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Lally School of Management and Technology

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Rensselaer’s Lally School is focused on training students who have a passion for transforming commercially relevant ideas and concepts into new products and services. Our graduates are aspiring business leaders and entrepreneurs who understand the power of technology as well as the creative processes that produce successful innovation.

As a student you will:

■ Develop the skills to integrate technology across business functions for commercial results.
■ Acquire “real-world” experience through study that emphasizes hands-on projects and teamwork from day one.
■ 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 business 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, the Severino Center for Technological Entrepreneurship, and the Center for Financial Technology.

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

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

Lally also has dual-degree offerings in conjunction with the information technology program and the schools of architecture, engineering, humanities and social sciences, and science.

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 “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 and between rigor and relevance. Additionally, 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:

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

Course work infuses integrative 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 courses 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**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>MATH-1500</td>
<td>Calculus for Management..........4</td>
</tr>
<tr>
<td>MGMT-2510</td>
<td>Microcomputers and Applications...4</td>
</tr>
<tr>
<td>MGMT-1100</td>
<td>Introduction to Management ........4</td>
</tr>
<tr>
<td>Humanities or Social Science</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>4</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>MATH-1520</td>
<td>Math Methods in Management and Economics 4</td>
</tr>
<tr>
<td>CSCI-1010</td>
<td>Intro. to Computer Programming ..........4</td>
</tr>
<tr>
<td>MGMT-1260</td>
<td>External Environment of Business ...4</td>
</tr>
<tr>
<td>Humanities or Social Science</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>4</td>
</tr>
</tbody>
</table>
### 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Description</th>
<th>Semester</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT-4320</td>
<td>Investments I</td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>MGMT-4330</td>
<td>Investments II</td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>MGMT-4340</td>
<td>Advanced Corporate Finance</td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>MGMT-4370</td>
<td>Risk Management</td>
<td>Fall</td>
<td></td>
</tr>
</tbody>
</table>

#### Marketing

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Description</th>
<th>Semester</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT-4470</td>
<td>Marketing Research</td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>MGMT-4490</td>
<td>Advertising Strategy and Promotions</td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>MGMT-4460</td>
<td>Consumer Behavior and Product Design</td>
<td>Fall</td>
<td></td>
</tr>
</tbody>
</table>

#### Management Information Systems

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Description</th>
<th>Semester</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT-4240</td>
<td>Systems Analysis and Design</td>
<td>Winter</td>
<td></td>
</tr>
<tr>
<td>MGMT-4160</td>
<td>Telecommunications for Business</td>
<td>Winter</td>
<td></td>
</tr>
<tr>
<td>MGMT-4960</td>
<td>Data Resource Management</td>
<td>Winter</td>
<td></td>
</tr>
</tbody>
</table>

#### Technological Entrepreneurship

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Description</th>
<th>Semester</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT-4520</td>
<td>Introduction to Technological Entrepreneurship</td>
<td>Winter</td>
<td></td>
</tr>
<tr>
<td>MGMT-4510</td>
<td>Invention, Innovation, and Entrepreneurship</td>
<td>Winter</td>
<td></td>
</tr>
<tr>
<td>MGMT-4530</td>
<td>Starting Up a New Venture</td>
<td>Winter</td>
<td></td>
</tr>
</tbody>
</table>

#### Restricted Elective (choose one from three below)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT-4130</td>
<td>Enterprise IT Integration</td>
</tr>
<tr>
<td>MGMT-4150</td>
<td>IT Project Management</td>
</tr>
<tr>
<td>MGMT-4550</td>
<td>Business Models for Digital Enterprise</td>
</tr>
</tbody>
</table>
Minor Programs
The Lally School also offers undergraduate minor programs for management students or Rensselaer stu-
dents majoring in other fields. Lally students also may pursue a minor outside of the management school. Management majors typically use electives in their program as minor course work in complementary fields such as communications, computer science, economics, industrial and management engineering, or psy-
chology. However, 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 stu-
dent’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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT-1100</td>
<td>Introduction to Management</td>
<td></td>
</tr>
<tr>
<td>MGMT-2300</td>
<td>Accounting for Decision Making</td>
<td></td>
</tr>
<tr>
<td>MGMT-2320</td>
<td>Managerial Finance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Restricted Elective (see minor adviser)</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT-1100</td>
<td>Introduction to Management</td>
<td></td>
</tr>
<tr>
<td>MGMT-4510</td>
<td>Invention, Innovation, and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Entrepreneurship</td>
<td></td>
</tr>
<tr>
<td>MGMT-4530</td>
<td>Starting Up a New Venture</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT-1100</td>
<td>Introduction to Management</td>
<td></td>
</tr>
<tr>
<td>MGMT-4430</td>
<td>Marketing Principles</td>
<td></td>
</tr>
<tr>
<td>MGMT-4470</td>
<td>Marketing Research</td>
<td></td>
</tr>
<tr>
<td>MGMT-4490</td>
<td>Advertising Strategy and Promotions</td>
<td></td>
</tr>
<tr>
<td>MGMT-460</td>
<td>Consumer Behavior and Product design</td>
<td></td>
</tr>
</tbody>
</table>

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

Such options can be arranged with the information technology program or within the schools of engi-
neering, 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 proj-
ects. 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 appli-
cants 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 15 schools in 13 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.

For more information about this program, contact the International Exchange Program Coordinator, at (518) 276-2388 or e-mail sandsr@rpi.edu or 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 sandsr@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 Lally MBA provides students with breadth and depth in managerial skills and technological acumen. 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 assist with orientation, academic advising, career development, employment preparation, and job placement opportunities. Other resources include the Severino Center for Technological Entrepreneurship and the Graduate Management Student Association. Activities within these organizations include 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 an alumni networking wine-tasting social. Additional information on these activities may be found at http://lallygrad.mgmt.rpi.edu/index.asp.

Co-op and internship experiences are available to all Lally graduate students. Co-ops are arranged through the Rensselaer Career Development Center’s (CDC) co-op office and work experience should be related to a student’s degree program. The co-op must be approved by a student’s academic adviser. Internships are arranged through the CDC, Lally Career Resources, or by the student. They can be taken as a full-time summer job and/or as a part-time job during the academic year.

Co-op job opportunities are varied, depending on the student’s skills and area of specialization, and are available in business, industry, and government. Lally students have been on co-op assignments at a variety of firms including General Electric, Kodak, Pratt and Whitney, and Boeing, as well as in start-up companies and small- and medium-sized local businesses.

Rensselaer requires all students to be full-time and in residence for at least nine months in order to participate in a co-op experience. Students also must have at least 12 credits remaining in their program at the conclusion of the co-op in order to participate. The structure of the MBA program enables students to complete a full-time co-op during the summer semester after their first nine months of study. Students are expected to return in the fall semester as full-time students. However, if the opportunity to continue the co-op exists, the student may continue working on a part-time basis while registered as a full-time student through the fall term by applying for a co-op extension. The Lally Graduate Student Services, the CDC, and the International Student Services office must approve a co-op or internship for any international student prior to accepting an offer.

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:

- The academic program must specialize and focus on management and technology.
- 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 sequential courses is required, as well as one elective course.
- 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 sequence 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

■ Strategy and technological entrepreneurship
■ Management of information systems
■ Finance
■ New product development and marketing
■ Production and operations management
■ 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 with their associated courses, visit http://lallygrad.mgmt.rpi.edu/concentration.

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 business innovation and entrepreneurship.

The curriculum provides a strong grounding in managerial fundamentals while highlighting the role that technology plays in business development and competitive advantage. This 60-credit residential MBA is a comprehensive 21-month program.

In the first nine months of the program, students take fundamental business courses that provide them with the tools and capabilities expected of all managers in a professional capacity. A summer work experience is an important part of the MBA program. Options include working for companies ranging from Fortune 500’s to local start ups associated with the Rensselaer Entrepreneurship Interns Program (REIP).

In the final nine months of study, students complete three more fundamental business courses, including a two-course strategy capstone sequence and a course covering ethical, political and legal aspects of business. The remaining courses are comprised of select elective courses from one of the six designated MBA concentrations.

The core courses in the MBA program are as follows:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT-696x</td>
<td>Statistical Concepts and Methods for Managers (Orientation)</td>
<td>MGMT-6510</td>
<td>Design, Manufacturing, and Marketing I</td>
</tr>
<tr>
<td>MGMT-6962</td>
<td>Decision Making Models for Management</td>
<td>MGMT-696x</td>
<td>Microeconomics in Global Perspective</td>
</tr>
<tr>
<td>MGMT-6190</td>
<td>Financial and Managerial Accounting</td>
<td>MGMT-6800</td>
<td>Ethical, Political, and Legal Context of Business</td>
</tr>
<tr>
<td>MGMT-696x</td>
<td>Macroeconomic and Financial Environment of Business</td>
<td>MGMT-6650</td>
<td>Technology and Competitive Advantage (capstone)</td>
</tr>
<tr>
<td>MGMT-6510</td>
<td>Design, Manufacturing, and Marketing I</td>
<td>MGMT-6660</td>
<td>Strategy, Technology, and Entrepreneurship (capstone)</td>
</tr>
<tr>
<td>MGMT-6965</td>
<td>Behavior in Technology Intensive Organizations w/Lab</td>
<td>MGMT-696x</td>
<td>Gary Craig ’68 Career Seminar (required both fall and spring)</td>
</tr>
<tr>
<td>MGMT-6140</td>
<td>Information Systems for Management</td>
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</tbody>
</table>
The remaining courses in the 60-credit program include eight electives (24 credits):

- One (three credit) elective in the first nine months of study.
- Seven electives (21 credits) in the last nine months of study, one focused on International Business issues.

**The DMM Sequence**

The centerpiece of Lally’s innovative MBA program is the core course sequence in Design, Manufacturing, and Marketing I and II. The DMM experience is a year-long integrated team-based product-development course that is widely recognized as a unique educational experience. Under the leadership of a team of cross-disciplinary faculty, teams of students develop a new product and follow the new-product development process from conception to planning for commercialization. Utilizing Rensselaer’s technological resources, team projects may have the opportunity to become a capitalized venture with an eventual destination in the Rensselaer Incubator or Technology Park. Recent DMM start-ups include Request.com, Teircent Corporation, and Orca Gear Incorporated. The DMM milestones are outlined below:

**DMM I & II—Milestone Overview**

**First 14 Weeks: Milestone I**
- Market Structure
- Customer Market
- Target Market
- Product Idea Generation
- Casing the Competition
- Legal Propriety
- Concept Testing
- Understanding Buyer Needs

**Second 14 Weeks: Milestones II & III**
- Product Design
- Product Manufacturing
- Manufacturing Costs/Sales
- Current Market
- Marketing Strategy
- Product Launch

Future Opportunities for DMM Teams include business plan competitions, the Rensselaer IDEA Lab, the venture B-Plan series, the Rensselaer Incubator, and the Rensselaer Technology Park.

MBA students may wish to select a concentration from the six concentration options listed below, or they may develop a customized management and technology concentration in conjunction with their adviser.

**MBA Concentrations**

- Strategy and technological entrepreneurship
- Management of information systems
- Finance
- New product development and marketing
- Production and operations management
- Environmental management and policy

Lally graduate students can take courses in other Rensselaer schools as a part of the Lally School’s interdisciplinary initiative.

Full-time MBA students have the opportunity to participate in Lally’s International Exchange Program after completing 12 months of the MBA program. A semester in a leading Western European or Asian business school is available to students wishing to expand their global network.
Dual Master’s Programs
The dual degree option offers students the opportunity to receive two master’s degrees from Rensselaer. It is an opportunity to combine technical expertise from the information technology program or the schools of engineering, science, architecture, and humanities and social sciences, with a management M.S. or MBA degree in a shorter period of time than if pursued independently.

The joint MBA program allows a student to complete both degrees by taking a total of 72 credit hours (an MBA alone is 60 credits, and most M.S. degree programs are 30 credits). Upon acceptance to both programs, students confer with academic advisers in both disciplines to determine the plan of study. Plans of study are submitted for both degree programs and separate diplomas reflect a degree in each discipline. Additional dual degree options combine two 30-credit M.S. programs. Joint M.S. programs allow the student to receive two master’s degrees by completing 54 credit hours.

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:

- 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.

- Certificate Programs—Specialized executive programs for working professionals from China in such areas as “The Management of Software Development Firms.”

- Sino-U.S. Center for China Enterprises Strategic Studies (SUCCESS)—This on-campus research center is dedicated to the analysis of small- to medium-sized enterprises operating in China. Activities include study trips to China, hosting visiting professors from China, and supporting doctoral-level research.

- 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 for EMBA’s technically oriented management curriculum, which takes advantage of the Institute’s strengths in scientific and technological education and research. The program is cohesive; each course builds upon previous courses while laying the foundation for upcoming courses. In addition, all members of an EMBA class take classes together during the two-year time period. 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:

- Entrepreneurship
- Innovation
- New product development
- Information technology
- Financial technology
- 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 tradition 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 this 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 a field exam. 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, management of information systems, and 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:

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

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 China, Britain, Scandinavia, Italy, France, Germany, Argentina, Mexico, Chile, Singapore, Australia, Canada, 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 double-blind academic peer review.
Research conducted by the Lally School is often featured at conferences sponsored by the Academy of Management, INFORMS, PICMAN, Academy of International Business, 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.

**New Product Development and Radical Innovation**
In this arena, researchers concentrate on understanding the management processes leading to the development of successful new products. Research topics include consumer and business marketing, intellectual property management, managing innovation, and identifying breakthroughs from a marketing standpoint. Related research focuses on how managers in medium- and large-sized organizations manage radical, breakthrough innovations and compares these practices to those associated with incremental, continuous-improvement types of new product-development processes.

**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 financial institutions, financial markets, and corporate financial management. This area focuses on the interface between technological shifts and practice in the financial services industry and the functioning of capital markets. The second application pertains to the financing of new technological ventures and high technology. This area focuses on private equity; venture capital markets; and the implications for regulatory, macroeconomic, and firm-level influences on industry development. The above two areas of research are further explicated by a third research specialty in computational finance or financial engineering.
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 a more 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.

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

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).

Simon, D.—Ph.D. (University of California, Berkeley); international business strategy, global management of technology, and China business and technology issues. (Dean)

Simons, G.R.—Ph.D. (Rensselaer Polytechnic Institute); industrial and management engineering, production and operations management, project planning and control, manufacturing systems.

Clinical Professors

Abetti, P.A.—PE., 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.

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

Leifer, R.P.—Ph.D. (University of Wisconsin); organizational behavior and organizational design, management information systems.

* 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 2003 Board of Trustees meeting.
McDermott, C.—Ph.D. (University of North Carolina, Chapel Hill); manufacturing strategy, operations 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 ’46 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.

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.

Corbett, A.—Ph.D. (University of Colorado, Boulder); entrepreneurship.

Golden, T.—Ph.D. (University of Connecticut); organizational behavior, human resource management.

Hollingworth, D.—Ph.D. (University of Minnesota); operations 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.

Nambisan, S.—Ph.D. (Syracuse University); information systems.

Nelson, M.—Ph.D. (University at Albany, SUNY); information systems.

O’Connor, G.—Ph.D. (New York University); marketing, product management.

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

Dickinson, L.B.—Ph.D. (Rensselaer Polytechnic Institute); management information systems.

Morgan, I.W.—MBA (University of Chicago); finance.

Murtagh, J.P., Jr.—Ph.D. (Rensselaer Polytechnic Institute); investment analysis and financial services.

Robbins, R.W.—M.S. (Binghamton University); accounting, information systems implementation.

Sands, R.—M.S., MBA (University at Albany, SUNY); 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.

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

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

Russell, S.—Ph.D. (The Fielding Institute); human organizational systems.
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.
Emiliani, M.L.—Ph.D. (Brown University); supply networks, lean business management, technology management, operations.
Kelly, L.J.—Ph.D. (University of Connecticut); statistics, operations, management engineering.
LaPlaca, P.J.—Ph.D. (Rensselaer Polytechnic Institute); marketing.
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.
Slangen, G.H.—Ed.D. (University of Massachusetts); human resources.

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.
Grasso, L.P.—Ph.D. (Boston University); accounting, finance.
Jenkins, F.C.—MBA (University of Pennsylvania); finance, acquisitions and mergers.
Klein, H.E.—D.B.A. (University of Kentucky); accounting, finance.
Maleyeff, J.—Ph.D. (University of Massachusetts); statistics, operations, management engineering.
Olson, P.W.—Ph.D. (Columbia University); international marketing.
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.
Chase, R.—Ph.D. (University of Southern California); marketing, promotion strategy.
Ilovici, I.—Ph.D. (University of Connecticut); management information systems.
Peteros, R.G.—J.D. (Visiting) (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.