year students who have taken the core courses.

NBA 541

Economic Evaluation of Capital Investment Projects

Spring; Smidt. Three credits.

The course begins with a review of the basic discounted-cash-flow approach to the evaluation of capital-investment projects, and continues with the study of advanced techniques, including sensitivity analysis, simulation, the role of strategic factors, definition of risk and its effect on project valuation, and methods of dealing with incomplete information. The course provides an opportunity for students to increase their proficiency in spreadsheet techniques. *Prerequisite:* NCC 506 or permission of the instructor.

NBA 542

Investment Management and Security Analysis

Spring; Chan. Three credits.

The course is about investment management, and all the important topics in that area will be covered. Those include portfolio management; valuation of various securities such as stocks, bonds, options, and futures; review of market anomalies; and measuring portfolio performance. *Prerequisite:* NCC 506.

NBA 543

Financial Markets and Institutions

Fall; O'Hara. Three credits.

The course develops a unified framework for understanding financial intermediation. The objectives are to analyze the sources, uses, and pricing of funds in the economy; to develop the theory of commercial banking; to investigate the similarities between commercial banks and other financial intermediaries; to analyze how central bank operations affect financial institutions; to examine when lending can be securitized and how such markets work; to develop an

understanding of the money market and its role in the flow of funds through the economy; and to understand the role of the financial-futures market. The use of quantitative techniques for modeling economic theory is stressed.

Prerequisite: NCC 505.

NBA 544

Bank Management

Spring; O'Hara. Three credits.

The course provides an in-depth treatment of management issues in commercial banking. Topics covered include risk management, credit decisions and pricing, capital structure, holding-company activities, international lending, and strategic planning. Students integrate concepts learned through case studies and participation in a bank-simulation exercise. *Prerequisite:* NBA 543.

[NBA 545

Finance Theory

Three credits. Not offered in 1987–88.

The course is designed to provide in-depth coverage of some of the major topics in finance. Those include the market for corporate control—for example, mergers, tender offers, stock repurchases; dividend policy; capital-structure policy; and market efficiency. The readings are from journal articles. *Prerequisite:* NCC 506.]

NBA 546

Options, Bonds, and Commodities

Fall; Jarow. Three credits.

The main emphasis in the course is on understanding the pricing of puts and calls. Consideration is given to hedging versus diversification, arbitrage conditions, and the derivation of exact pricing formulas. The effect of market imperfections, the results of empirical investigations, and the nature of institutional constraints are also studied. There is a brief introduction to the pricing of bond and commodity futures, using the above techniques. *Prerequisite:* NCC 506.

[NBA 547

Investment Banking

Three credits. Not offered in 1987–88.

The course develops the analytic basis for investment banking. The first half of the course concerns auctions, market making, and syndication, and the second half is about advanced topics in corporate finance that pertain to investment bankers. Guest speakers and case studies give institutional applications for the material developed in the course. *Prerequisite:* NCC 506.]

NBA 548

Trading

Fall; Smidt. Three credits.

Modern financial markets are increasingly characterized by the trading of financial instruments. The course concentrates on the economics of the trading process. Theoretical, empirical, and descriptive studies of trading and traders are reviewed. A few representative institutional settings, such as stock exchanges, futures exchanges, or foreign-exchange markets, are considered in detail. Among the topics covered are who trades, how trading occurs, what is traded, trading costs and volumes, and the regulation of trading. Special attention is given to the role of trading in forming and changing prices and disseminating information in a dynamic context. *Prerequisite:* second-year status or permission of the instructor.

NBA 549

Strategic Decision Making

Spring; Jarow. Three credits.

The course is designed to develop the student's ability to think logically and strategically in competitive situations. The course is quantitative, using topics from statistical decision theory, noncooperative game theory, and cooperative game theory. Those topics are applied to problems in finance, economics, politics, and industrial organization. Roughly half of the semester is devoted to studying theory, and half is spent applying theory to specific situations. *Prerequisite:* NCC 501.

NBA 550

Financial Instruments and Contracts

Spring; Wiggins. Three credits.

The course is concerned with the valuation and uses of traded instruments and contracts in the financial markets. Instruments and contracts studied in depth include forward and futures contracts, fixed-income securities, interest-rate swaps, and mortgage-backed securities. The course also investigates the management of bond and mortgage portfolios, including the study of bond immunization and the use of options and futures in the management of interest-rate and prepayment risk. There is an emphasis on learning how to choose and implement appropriate hedging strategies to achieve specific objectives. *Prerequisite:* NCC 506.

NOTE: Students interested in the broader aspects of finance should also consider the following courses in the Johnson School:

NBA 560

Business Law

NBA 562

An Introduction to Estate Planning

NBA 582

International Trade and Finance



► General Management

NBA 560

Business Law Fall; Grossman. Three credits.

The course is an introduction to the basic purposes and logic of the law as they apply to business enterprises and their operations. The fields of personal property, contracts, agency, real property, and landlord-tenant concerns are emphasized. A combination of text and case study is used. All students in professional accounting are required to take the course, and it is strongly recommended for students whose area of specialization is finance.

[NBA 561]

Advanced Business Law Three credits. Not offered in 1987–88.

The course examines principles of commercial law affecting the operation of business enterprises. Particular attention is given to the law pertaining to bailments, sales, secured transactions, bankruptcy, and commercial paper. Text and case materials are employed.

Prerequisite: NBA 560 or permission of the instructor.]

[NBA 562]

An Introduction to Estate Planning One credit. Not offered in 1987–88.

The course consists of fourteen sessions on the various aspects of estate-planning techniques. The law and use of trusts, the law of wills, federal and New York estate and gift taxes, and probate procedures are covered.]

[NBA 563]

Strategic Business Policy Issues Two to three credits. Not offered in 1987–88.

The course deals with major strategy and policy issues currently confronting top-level business managers and likely to be confronting them in the future. The emphasis is on broad issues and decisions facing managers, rather than specific functional decisions. The method of instruction is cases, supplemented by talks from senior corporate managers and by discussions of major issues.]

NBA 564

Entrepreneurship and Enterprise Fall and spring; BenDaniel. Three credits.

The course provides a disciplined look at the entrepreneur and enterprises. It deals with the formation of a new enterprise and the acquisition of existing enterprises from the viewpoint of the prospective principal owners; examines the characteristics of entrepreneurs; and studies methods of identifying, evaluating, and profiting from new enterprises. It also reviews legal and tax aspects, valuation techniques, organization forms, venture capital sources at various levels of activity, and planning techniques necessary to a successful venture. Case method is the basis of study. Guest lecturers such as venture capitalists, lawyers, entrepreneurs, and bankers bring specific practical talents to the course. Students are required to submit written analyses of assigned cases and to join in teams to prepare business plans for new ventures.

[NBA 565]

Law of Business Associations Three credits. Not offered in 1987–88.

The first portion of the course examines the formation and operation of business enterprises, particularly partnerships and corporations. The second portion reviews government regulation and control of business organizations. Special attention is given to antitrust laws, consumer-protection legislation, and environmental-protection legislation. Although there is no prerequisite, some prior exposure to business law is recommended.]

NBA 567

Management Writing Fall and spring; Pike, Rosen. Seven weeks. One and one-half credits.

The aim of the course is to teach students to write clearly and concisely. The assignments cover a variety of representative forms and focus on audience analysis, organization, style, and editing, to achieve the objective of the piece.

NBA 568

Oral Communication Fall and spring; Pike, Rosen. Seven weeks. One and one-half credits.

The aim of the course is to help students develop the skills, sensitivity, and confidence to speak effectively in a variety of situations. Assignments include impromptu and extemporaneous speaking, preparing for interviews, presenting graphics, participating in question-and-answer periods, and speaking in a large auditorium. Speeches are videotaped.

[NBA 569]

Effective Management Consulting Three credits. Not offered in 1987–88.

The course constitutes a practical and intellectual introduction to management consulting. It enables participants to apply substantive knowledge and analytic abilities developed through previous experience and course work to solving policy and managerial issues faced by local private- and public-sector decision makers. Students gain problem-solving experience, understanding of the relationship between consultants and managers, and appreciation of the consulting profession. Participants undertake consulting assignments in the Ithaca area (for about two-thirds of the course). They also examine, through class discussions and presentations by visiting consultants, the concepts and realities of effective management consulting (for about one-third of the course). Enrollment is limited; priority is given to second-year students.]

NBA 571

Business and American Society Spring; Schmotter. Three credits.

The course provides students with a broad, interdisciplinary context in which to view current business issues and their own managerial careers. Through discussions of historical events, issues, and figures, it examines the changing relationship between American business and the society that frequently nourished, and sometimes starved, it. Topics covered include the creation of the modern industrial work force, American railroads and the development of the bureaucratic corporation, the Horatio Alger myth, the "robber barons" of the Gilded Age and their critics, the legacies of Henry Ford and Alfred P. Sloan, the evolution of modern advertising, the changing nature of work in America, the stock-market crash of 1929 and the Great Depression, and historical role models for managers of the 1980s.

NBA 572

Law of Mergers and Acquisitions Spring; Oesterle. Three credits.

The course studies how current law affects a corporation's choice, first, whether to purchase an independent company, and second, how to consummate the transaction. Considered are tax law, federal securities law, state corporate codes, and antitrust law, as well as accounting chicanery and finance theory. Statutory mergers and combinations, share-exchange mergers, privately negotiated cash sales, public-tender offers, and asset acquisitions are discussed. NOTE: The course is sponsored jointly with the Cornell Law School.

[NBA 573]

The Professional Manager at Work Two credits. Not offered in 1987–88.

The course involves discussions of topics relevant to the management of businesses. After a brief introduction to the work of a manager, the course covers the processes of planning, organizing, integrating, controlling, developing people, and leading.]



NBA 574 (formerly NBA 684)**Health-Services Organization and Financing** Fall; Battistella. Three credits.

Health services are described and analyzed in the context of recent political, social, and economic developments. The roles and responsibilities of various institutions and professional groups are examined; emphasis is placed on the hospital as the central institution in the provision of community health-care services. Current concepts and issues in planning, regulation, and marketing are surveyed. Particular attention is given to the role of private capital in promoting multihospital systems and delivery systems that are vertically and horizontally integrated. The capacity of current health-services systems to respond to pressures generated by changing disease patterns, rising expectations, and economic imperatives of medical technology is evaluated, and alternative methods of financing health-care services are reviewed from a managerial perspective.

NBA 575 (formerly NBA 685)**Health and Welfare Policy Analysis** Fall; Battistella. Three credits.

The evolving public-private partnership for payroll financing of social-security and welfare benefits is described. The social responsibility of business is examined against changes in the externalities of production and public opinion accompanying economic progress. The transition from entrepreneurial capitalism to managerial and postindustrial capitalism provides a framework for analysis. Health and related human services are assessed in terms of their impact on economic growth. The course features an interdisciplinary approach and addresses ideology as a force in shaping health and welfare policy. NOTE: NBA 575 is open to undergraduates in their junior and senior years.

NBA 576**Alternative Health and Social-Service Delivery Systems** Spring; Battistella. Three credits.

Major public-policy dilemmas are reviewed against the backdrop of rising pressures for increased spending and greater competition for government revenues. Alternatives to costly institutionalization are examined in the light of changes in provider reimbursement and medical technologies. The role of the hospital in the provision of long-term care is assessed in terms of the implications for cost effectiveness and quality assurance. Other topics include the role of private investment, developments in home care and supportive housing, barriers to the coordination of health and social services, and trends in federal and state regulatory policy. In considering the options available, examples from other highly industrialized countries and regions are cited, including England, Scandinavia, and the Soviet Union. To underscore the relation between theory and practice, extensive use is made of field trips and of visiting speakers from the government and private sectors.

NBA 577**The External Environment of Business**

Spring; Lind, others. Three credits.

Leading scholars from throughout the university discuss their specialties and examine a variety of factors that impinge on business. Topics include the economic and social regulation of business, the regulation of toxic wastes, the economics and law of product liability, the role of labor unions, the effect of the changes in the United States presidency on American firms, personal and corporate ethics, and the international climate of business, including segments on the Soviet Union, Western Europe, and Japan.

NBA 578**Business Ethics** Spring; Tarr. Two credits.

A course description can be obtained from the JGSM registrar.

NOTE: Students interested in the broader aspects of general management should also consider the following courses in the Johnson School:

NBA 520**Pricing and Strategy****NBA 580****Industrial Policy: Lessons for the United States from Japan and Europe****NBA 660****Strategy Implementation: Process and Politics**► **International Management****NBA 580****Industrial Policy: Lessons for the United States from Japan and Europe** Spring;

McAdams. Three credits.

The course explores the industrial policies of private-market industrialized nations—Japan, France, Germany, the United Kingdom, and Italy—to determine the degree to which there are lessons for the United States, either positive or negative, from their experiences. The current international competitive position of the United States is explored. Special emphasis is given to the computer and electronics industries and their likely role in the economic future of the United States. Recommendations are then developed for the policy of the United States government toward industry. Classes use a discussion format.

NBA 582**International Trade and Finance** Fall; Chan. Three credits.

The course is about international trade, growth, and development. The first part examines the real basis for trade, the determinants of investment, and the influence of tariffs. Several cases on different countries' trade and growth experiences are examined next. International financial arrangements are covered in the second part of the course. *Prerequisite:* NCC 505.

NBA 583**International Environment of Business** Fall; Katz. Two credits.

In the current turbulent global situation, multinational corporations (and in most cases domestic corporations) must pay heed to the noneconomic environment or risk substantial loss of profits. The course introduces the student to the major components of the noneconomic business environment. Techniques with which to assess and manage those components are presented and applied to actual events.

NBA 589**Business in Japan** First seven weeks of spring semester; Pempel. Two credits.

The course examines the central aspects of business in Japan, including problems in the structure and managerial practices of individual firms, government-business relations, industrial policies, domestic and international strategies, and the experiences of non-Japanese multinational corporations within Japan. About a third of the course is devoted to case analyses.

NOTE: Students interested in the broader aspects of international management should also consider NBA 625 (International Marketing) and courses at the university. Those courses are described in the brochures *Cornell Resources in International Business and Management* and *Cornell Programs on Japanese Business*, available from

the Office of Admissions and Student Affairs, Johnson Graduate School of Management, Cornell University, Malott Hall, Ithaca, New York 14853-4201.

► **Management Information Systems****NBA 600****Data-Base Management** Fall; Schuette. Three credits.

The course provides an introduction to the design, use, and management of computerized data bases. It will emphasize practical management issues related to the use of personal, corporate, and national on-line data bases and query systems. Topics include physical and logical data structures; design considerations, including efficiency and consistency; retrieval problems, including data-base languages and search techniques; maintenance considerations such as security and integrity; and the duties of a data-base administrator. Projects involving the design, creation, and use of data bases are assigned.

NBA 601**Information Systems in Manufacturing** Fall; Conway. Three credits.

The course is concerned with computing and communication systems that integrate product and process design with the operational control of manufacturing and distribution. The course includes critical evaluation of current commercial systems and examines the prospects for computer-integrated manufacturing systems. *Prerequisite:* NBA 640 or permission of the instructor.

[NBA 603]**Systems Analysis** Three credits. Not offered in 1987–88.

The information-system development process is examined. Techniques used in the analysis, design, and implementation phases of system development are studied in detail. The system life cycle is simulated, using cases and projects. *Prerequisites:* NCC 507 and NBA 600.]

NOTE: Students interested in the broader aspects of management information systems should also consider courses offered by other units of the university, such as those listed below.

DEPARTMENT OF COMPUTER SCIENCE

310**Data Structures****411****Programming Languages and Logics****412****Introduction to Compilers and Translators****414****Systems Programming and Operating Systems****432****Introduction to Data-Base Systems****472****Introduction to Artificial Intelligence****632****Data-Base Systems**

► Marketing

NBA 620

Marketing Research Fall; Bayus. Three credits.

Marketing research is concerned with the identification of needs for information for marketing decisions and the subsequent data collection, analysis, and reporting techniques appropriate for various areas of application. Techniques include sampling, questionnaire design, experimentation, scaling, conjoint measurement, and multivariate data analysis. As part of the course requirements, groups of students conduct empirical studies on typical marketing research problems. The discussion balances the viewpoint of researchers with that of managers who commission research and apply its results to making decisions. *Prerequisites:* NCC 501 and NCC 503 or the equivalent.

[NBA 621

Advertising Management Three credits. Not offered in 1987–88.

The purpose of the course is to examine the role of advertising as an important and visible element in the marketing mix. Emphasis is placed on the management of the advertising function in a competitive environment. Topics include consumers' perception of advertising messages; advertising budget decisions; advertising positioning; message development and format; copy evaluation; media planning; advertising regulation; and the societal and economic effects of advertising. Whenever possible, recent empirical research on those issues is discussed.]

NBA 622

Marketing Strategy First nine weeks of the fall semester; Rao. Two credits.

The course provides a balance between theoretical and practical approaches to the development and evaluation of marketing strategies in a multiproduct firm in light of various environmental opportunities and constraints. It relates recent research to the resolution of such issues as product-market boundary definition, allocation of resources, product portfolio decisions, and appropriate strategies for different stages of product life cycles. Cases are extensively used to enable students to develop skills in strategy analysis. Guest speakers from industry provide a view of operational aspects of marketing strategy.

NBA 623

Models and Methods for New Products Fall; Wittink. Three credits.

The successful introduction of new products—an increasingly important activity for modern firms—requires careful planning and systematic screening and testing. In the course, procedures, methods, and models that can be used in the various stages of the development process are discussed. *Prerequisites:* NCC 501 and NCC 503.

[NBA 624

Marketing Decision Analysis Three credits. Not offered in 1987–88.

The course is an advanced offering for students with knowledge of marketing and quantitative methods (regression analysis, probability, statistics, optimization). It provides an overview of implementable models in the areas of marketing decision making, and training in using models; the emphasis is on data analysis.]



Vithala Rao, professor of marketing and quantitative methods

NBA 625

International Marketing Last five weeks of fall semester; Katz. One credit.

As corporations expand beyond their national boundaries, marketing activities must adapt to cultural, legal, and economic considerations. When those considerations change, not only do such technical aspects of marketing as distribution systems and media use change, but so too do many of the underlying assumptions that go with marketing strategies. The course introduces students to how marketing adapts as it goes abroad. It also addresses why those adaptations are needed.

NBA 626

Consumer Behavior Spring; Mitchell. Three credits.

The course examines buyer behavior—how individuals and organizations purchase products and services. Although effective management requires an understanding of both the buyer and the competition, the course concentrates on the buyer half of the market transaction, examining the basic human motivations underlying the satisfaction of economic and psychological needs. The course draws heavily on research in cognitive and social psychology, and also integrates material from sociology and economics. Topics include consumer memory, information search and acquisition, persuasion and advertising strategies, demographics and life-style analysis, and impulse buying. The goal is to provide a basic knowledge of consumer behavior that students can apply to the idiosyncratic circumstances they may find themselves in when they enter the corporate work world. Therefore, the basic psychological processes that drive buying behavior are emphasized, rather than more-specific factual knowledge.

NBA 627

Market Communications Spring; Mitchell. Three credits.

The basic objectives of the course are to understand how advertising affects consumer behavior and to provide a framework for analyzing decisions facing a firm. Theories of advertising from economics and marketing literature are presented and evaluated. Setting advertising budgets, generating copy, selecting media, scheduling and analyzing the interaction of advertising with price, and models for determining the sales-advertising response function are discussed.

[NBA 630

Marketing Research Project One and one-half credits. Not offered in 1987–88.

The course provides firsthand experience for students in the design and implementation of a marketing research project aimed at tackling a theoretical or applied marketing problem. It also enables students to gain an understanding of the technical details of selected methods or models of marketing research while implementing them on a computer.]

NBA 631

Marketing Science Spring; Rao. Three credits.

The course considers selected theoretical and empirical research in the emerging area of marketing science. The material is drawn primarily from articles in the journals of *Marketing Science* and *Management Science* and includes such topics as theories of consumer choice, competitive strategies, sales-force compensation, theory of channel cooperation and conflict, product positioning, and determination of product line and pricing. The discussions emphasize theory and generalization, and the topics are related to ways in which a firm can

implement research results. The course is open to advanced M.B.A. students and doctoral students in JGSM and to master's and doctoral students in operations research, computer science, economics, psychology, consumer economics, agricultural economics, and statistics. NOTE: The course will not be offered in 1988-89.

NBA 632

Marketing Analysis and Planning Spring; Bayus. Three credits.

Because marketing is an applied function within business organizations, students should have practice in analyzing marketing situations and developing implementable plans. The course allows them to do so through hands-on experience. Case studies and associated computer software, data, and models are used to study various business situations in detail and to devise tactical marketing plans. The range of topics examined includes advertising budgeting, sales-force planning, pricing, sales forecasting, and industrial promotions. *Prerequisites:* NCC 501 and NCC 503.

NOTE: Students interested in the broader aspects of marketing should also consider the following courses in the Johnson School:

NBA 660

Strategy Implementation: Process and Politics

NBA 663

Behavioral Decision Theory

► *Operations Management*

NBA 640

Production Management Fall; Robinson. Three credits.

The course examines various techniques used in the management of production systems. Topics covered include manufacturing resource planning, statistical quality control, production sequencing, inventory control, and learning-curve models. The Japanese approaches to quality control ("zero defects") and shop-floor control ("just-in-time") also are discussed. The application of those techniques to more realistic problems will be explored through periodic case assignments. *Prerequisite:* NCC 508 or permission of the instructor.

NBA 641

Business Logistics Management Spring; Thomas. Three credits.

Business logistics management deals with moving materials to a productive facility, controlling the transformation of the materials into products, and distributing the products to customers. Topics include plant and warehouse location, selection of channels of distribution and modes of transportation, management of overall material flow, management of large-scale inventory systems, and organizational structure. Case studies constitute about one-third of the class sessions; cases are selected to represent different industries, situations, and use (or nonuse) of quantitative methods. Emphasis is placed on oral and written communication in the class; each participant has several chances to present an analysis of managerial problems. *Prerequisite:* NCC 508 or permission of the instructor.

NOTE: Students interested in manufacturing should also consider the engineering courses described in the brochure *Cornell Programs and Resources in Manufacturing Management*, available from the Office of Admissions and Student Affairs, Johnson Graduate School of Management, Cornell University, Malott Hall, Ithaca, New York 14853-4201.

NBA 642

Application of Regression Analysis Spring; Wittink. Three credits.

Regression analysis is one of the most widely used (and misused) techniques in management. Proper use requires a sound understanding of the substantive problem and a knowledge of regression. The first part of the course includes a review of the basic linear model and the assumptions. Heavy emphasis is placed on how to diagnose violations of the assumptions and on the implications of such violations. Topics include multicollinearity, dummy variables, autocorrelation, heteroscedasticity, aggregation, lagged dependent variables, and simultaneity. The second part of the course consists of a critical evaluation of applications in numerous areas of interest. *Prerequisite:* NCC 501 or the equivalent.

NBA 643

Management Science Fall; McClain. Three credits.

The course develops mathematical and computer techniques commonly used in analyzing management problems. Several techniques are covered, including linear programming and extensions, nonlinear programming, integer programming, and stochastic models of operating systems. The application of those and other management-science techniques is discussed at length. Case studies are used to simulate applications of the textbook techniques. *Prerequisites:* NCC 501 and NCC 508.

NOTE: Students who are interested in the broader aspects of operations management should also consider courses in operations management offered by other units of the university, such as those listed below.

OPERATIONS RESEARCH AND INDUSTRIAL ENGINEERING

520

Operations Research I

523

Operations Research II

660

Applied Probability

► *Research and Advanced Studies*

NMI 500-502

Directed Reading and Research Fall and spring. One, two, or three credits.

Research of special interest to the student is carried on under the supervision of school staff members. Registration is limited to students who have the approval of their advisers and of the faculty members involved.

NRE 502

Doctoral Seminar in Marketing Spring; Wittink. Three credits.

The primary focus of the seminar is on advertising and promotion. Relevant theories in economics are reviewed, and empirical work in economics and marketing is critically evaluated. Topics include advertising as a barrier to entry, competitive advertising and price elasticity, estimation and validation of promotional effects, and semiautomatic analysis systems for the estimation of advertising and promotion effects in large data sets.

NRE 504

Doctoral Seminar in Accounting Fall; Morse. Three credits.

The seminar is designed to provide a rigorous and integrative exposure to those aspects of the literature in accounting and finance that are related to questions of accounting theory, research, and policy. Topics are chosen from the areas of competitive equilibrium, information choice, information economics, human information processing, empirical accounting research, and the economic theory of incentive systems.

NRE 508

Doctoral Seminar in Operations Management Fall; staff. Three credits.

The seminar is designed for faculty members, doctoral students, and advanced M.B.A. students. It covers mathematical programming, stochastic modeling, and simulation modeling of problems in operations management. Recent unpublished papers are discussed, and important recently published articles are examined in detail. Students taking the course for credit are required to write a paper concerning a significant application of operations-management techniques or a research topic of their choice.

NRE 509

Doctoral Seminar in Organizational Behavior Fall; Freeman. Three credits.

The seminar reviews and critiques current research in the field of organizational behavior. Faculty members and students present work in progress, in a spirit of free exchange. Limited to Ph.D. students and faculty members.

NRE 513

Doctoral Seminar in Finance Fall; Jarow. Three credits.

The seminar covers advanced topics in financial economic theory and applications. Recent published and unpublished research papers are discussed and evaluated. Students are encouraged to suggest topics of interest and to present their own preliminary research papers to the group.

NRE 515

Doctoral Seminar in Behavioral and Experimental Economics Fall; Thaler. Three credits.

In the last decade, economics has been expanded to incorporate two new approaches, one theoretical and one empirical. The theoretical advance has been to weaken the usually strict rationality assumptions and develop behaviorally realistic models of economic behavior. The new empirical technique involves laboratory experiments. The seminar surveys some of the new material in both approaches. Specific topics include the psychology of financial markets, decision making over time, decision making under uncertainty, fairness and justice, and consumer behavior.

L

Leadership for the Twenty-first Century

The programs of the Johnson Graduate School of Management are based on the view that our relationship with our students will be a lifelong one. Our first goal is to attract exceptional students and to prepare them to be astute and capable leaders in the twenty-first century, whether they assume leadership roles in established business organizations, in entrepreneurial ventures, or in academic fields. We also encourage them to consider how their efforts will contribute to the long-term betterment of the enterprise in which they work and to the society in which they live. To assist them in doing that, we foster an exchange of learning with our graduates that continues throughout their careers.

Second, we give our students a knowledge base that will enable them to comprehend the complexities of management and to manage across boundaries. For example, managers often work with people whose principal activities and backgrounds are in a functional area different from their own. In addition, managers make lateral shifts from one function to another as they advance, and the knowledge base on which they draw is likely to change radically over time. Furthermore, they often manage across international boundaries and must adapt to international business conditions and confront a range of problems stemming from differences between countries in legal, social, and political areas. To prepare our students for such demands, we strive to make them familiar with managerial problems and conditions throughout the world.

Third, the Johnson School develops, through our educational program, a sense of the value of individual achievement accomplished through concerted action with others. Managers must be able to blend cooperation with competition, to seek individual reward while working for the common good. An inability to combine those two types of motivation leads to competitive failure for the enterprise and ethical imbalance for the individual. At JGSM, high academic standards provide the basis of competition, and small classes allow our faculty members to channel that competition in educationally productive ways. That combination of small class size and academic excellence encourages a sense of camaraderie and an appreciation of the value of mutual support.

Administration and Advisory Council



Above: Sam Johnson, chairman of S. C. Johnson and Son and benefactor of the Johnson Graduate School of Management. Opposite: Dean Curtis Tarr: "The advantage of being a small school and at the same time being able to offer our students the breadth and diversity of a truly great university like Cornell makes us unique," says Dean Tarr.



Fourth, the Johnson School is part of one of the world's great universities. Cornell's immense variety of resources, including renowned programs in industrial relations, engineering, biological and other sciences, law, agriculture, hotel management, economics, foreign languages, international and regional studies, and nutrition, is unmatched. All of those areas will be important to leaders in the twenty-first century. JGSM currently works closely with Cornell's College of Engineering in cosponsoring "Managing the Next Generation of Manufacturing Technology," a unique program that introduces executives to new technologies and their social and organizational implications. We continue to draw from Cornell's distinguished faculty to expand our curriculum and enhance our course offerings as well as our continuing-education activities. We plan to foster additional research and teaching interactions in such areas as biotechnology. Our vision for the future also includes courses on the management of people and organizations, in conjunction with Cornell's School of Industrial and Labor Relations and Departments of Sociology and Psychology, and courses on international business that make use of Cornell's expertise in international studies.

The resources of Cornell University and the Johnson School's access to them allow us to offer our students and graduates all of the advantages of a small school and at the same time to provide them with a rich educational experience that only Cornell's breadth and diversity make possible. That wealth of resources, combined with our lifelong-learning approach to education, our philosophy of teaching students to manage across boundaries, and our team-based approach to achievement, makes us unique among graduate schools of business.

Curtis W. Tarr
Dean

Johnson School Administrators and Advisers

Among the Johnson School's strengths are the quality of our faculty and staff, the support of our alumni and friends, and the loyalty of the Cornell family. Indeed, the administrators of both the university and our school and the members of our Advisory Council—listed on these pages—provide invaluable leadership and advice. The council, a group of alumni and friends, also establishes links with the business community and with society-at-large. All of those groups have helped us set new goals, expand our programs, grow, and, in the words of dean emeritus David A. Thomas, "strive to become one of the few preeminent management schools in the nation."

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Linda Myers, Managing Editor of *Cornell Enterprise*, and Publications Coordinator

Linda Pike, Managing Editor of *Administrative Science Quarterly*

James W. Schmotter, Editor of *Cornell Enterprise*

L. Joseph Thomas, Director of the Executive Development Program

Dick R. Wittink, Director of the Doctoral Program

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Additional Publications

The catalog *Cornell University Graduate School* is useful to prospective Cornell graduate students and should be consulted for additional information about health requirements and services, vocational testing and guidance, the use of motor vehicles, and university social and cultural activities. Copies of *Cornell University Graduate School* are available from Cornell University Catalogs, Cornell Industry Research Park, Building 7, Ithaca, New York 14850-1247, or you can obtain copies by stopping by the Information and Referral Center in Day Hall. More-detailed information about university policies and procedures required by state and federal regulations is available from the Dean of Students Office, 103 Barnes Hall, and the Information and Referral Center.

An orientation handbook prepared by Johnson School students is sent to all entering JGSM students. Information about facilities, programs, and courses available in the other schools and departments of the university is included in the general catalog *Courses of Study*. Copies of *Courses of Study* and of the brochures *Cornell Resources in International Business and Management*, *Cornell Programs and Resources in Manufacturing Management*, and *Cornell Programs on Japanese Business* are available from the Office of Admissions and Student Affairs, Johnson Graduate School of Management, Cornell University, Malott Hall, Ithaca, New York 14853-4201. The brochure *The Sloan Program in Health Services Administration at Cornell* is available from the Department of Human Service Studies, College of Human Ecology, Cornell University, N132 Martha Van Rensselaer Hall, Ithaca, New York 14853-4401.

How to Get to Ithaca

BY PLANE. Tompkins County Airport, in Ithaca, is served by USAir and Piedmont Airlines. Direct or connecting flights can be made to Ithaca or nearby Syracuse from major cities. A limousine or taxi can be taken from the airport, or a car can be rented.

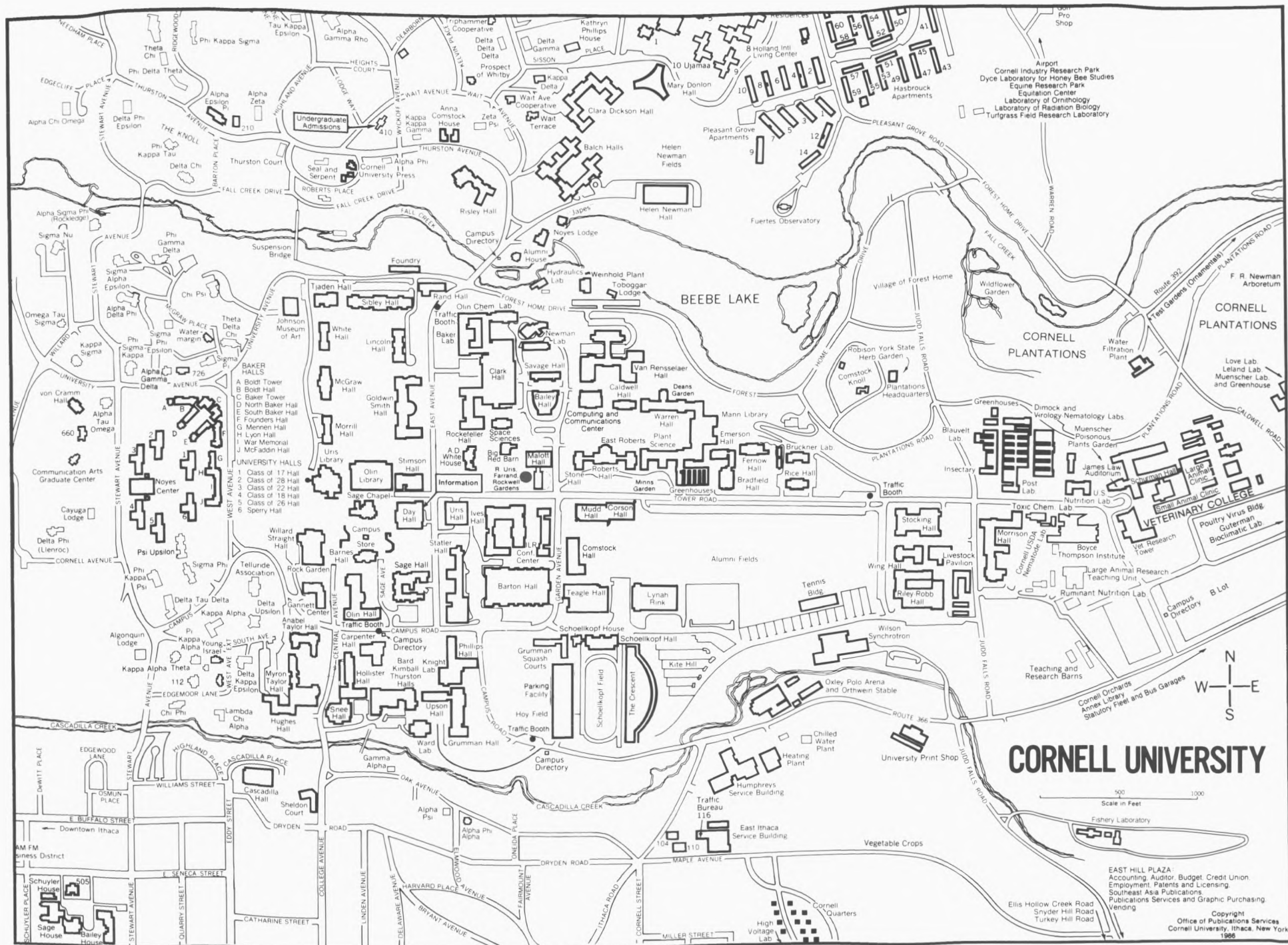
BY BUS. Ithaca is served by Greyhound Bus Lines. Visitors can reach the campus from the bus depot by taxi or Ithaca Transit bus.

Further Information



Above: *The statue of Cornell University founder Ezra Cornell, silhouetted against an Ithaca sunset. Ezra Cornell's commitment to educational access and diversity, embodied by Cornell University, became his legacy to American higher education.*
Opposite: *The McGraw bell tower.*





Cornell Academic Calendar

Fall Semester

Registration begins
Registration ends
Instruction begins
Fall recess begins
Instruction resumes
Thanksgiving recess begins
Instruction resumes
Last day of instruction
Study period begins
Study period ends
Final examinations begin
Final examinations end

1987-88

Thursday, August 27
Friday, August 28
Monday, August 31
Sunday, October 18
Wednesday, October 21
Wednesday, November 25, 1:10 p.m.
Monday, November 30
Wednesday, December 9
Thursday, December 10
Sunday, December 13
Monday, December 14
Wednesday, December 23

1988-89

Thursday, August 25
Friday, August 26
Monday, August 29
Sunday, October 23
Wednesday, October 26
Wednesday, November 23, 1:10 p.m.
Monday, November 28
Wednesday, December 7
Thursday, December 8
Monday, December 12
Tuesday, December 13
Thursday, December 22

Spring Semester

Registration begins
Registration ends
Instruction begins
Spring recess begins
Instruction resumes
Last day of instruction
Study period begins
Study period ends
Final examinations begin
Final examinations end
Commencement

Thursday, January 21
Friday, January 22
Monday, January 25
Sunday, March 20
Monday, March 28
Saturday, May 7
Sunday, May 8
Wednesday, May 11
Thursday, May 12
Saturday, May 21
Sunday, May 29

Thursday, January 19
Friday, January 20
Monday, January 23
Sunday, March 19
Monday, March 27
Saturday, May 6
Sunday, May 7
Wednesday, May 10
Thursday, May 11
Saturday, May 20
Sunday, May 28

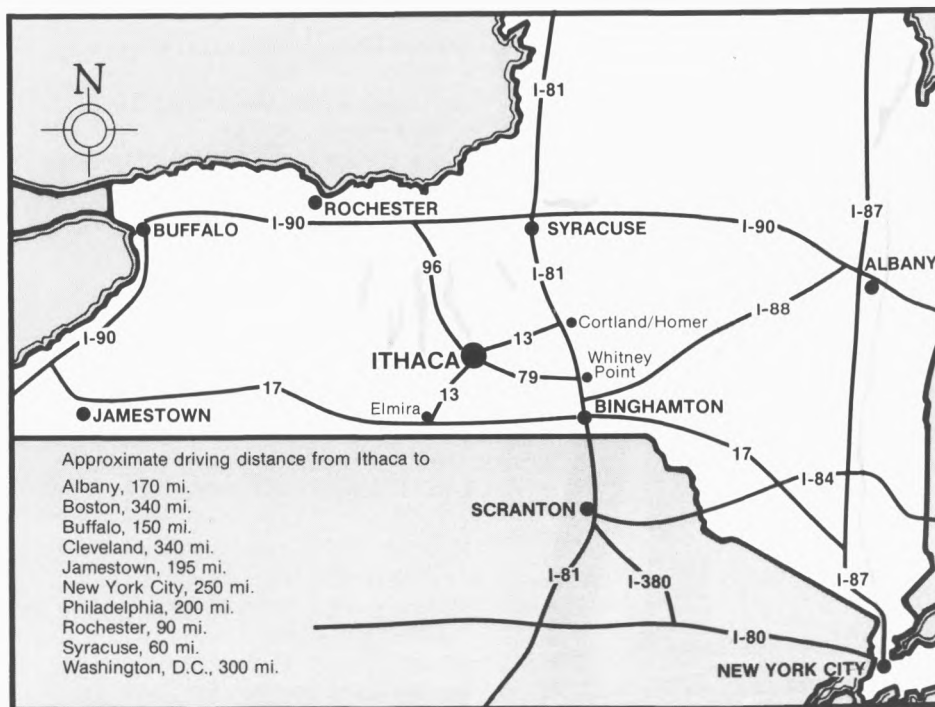
The calendar is subject to modification and is not legally binding. In enacting the calendar, the university has scheduled classes, laboratories, and examinations on religious holidays. It is the intent of the university that students who miss those activities because of religious observances be given adequate opportunity to make up the missed work.

BY CAR. From the New England area, take the New York State Thruway (Interstate 90) west to exit 25A, Interstate 88 southwest to Bainbridge, Route 206 west to Whitney Point, and Route 79 west to Ithaca.

From New York City and the metropolitan area, take the New York State Thruway north to exit 16, Route 17 west to Binghamton, Interstate 81 north to Whitney Point, and Route 79 west to Ithaca; or take Route 17 through Binghamton to exit 64 and Routes 96 and 96B north to Ithaca.

From the south, take Interstate 81 north through Binghamton to Whitney Point and Route 79 west to Ithaca.

From the west, take the New York State Thruway (Interstate 90) east to exit 42 (Geneva) and Route 96 south to Ithaca, or take the New York State Thruway east to exit 41 (Waterloo) and Route 89 south to Ithaca.



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