



Table of Contents

Degrees Offered	320
The Lally Undergraduate Program	320
The Lally Graduate Programs	323

Lally School of Management and Technology

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Rensselaer's Lally School is focused on developing aspiring business leaders who have a passion for technology with the ability to apply it across business functions. Our programs are built around the themes of innovation and entrepreneurship.

As a student you will:

- n Develop the skills to integrate technology across business functions for commercial results.
- n Acquire "real-world" experience through study that emphasizes hands-on projects and teamwork from day one.
- n Leverage Rensselaer's resources to network, learn, and position yourself to capitalize on the business opportunities of tomorrow.

Tapping into Rensselaer's interdisciplinary advantage, Lally students have access to the management school's highly respected international faculty as well as the students and faculty from architecture, engineering, humanities and social sciences, information technology, science, the Rensselaer Incubator, the Rensselaer Technology Park and the Severino Center for Technological Entrepreneurship.

The Lally School offers six areas of educational specialization and research for students:

- n Technological entrepreneurship
- n Management of information systems
- n Finance
- n Marketing and new product development
- n Production and operations management
- n Environmental management and policy (graduate-level only)

In addition, in conjunction with the Information Technology (IT) program, the Lally School provides three concentrations (MIS, Finance, and Technological Entrepreneurship) for IT majors. Dual-degrees are available with the schools of engineering, humanities and social sciences, and science.

The Lally School is fully accredited by the Association to Advance Collegiate Schools of Business (AACSB International), the premier accrediting agency for bachelor's, master's, and doctoral degree programs in business.

The Lally School and its faculty are organized into two departments, with a residential program based in Troy, N.Y., and a primarily non-residential campus focused on executive cohort Master's programs and education for working professionals in Hartford, Conn. The Troy campus also includes Lally's Office of Executive Programs, which administers the Executive MBA program for working managers as well as a number of customized executive-education programs for the school's corporate partners at home and abroad.

Degrees Offered

Management B.S., M.S., MBA, Ph.D.

The Lally Undergraduate Program

The undergraduate program at Rensselaer's Lally School draws heavily on Rensselaer's strengths in engineering, science, technology, and entrepreneurship. Within these programs, the Lally School provides a balance between theory and practice while insuring rigor and relevance. There is a strong emphasis on the application of knowledge through team-based projects and a focus on the intersection of entrepreneurship and innovation.

Goals for the baccalaureate program in management include:

- n Preparing students for professional careers in technology-driven organizations.
- n Core management practices and an in-depth understanding in a specialized area.
- n Theories, concepts, and techniques to solve problems and make effective decisions.
- n Critical-thinking skills and the ability to adapt to a rapidly changing technological world.
- n A high standard of ethics and responsibility in personal affairs and professional life.
- n Competencies in utilizing information technology.
- n Global thinking and working in a multi-cultural setting.

Course work integrates business concepts with technological knowledge and prepares students for careers in the fields of information systems, management of R&D, technical sales, risk assessment, new product development, and marketing. Analytic and quantitative methodologies are introduced in specialized technical courses that build on cases and examples introduced in other classes. Students learn to associate the development of technology with increases in organizational effectiveness and efficiency.

The management core sequence emphasizes basic skills in the traditional business areas of finance, marketing, human behavior, computing, and organizational analysis and development. The math and science sequence provides a strong background in quantitative skills, while humanities and social sciences course work heightens the student's appreciation for significant societal issues. Throughout the program, the topics introduced in the various courses are integrated.

This four-year B.S. in Management program requires a minimum of 124 credit hours. A typical program is described below.

First Year**Fall**

	Credit hours
MATH -1500	Calculus for Management.....4
MGMT-2510	Microcomputers and Applications....4
MGMT-1100	Introduction to Management4
	Humanities or Social Science
	Elective4

Spring

	Credit hours
MATH-1520	Math Methods in Management and Economics4
CSCI-1010	Intro. to Computer Programming.....4
MGMT-1260	External Environment of Business ...4
	Humanities or Social Science
	Elective.....4

Second Year**Fall**

	Credit hours
MGMT-2100	Statistical Methods4
	Biology Elective4
MGMT-2300	Accounting for Decision Making4
ECON-1200	Introductory Economics.....4
MGMT-1240	Management Leadership I2

Spring

	Credit hours
MGMT-4110	Operations Management4
MGMT-4140	Computer Information Systems4
MGMT-2320	Managerial Finance4
	Humanities Elective4
MGMT-1250	Management Leadership II2

Third Year**Fall**

	Credit hours
MGMT-4100	Quantitative Methods for Business ..4
MGMT-4430	Marketing Principles4
	Elective.....4
	Writing Requirement (Humanities) ..4

Spring

	Credit hours
MGMT-4850	Organizational Behavior in High-Performance Organizations4
	Science Elective4
	Elective.....4
	Humanities or Social Science Elective 4 (4000 level)

Fourth Year**Fall**

	Credit hours
MGMT-4860	Human Resources in High-Performance Organizations4
	Elective.....4
	Non-Management Elective.....4

Spring

	Credit hours
MGMT-4870	Strategy and Policy.....4
	Elective.....4
	Non-management Elective4

Concentrations

Students are encouraged to select one or more concentrations in order to provide further depth in an area of student interest. The concentrations and their associated courses are as follows:

Financial Systems

MGMT-4320	Investments I
MGMT-4330	Investments II
MGMT-4340	Advanced Corporate Finance
MGMT-4370	Risk Management

Management Information Systems

MGMT-4240	Systems Analysis and Design
MGMT-4160	Telecommunications for Business
MGMT-4960	Data Resource Management

Restricted Elective (choose one from three below)

MGMT-4130	Enterprise IT Integration
MGMT-4150	IT Project Management
MGMT-4550	Business Models for Digital Enterprise

Marketing

MGMT-4470	Marketing Research
MGMT-4490	Advertising Strategy and Promotions
MGMT-4460	Consumer Behavior and Product Design
	Restricted Elective (see adviser)

Technological Entrepreneurship

MGMT-4520	Introduction to Technological Entrepreneurship
MGMT-4510	Invention, Innovation, and Entrepreneurship
MGMT-4530	Starting Up a New Venture
	Restricted Elective (see adviser)

Minor Programs

The Lally School also offers undergraduate minor programs for management students and Rensselaer students majoring in other fields. Lally students may pursue a minor outside of the management school. Management majors typically use electives in their program for minor course work in complementary fields such as communications, computer science, economics, industrial and management engineering, or psychology. Students can elect to pursue interests in any Rensselaer school.

The following minors are offered by the Lally School and require a minimum of 16 credit hours. Each student's designated minor adviser can approve course substitutions to meet individual student needs.

Management and Technology Minor

The minor in management and technology usually consists of the following four courses:

MGMT-1100	Introduction to Management	MGMT-2320	Managerial Finance
MGMT-2300	Fundamentals of Accounting for Decision Making		Restricted Elective (see minor adviser)

Technological Entrepreneurship Minor

The minor in technological entrepreneurship usually consists of the following four courses:

MGMT-1100	Introduction to Management	MGMT-4510	Invention, Innovation, and Entrepreneurship
MGMT-4520	Introduction to Technological Entrepreneurship	MGMT-4530	Starting Up a New Venture

Marketing Minor

The minor in marketing usually consists of the following four courses:

MGMT-1100	Introduction to Management	MGMT-4490	Advertising Strategy and Promotions
MGMT-4430	Marketing Principles	or	
MGMT-4470	Marketing Research	MGMT-4460	Consumer Behavior and Product design

Dual or Double Major Programs

To develop skills in other areas of interest or in preparation for careers related to specialized topics, students may pursue a dual or double major with other non-management curriculum.

Such options can be arranged with the schools of engineering, science, architecture, or humanities and social sciences.

Special Undergraduate Opportunities

The Lally School offers four additional programs to meet undergraduate needs in the areas of research, law, international business, and co-operative education.

Undergraduate Research Program (URP)

Through the URP, students have the opportunity to work with a faculty adviser on tangible research projects. Students are eligible for a Summer Research Fellowship stipend under a program sponsored by the Office of Undergraduate Education. The stipend is intended to cover 10 weeks of full-time research.

Accelerated Management-Law Program

In cooperation with Albany Law School of Union University and Columbia University Law School, Rensselaer offers a unique program leading to a B.S. and a Juris Doctor (J.D.) in six years rather than seven. Admission to this program is restricted, with most students admitted as incoming freshmen. Selected applicants must also meet the admission requirements of Albany Law School of Union University. Thus, a prospective management-law student may be able to assure admission to law school prior to beginning an undergraduate career at Rensselaer. Transfer into the management-law program from other Rensselaer curricula is limited to students who have demonstrated academic excellence.

Although guaranteed admission to Albany Law School is available to selected incoming freshmen, conditional admission also is available to students accepted by Rensselaer who meet specified achievement levels in their undergraduate program. In addition, Rensselaer has established a working relationship with Columbia University Law School that allows a gifted management-law student to become a candidate for admission after his or her third year at Rensselaer, if a committee within the Lally School nominates the student. Rensselaer's inclusion in Columbia's Accelerated Interdisciplinary Legal Education Program (AILE) has made this opportunity possible. Management-law students also have applied successfully for early admission to Harvard, Stanford, Cornell, and the University of Virginia. The Lally School is committed to assisting each student attain their individual educational goals and objectives.

International Management Exchange Program

Rensselaer's Lally School has agreements with more than 12 schools in 10 countries for the exchange of qualified students from and to the Rensselaer campus. This exchange occurs for one semester in the third or fourth year of undergraduate studies and/or in the fall semester in the second year of graduate studies. The foreign schools chosen for the exchange program are renowned in the field of management education. Students interested must demonstrate superior academic records, maturity, and in some cases, the necessary language capabilities to be selected for the exchange program. This program is strongly recommended for all Management students.

For more information about this program, contact the International Exchange Program Coordinator, at (518) 276-2388 or e-mail maceyb2@rpi.edu.

Cooperative Education

Rensselaer's Cooperative Education Program and the Lally School offer pre-professional work experience for undergraduates. As part of the co-op program, students work one semester and one summer in industry, business, and government positions. The co-op assignment usually occurs during the junior or senior year and can sometimes be scheduled to permit the student to graduate with the class in which he or she matriculated. Typical job opportunities are in the fields of accounting, finance, management systems, and information systems. The co-op program is described in detail in the Student Life section of this catalog.

For more information on any aspect of the undergraduate management and technology program, contact durgej@rpi.edu.

The Lally Graduate Programs

Rensselaer's Lally School offers three graduate programs: a Master of Science in Management, a Master of Business Administration, and a doctoral program in Management and Technology.

The M.S. in Management builds around a specific focal area and is best suited for students with a clearly defined career goal. The degree allows students with technical expertise to develop broader career options that include project management and the ability to apply business methods in a specialized area.

The MBA is a degree in general management. It is suited for those who aspire to leadership positions in their organizations and who desire to learn about all aspects of business management and how they combine to create a healthy, vibrant organization. The Lally MBA is a degree in general management with a focus on the themes of innovation and entrepreneurship. This program develops leaders who combine a passion for technology with the ability to apply it across business functions and to leverage it for competitive advantage. In addition to the mainstay MBA program, the Lally School offers three additional tracks. The Executive MBA is a two-year, weekend-based, intensive study for working professionals. The Sino-U.S. MBA addresses the needs of Chinese and foreign companies establishing and expanding businesses in China. The J.D.- MBA allows a student to simultaneously pursue a law degree and an MBA degree.

The Lally Ph.D. in Management and Technology is a research-oriented academic program. Students develop a scholarly specialization in one of six core areas and graduates generally pursue a career path in either academia or research.

The Lally School also provides an array of support services to students throughout their studies. The Graduate Student Services staff assists with orientation, academic advising, career development, employment preparation, and job interviewing opportunities. Other resources include the Severino Center for Technological Entrepreneurship and the Graduate Management Student Association. These organizations provide activities throughout the year, including a business etiquette dinner, a team-building ropes course, the Tech Valley Collegiate Business Plan Competition, the Distinguished Speaker Series, the Rensselaer Entrepreneurship Interns Program, the Biotech Club, and alumni networking programs on and off campus. Additional information on these activities may be found at: www.lallyschool.rpi.edu.

All Lally graduate students are encouraged to work during the summer months in summer internship experiences that add value to their degree program and career goals. Part time internships during the academic year are also an option for some students. Lally Career Resources and Rensselaer's Career Development Center (CDC) support students in finding these internships. The academic adviser is also typically consulted to prevent academic or immigration issues. The Lally Graduate Student Services, the CDC, and the International Student Services office must approve internships for international students working on a visa prior to the student accepting the offer.

The work opportunities are varied, depending on the student's skills, area of specialization, and work authorization. Lally students have been employed at a variety of firms including General Electric, Kodak, IBM, Intel, Pratt and Whitney, SAP America, Texas Instruments, Shell Chemical, and Boeing, as well as in start-up companies and small- and medium-sized local businesses.

Master of Science in Management

The M.S. in Management is a specialized 30-credit program that may be pursued on a part- or full-time basis. The program is designed for students who wish to concentrate their studies in a particular area. The criteria for candidates completing the M.S. program are as follows:

- n The academic program must specialize and focus on management and technology.
- n The approved plan of study must include four core courses covering finance, marketing, quantitative analysis, and organizational behavior or human resource management. In addition, a concentration consisting of four related courses is required.
- n The conclusion of the academic program must include a culminating experience. The recommended course is MGMT-6680 Strategy, Technology, and Global Competitive Advantage.

Concentrations in the Master of Science Program

A concentration consists of a 12-credit group of related courses. Concentrations aid students in marketing themselves to employers for internship opportunities or for employment opportunities upon graduation. All M.S. diplomas specify management as the discipline of study; however, the concentration is not identified.

M.S. Concentrations

- n Technological entrepreneurship
- n Management of information systems
- n Finance
- n Marketing and new product development
- n Production and operations management
- n Environmental management and policy

Management concentrations are based on student interest and will vary over time in response to strategic business and technological developments. For a list of M.S. concentrations and associated courses, visit www.lallyschool.rpi.edu.

Master of Business Administration

The MBA is the Lally School's premier program and offers students both depth and breadth in management education with an emphasis on innovation and entrepreneurship. The focus on "innovation" is concerned with organizational, financial, and technological innovation, while the emphasis on "entrepreneurship" involves both individually-driven new start-ups and the launch of new businesses within larger corporations.

The curriculum provides a strong grounding in managerial fundamentals while highlighting the strategic role that technology plays in enhancing business performance and creating sustainable competitive advantage.

This 60-credit residential MBA, which is operated on a cohort basis, is a comprehensive 21-month program. A summer work experience also is an important part of the MBA program. Options include working for companies ranging from Fortune 500 firms to local technology start-ups associated with the internationally recognized Rensselaer Technology Park and/or Rensselaer Incubator Center.

The MBA curriculum is built around five, year-long interdisciplinary courses called "streams of knowledge," each of which addresses the challenge of innovation. Taken together, these streams provide students not only with the basic tools and concepts of the business leader, but also with the critical creative problem-solving expertise considered essential for meeting both the strategic and day-to-day challenges of running successful business in today's rapidly changing global marketplace. The streams concentrate on the five following themes: 1) creating and managing the enterprise; 2) value creation, managing business/technology networks, and driving innovation; 3) developing innovative new products and services; 4) formulating and implementing competitive business strategy; and 5) managing the business implications of emerging technologies.

The infusion of innovation and the entrepreneurial spirit begins prior to the start of official classes with a special week-long orientation program called Leaders, Heroes and Innovators. The program immerses new students in the examination of the key characteristics of successful business leaders; the experience and behaviors of these leaders from both inside and outside of the business world is done through case

studies, laboratory simulations, and classroom exchanges. Students then engage in an intensive, six-week building blocks course on business fundamentals where they develop a “toolkit” composed of critical skills in finance, economics, accounting, and statistics.

Throughout the remainder of the MBA curriculum, students are exposed to the cutting-edge methods and strategies that corporations deploy to create and capture value in today’s global economy. The program also provides ample opportunity for professional development by developing such skills in business communication, negotiation, conflict resolution, and team building. In one of their final courses, *Managing on the Edge*, students marshal together their accumulated learning from across the entire program to develop creative solutions for a series of unique, unanticipated business problems characterized by their non-linear, unpredictable nature.

Students graduate from the Lally School’s MBA program not only imbued with an innovative spirit and entrepreneurial mindset, but also with their own “business portfolio” that reflects their broad array of business skills and know-how. Each student portfolio contains specific examples of the student’s work that they can share with prospective employers for placement purposes upon graduation. Included in the portfolio are the following types of items: business plan, marketing plan, strategic plan, technology assessment, competitive analysis, etc.

The five “streams of knowledge” are as follows:

MGMT-6040 and 6050	Creating and Managing an Enterprise [I & II] (3 credits each)
MGMT-6060 and 6070	Business Implications of Emerging Technologies [I & II] (3 credits each)
MGMT-6080 and 6090	Networks, Innovation and Value Creation [I & II] (3 credits each)
MGMT-7050 and 7060	Developing Innovative New Products and Services [I & II] (3 credits each)
MGMT-7030	Strategy, Technology & Competition I (2 credits each)
MGMT-7040	Strategy, Technology & Competition II (3 credits)

The key modules in the MBA program are as follows:

MGMT-6010	Heroes, Leaders and Innovators (orientation)
MGMT-696x	Professional Development Workshop I, II, & III
MGMT-6020	Economic & Financial Analysis I (9 credits)
MGMT-6030	Economic & Financial Analysis II (3 credits)
MGMT-7080	Succeeding in Knowledge Intensive Organizations (1 credit)
MGMT-7020	Global Business (1 credit)
MGMT-7010	Decision Models (1 credit)
MGMT-7090	Social Responsibility and Business Ethics (1 credit)
MGMT-7070	Managing on the Edge (3 credits)

The remaining courses in the 60-credit program include four electives taken from a broad range of courses reflecting the school’s interest in developing business leaders who are comfortable working at the intersection of management and technology. In selecting these courses, students may wish to select a concentration from the five options listed below or they may develop a customized management and technology concentration in conjunction with their adviser. Lally MBA students can also take courses in other Rensselaer schools as part of the program’s interdisciplinary orientation.

MBA Concentrations

Technological Entrepreneurship

The Technological Entrepreneurship concentration has been developed for students who have an interest in new venture creation in start-ups and established firms. In addition to a powerful and integrated curriculum, this concentration includes significant out-of-the-classroom opportunities for interaction with Rensselaer's highly regarded Incubator Program, Technology Park, Venture Affiliates of RPI, Office of Technology Commercialization, and extensive networks of successful entrepreneurs. This concentration consists of three courses from a set of course options. Students may wish to take a fourth course in Entrepreneurship from a set of elective options.

Management of Information Systems

The Lally School's Management of Information Systems concentration is designed for professionals seeking executive positions responsible for achieving competitive advantage through the effective development and integration of information technology into organizations. The concentration courses use an interdisciplinary approach to the practices and methodologies of systems analysis, design, development, integration and evaluation of information technology into business functions and processes. This concentration requires students to take MGMT-6140 if they do not have an IT background. All students concentrating in MIS should take MGMT-6180 and two other MIS electives.

Finance

The Finance concentration prepares students for a career path in corporate finance functions and for careers in the financial services industries. The special finance problems in high-tech industries are explored as well as the impact of technology on financial markets and the financial manager in modern corporations. Students should take the two introduction courses and may select from one of the additional course options. Students may wish to select a fourth course in finance from a set of elective options.

Environmental Management and Policy

This concentration prepares managers to provide business leadership in corporations, governmental agencies, or non-profit organizations with environmental and energy responsibilities and services. This MBA concentration recognizes the business argument for a global approach to environmental stewardship and sustainable development. The concentration builds on a cross-disciplinary curriculum by integrating environmental courses from departments and schools through the Rensselaer campus, including the Department of Economics, Science & Technology studies, Environmental Engineering, Earth Science, Electric Power Engineering, Architecture and Interdisciplinary Environmental courses.

A student pursuing an MBA with an Environmental Management concentration would typically take the Environmental Management and Policy course in addition to a set of electives selected in coordination with your academic and faculty adviser.

Production & Operations Management

The purpose of this concentration is to provide students with an understanding of how product requirements are translated into the organizations, procedures, facilities and methods of manufacturing and service operations. This concentration prepares students for management careers at several different levels of the manufacturing and service organization by developing the knowledge necessary to support and add value to the underlying strategic focus of an operating manufacturing system. Students are encouraged to assemble a set of operations courses which will best facilitate their professional development and career potential. Students may select three courses from a set of course options.

Marketing and New Product Development

This concentration is available to graduate students interested in a career path in new product development or in product management, and is geared toward the special problems associated with managing high-tech products. Students focus their attention on understanding the links between an organization's design, manufacturing, and marketing efforts for achieving successful product/market development, commercialization, and management throughout the life cycle. The Marketing and Product Development Management concentration requires students to take three courses from a set of course options.

Dual Master's Programs

The dual degree option offers students the opportunity to receive two master's degrees from Rensselaer:

J.D.-MBA Program

In collaboration with Albany Law School of Union University, a student may simultaneously pursue an MBA and J.D. degree. By integrating the programs, some courses at one institution are applied toward the degree requirements at the other. This arrangement reduces the total time required for both degrees by at least one semester. Interested candidates must apply to and be accepted at both institutions. Additional information concerning the MBA requirements can be obtained from the Lally School. This program is separate and distinct from the undergraduate management-law program.

Sino-U.S. Programs

The Lally School has initiated several programs that allow students to develop an understanding of the management and technology practices appropriate to Chinese business conditions. Among the programs offered at Rensselaer are:

- n Sino-U.S. MBA in Management and Technology-This program was initiated in 1995 and is designed to develop cross-cultural managers for multinational companies operating in China. Students follow a similar curriculum to that of other MBA students as part of this 21-month program.
- n Certificate Programs-Specialized executive programs for working professionals from China in such areas as "The Management of Software Development Firms."
- n Sino-U.S. Center for China Enterprises Strategic Studies (SUCCESS)-This on-campus research center is dedicated to the analysis of local, wholly foreign-owned, and joint venture enterprises operating in China. Activities include study trips to China, hosting visiting professors from China, and supporting doctoral-level research.
- n Specialized M.S. in Management-This option offers concentrations in management of power utilities, software firm management, management of technology and R&D, and international business strategy.

Executive Master of Business Administration (EMBA)

The Lally school offers an Executive Master of Business Administration designed for individuals who possess significant (more than six years) management experience. Its unique format of meeting alternate Fridays and Saturdays over the course of two academic years allows students to continue their normal career activities and immediately apply the techniques and ideas learned throughout the program. Lally School senior faculty provide instruction. The program is cohesive; each course builds upon previous courses while laying the foundation for upcoming courses. In addition, this is a cohort approach, the EMBA class moves together through the program. Between the first and second year of the program, the students take part in a three-day residency in Washington, D.C., which focuses on government-business relations.

Doctoral Programs

The Ph.D. in Management and Technology is a research-based program concentrating on scholarship in the following core areas:

- n Entrepreneurship
- n Innovation management and new product development
- n Information technology
- n Financial technology
- n International business and global management of technology

Students are expected to develop scholarship in one of Lally's areas of interdisciplinary focus and be conversant in a traditional business discipline. The Ph.D. program emphasizes research methods and an appreciation of relevant theoretical and empirical literature in the student's area of concentration. The program strives to balance theoretical approaches with empirical studies that can be applied to real-world challenges. Graduates of the doctoral program typically pursue academic and research positions at well-respected institutions in the United States and abroad.

Core Requirements

Through courses taken prior to admission or courses within the doctoral program, management Ph.D. students must demonstrate knowledge that covers basic management areas, such as marketing, finance, and organizational behavior. In addition to area content courses, students are expected to take courses related to Lally's thematic focus areas. The doctoral adviser and committee evaluate each student and specify any courses needed to fulfill the breadth and depth requirements. Each semester, the student is expected to take a selected number of doctoral-level seminars offered by the Lally School.

In addition, all doctoral students must take a three-course research methodology sequence and a two-course sequence in advanced statistical techniques. Since the doctoral degree is research oriented, the student must complete a research paper as part of the research-methods course sequence. In consultation with their faculty adviser, students normally submit an outline of their goals and a plan of study by the second year. The plan indicates courses the student intends to use, including thesis credits, to meet the 90-credit graduation requirement. The student's past experience and study may allow for considerable flexibility in plan development. By the third year, the student is expected to complete all course work, a comprehensive examination on business and economics fundamentals and quantitative methods, and a field exam in their area of concentration. This is followed by a candidacy exam and a final defense.

Concentrations

Research programs and concentrations are developed through tutorial relationships with faculty. They include traditional disciplines such as finance, marketing, and organization, as well as interdisciplinary programs such as international business, financial technology, entrepreneurship, environmental management, and new product development. Candidates are encouraged to combine fields; for example, entrepreneurship and management of information systems or the strategic uses of technology.

Students choose specific courses in consultation with the Ph.D. director, concentration area advisers, and members of the research committee. They also may petition the doctoral committee for a program of advanced studies and research not included in the above. Faculty in the student's area of desired expertise will prepare the field examination, which includes a written and oral examination. For information concerning the requirements for a typical program of study, applicants should contact the director of the Ph.D. programs.

The appropriate faculty evaluate a student's progress yearly. Depending on the candidate's stage of development in the program, criteria of evaluation include:

- n Performance in the doctoral research seminars and the required methodology courses.
- n Appropriate plan of study.
- n Coursework/thesis registration.
- n Successful completion of the field exam.
- n Formation of doctoral committee.
- n Completion of candidacy exam.
- n Identified goals, expectations, accomplishments, and career path.
- n Successful completion of the qualifying exam.

Students failing to satisfy the requirements of the annual evaluations will be terminated from the management doctoral program.

Once students choose their dissertation topic, the student adviser recommends a doctoral committee for that student to the Office of Graduate Education. This recommendation is based on the student's desires and objectives within the plan of study. Before completing 75 credit hours of graduate study, each student will prepare a research proposal consisting of a problem statement, supporting literature, proposed research methodology, and anticipated results. The presentation of this research topic to the academic community, followed by an examining session conducted by and limited to the student's doctoral committee, will comprise the candidacy examination. A student will be admitted to candidacy upon satisfactory performance of the candidacy examination and by meeting the requirements in designated core disciplines (through their study in the concentration or program area and through the preparation of a research paper).

The culmination of doctoral studies is the dissertation, which represents the results of an original investigation and demonstrates capacity for independent research. The candidate's studies lead to the dissertation and include participation with faculty in research activities. This participation may form the basis of the dissertation topic. Participation in these projects should enable the student to structure, engage in, and report on a research endeavor concerned with management processes. This is a requirement that must be satisfied prior to the admission to candidacy. Students will present the results of their dissertation research to the Rensselaer community and be examined by their doctoral committees. Upon satisfactory completion of this examination (and university requirements), students will be awarded the doctoral degree in management.

Research Initiatives

Research at the Lally School is characterized by its cross-disciplinary, multiplatform, and international nature. Faculty at the Lally School conduct research in Argentina, Australia, Canada, Chile, China, Denmark, Finland, France, Germany, Italy, Mexico, Spain, Sweden, the United Kingdom and the United States. While the issues investigated cut across functional areas in a business setting, are longitudinal in scope, and involve a variety of academic disciplines, the objective is to produce rigorously developed theories and empirical studies that are at the frontiers of new management knowledge and that pass the stringent tests of academic peer review.

Research conducted by the Lally School is often featured at conferences sponsored by the Academy of Management, INFORMS, PICMET, Academy of International Business, the IEEE, and ASSA. In addition, the Lally School regularly sponsors international conferences and seminars designed to bring together the best academics globally to focus on emerging areas of new research in order to establish intellectual leadership in a domain of broad interest to the academic community.

The Lally School has five intersecting research categories that are recognized for their leadership position in the academic community. They seek to create new frontiers of managerial thought in the area of technology and entrepreneurial management. The five Lally research categories are as follows:

Technological Entrepreneurship

At Rensselaer, technological entrepreneurship is the process of converting technical ideas into new businesses in startup ventures and established firms. This is the primary research focus for more than 15 faculty engaged in collaborative, multidisciplinary projects. These faculty members examine technological entrepreneurship from many perspectives, including psychology, economics, and sociology. They focus on such problems as opportunity identification, accelerating new-venture creation, intellectual property and governance in high-technology startups, and managing hyper-growth firms. The Severino Center for Technological Entrepreneurship is the focal point for scholarship in entrepreneurship and serves as a bridge to the Rensselaer Incubator and Rensselaer Technology Park.

Innovation Management and New Product Development

In this area, researchers concentrate on understanding the management processes leading to the development of successful new products, technologies, or services. Research topics include managing technological innovation, technology strategy, new product development, distributed innovation, strategic innovation alliances, innovation networks, management of radical innovation, and intellectual property management. Related research focuses on organizational strategies to successfully pursue product or service innovation, those that occur within the boundaries of the organization as well as those that involve other organizations. Given the emergence of global networks of innovation, issues related to inter-organizational alliances and collaboration form a primary focus of research at Lally.

Management Information Systems

This area focuses on the role and use of information technology in organizations and how it transforms the theories and practice of management. The research incorporates theories and concepts from such fields as computer science, economics, psychology, communications, and organization theory. Of particular interest are topics that relate to supply-chain management, business and consumer marketing, virtual collaboration, distributed innovation, and internal organizational capabilities. The Lally School adopts an interdisciplinary approach to researching new business models and the issues that present challenges and opportunities for managers in IT, entrepreneurship, finance, marketing, and innovation.

Financial Technology

This emerging field of scholarship and practice combines the traditionally distinct disciplines of finance, information technology, and modeling. Formed within this field are three relatively distinct applications. The first application is the impact of technology on the financial management of corporations, financial institutions and markets. This area specifically focuses on the interface between technological shifts and practices in the financial services industry and the overall functioning and productivity of these institutions in the capital markets. The second application pertains to the alternative financing and exit strategies of new technological ventures and business initiatives. This area focuses on the economics and governance of private equity, venture capital funds, traditional bank debts and going public process of

individual companies along with the financial implications for regulatory, macroeconomic, and firm-specific influences on respective industries and markets. The above two areas of research are further explicated by a third research specialty in computational accounting and finance involving emerging financial products and derivatives.

International Business and Global Management of Technology

Driven by the rapid onset of globalization, the processes of technological discovery, innovation, and commercialization have become transnational in nature. On-going research in this area at the Lally School focuses on two specific issues. First, it seeks to better understand how the emergence of new centers of technological capability outside of the United States, Europe, and Japan affects decisions regarding the location of R&D and high-value-added manufacturing processes by global managers. Secondly, this research seeks to learn more about the specific strategic and operational challenges associated with managing the creation and application of new knowledge in a multinational firm with critical facilities in several different regions around the world. By gaining a deeper appreciation of the impact of globalization on innovation and R&D, it is hoped that managers can develop an international perspective on where and how to access technical resources for enhancing their competitive advantage.

Troy Campus Faculty*

Professors

Baron, R.A.—Ph.D. (University of Iowa); organizational behavior, entrepreneurship (Dean R. Wellington '83 Professorship in Management).

Berg, D.—Ph.D. (Yale University); management of technological organizations, policy issues of research and development in the service sector (Institute Professor of Science and Technology).

Haddock, J.—Ph.D. (Purdue University); modeling of production and service systems including simulation and optimization techniques (Associate Dean).

Hasan, I.—Ph.D. (University of Houston); finance. (Acting Dean)

Judd, G.—Ph.D. (Rensselaer Polytechnic Institute); strategy, materials engineering.

Norsworthy, J.R.—Ph.D. (University of Virginia); economics, business economics.

Paulson, A.S.—Ph.D. (Virginia Polytechnic Institute); operations research and statistics, risk management and investment analysis (Frank and Lillian Gilbreth Professor in the Technologies of Management).

Clinical Professors

Abetti, P.A.—P.E., Ph.D. (Illinois Institute of Technology); management of technology, international business development and strategic planning, entrepreneurship.

Hughes, G.—Ph.D. (Princeton University); strategy, entrepreneurship, information technology.

Associate Professors

Durgee, J.F.—Ph.D. (University of Pittsburgh); marketing research and advertising.

Ensley, M.—Ph.D. (Mississippi State University); entrepreneurship, strategy, organizational theory.

Francis, B.B.—Ph.D. (University of Toronto); corporate and international finance.

Goldenberg, D.H.—Ph.D. (University of Florida); investments, derivatives markets, mathematical and computational finance.

* Departmental faculty listings are accurate as of the date generated for inclusion in this catalog. For the most up-to-date listing of faculty positions, including end-of-year promotions, please refer to the Faculty Roster section of this catalog, which is current as of the May 2005 Board of Trustees meeting.

- Leifer, R.P.**—Ph.D. (University of Wisconsin); organizational behavior and organizational design, management information systems.
- McDermott, C.**—Ph.D. (University of North Carolina, Chapel Hill); manufacturing strategy, operations management.
- Nambisan, S.**—Ph.D. (Syracuse University); information systems.
- O'Connor, G.**—Ph.D. (New York University); marketing, product management.
- Peters, L.S.**—Ph.D. (New York University); science and technology policy, innovation and R&D management, entrepreneurship, organization theory, international business.
- Phan, P.**—Ph.D. (University of Washington); strategic management, entrepreneurship (Warren H. Bruggeman '66 and Pauline Urban Bruggeman Distinguished Associate Professor).
- Ravichandran, T.**—Ph.D. (Southern Illinois University, Carbondale); management information systems.
- Sanderson, S.**—Ph.D. (University of Pittsburgh); international business, manufacturing policy, new product development.
- Veryzer, R.**—Ph.D. (University of Florida); marketing and consumer behavior.

Clinical Associate Professors

- Miccio, R.**—J.D. (Albany Law School); law, ethics.
- Peters, L.B.**—Ph.D. (Rensselaer Polytechnic Institute); management information systems.
- St. John, W.C.**—Ph.D. (Rensselaer Polytechnic Institute); accounting, finance.
- Triscari, T.**—Ph.D. (Rensselaer Polytechnic Institute); information systems.

Assistant Professors

- Berkley, R.**—Ph.D. (University of Wisconsin, Madison); organizational behavior, human resource management.
- Choo, A.**—Ph.D. (University of Minnesota, Carlson School of Management); operations management, knowledge management, operations strategy.
- Corbett, A.**—Ph.D. (University of Colorado, Boulder); entrepreneurship.
- Golden, T.**—Ph.D. (University of Connecticut); organizational behavior, human resource management.
- Jahng, J.J.**—Ph.D. (University of Wisconsin at Milwaukee); information systems.
- Jayanthi, S.**—Ph.D. (University of Minnesota); manufacturing operations, operations management.
- Linton, J.**—Ph.D. (York University); operations management.
- Nelson, M.**—Ph.D. (University at Albany); information systems.
- Shin, Y.C.**—Ph.D. (Massachusetts Institute of Technology); financial accounting.
- Young, N.**—Ph.D. (University of Chicago); entrepreneurship.

Research Assistant Professors

- Mehta, S.**—Ph.D. (University of Texas Southwestern Medical Center); biotechnology.

Clinical Assistant Professors

- Murtagh, J.P., Jr.**—Ph.D. (Rensselaer Polytechnic Institute); investment analysis and financial services.
- Sands, R.**—M.S., MBA (University at Albany); organizational behavior and human resource management.

Adjunct Faculty

Alben, R.—Ph.D. (Harvard University); physics, operations management.

Johnson, H.—A.B. (Dartmouth College); financial markets and analysis.

Nealson, W.—MBA (Rensselaer Polytechnic Institute); accounting.

Nugent, P.—Ph.D. (University at Albany); organization theory.

Wright, F.—M.S.E.E. (Naval Postgraduate School); general management, manufacturing operations, international business.

Hartford Campus Faculty**Clinical Professors**

Bragaw, L.K., Jr.—D.B.A. (George Washington University); policy and strategy, ethical and social issues
(Professor of Management on sabbatical leave).

Kelly, L.J.—Ph.D. (University of Connecticut); statistics, operations, management engineering.

Luddy, W.J., Jr.—J.D. (University of Connecticut); ethics, social and legal issues, policy and strategy.

Schroth, P.W.—S.J.D. (University of Michigan); international finance, financial markets (Clinical
Professor on sabbatical leave).

Clinical Associate Professors

Albright, R.R.—Ph.D. (University of Pittsburgh); strategy.

Fransson, M.C.—MBA (Dartmouth College); marketing, financial services.

Gingerella, L.W., Jr.—MBA (Rensselaer Polytechnic Institute); accounting, finance.

Jenkins, F.C.—MBA (University of Pennsylvania); finance, acquisitions and mergers.

Maleyeff, J.—Ph.D. (University of Massachusetts); statistics, operations, management engineering.

Rainey, D.L.—Ph.D. (Rensselaer Polytechnic Institute); environmental management, operations,
technology management, new product development.

Stodder, J.P.—Ph.D. (Yale University); economics, international.

Clinical Assistant Professors

Arnheiter, E.D.—Ph.D. (University of Massachusetts); manufacturing, operations, quality management.

Ilovici, I.—Ph.D. (University of Connecticut); management information systems.

Peteros, R.G.—J.D. (Western New England College School of Law); finance.

Course Descriptions

Courses directly related to all Management curricula are described in the Course Description section of this catalog under the department code MGMT.

