

M.S.in Technology Commercialization & Entrepreneurship

2 - Required Professional Development & Career Workshops

MGMT 7770 Prof. Development Workshop 1/Career Workshops

The PDW sequence is designed to develop the professional skills of students in the MS Programs that are needed to be a successful contributor in a business setting. PDW I follows a framework of Leadership, Followership, and Membership in a professional community. Students will gain practical experience through exposure to experts in specific skill areas, role play and practice sessions, and exercise completions. The fall semester concentrates on individual skills development in presentation, communication and networking. Additionally, membership in one's professional community will be emphasized through engagement in two activities specific to the student's MS Program. Building on the skills and abilities obtained earlier in your career, this PDW is geared toward a higher level of professionalism inherent in a successful business environment.

MGMT 7780 Prof. Development Workshop 2/Career Workshops

The PDW sequence is designed to develop the professional skills of students in the MS Programs that are needed to be a successful contributor in a business setting. The PDW II will continue to follow a framework of Leadership, Followership and Membership in a professional community. Students will gain practical experience through exposure to experts in specific skill areas, role play and practice sessions, and exercise completions. The second semester emphasizes developing influence skills, understanding and shaping group dynamics, and navigating organizational politics. Additionally, membership in one's professional community will be emphasized through engagement in four hours of activities specific to the student's M.S. program.

5 - Required Business Core:

MGMT 6040 Talent Management

This course is designed to develop skills in understanding human behavior in organizations and how to effectively manage the talent that resides within employees. Students will learn about essential aspects of managing and developing talent, including individual differences, employee hiring, motivation, team dynamics, leadership, and influencing others. Through a discussion of concepts in human behavior, students will learn useful analytical frameworks for understanding the complexities of managing talent in order to best achieve organizational success.

MGMT 6060 Business Implications of Emerging Technologies

This course investigates the business dimensions of major technological advances, highlighting how industry structures an organization, the dynamics of competition, patterns of innovation, operational decisions, and financial investment are all influenced by various types of technical breakthrough. Students also get to explore the interplay between emerging technology development and commercialization. The challenges

associated with intellectual property protection and utilization, as well as the socio-economic and ethical dimensions of new technology adoption, are explored. Each year, a different set of key technologies will be examined and analyzed.

MGMT 6190 Introduction to Accounting and Financial Management

This course introduces accounting and financial management to first-semester M.S. students. The interpretation and preparation of basic financial statements such as the balance sheet and income statement are introduced along with relevant regulation and practice. In addition, the course introduces the student to basic financial concepts and techniques such as time value, risk, equilibrium asset pricing models, capital budgeting, cost of capital and capital structure and discusses their applications in practice.

MGMT 6590 Commercializing Advanced Technologies

This 3-credit course views potential breakthrough innovation from the perspective of the project manager, either in the firm or as a startup organization. The course offers methods and frameworks for commercializing nascent technologies that offer potentially breakthrough value to the market and, therefore, enormous reward for the firm. Additionally, legal and ethical consequences are considered.

Choose one:

MGMT 6620 Introduction to Principles of Technological Entrepreneurship

An introductory graduate course in initiating new technology-based business ventures and developing them into self-sustaining and profitable enterprises. Examines the process whereby a person decides to become an entrepreneur, screens opportunities, selects an appropriate product/market target, and obtains the necessary resources. Provides the theoretical and practical knowledge for the preparation of formal business plans. Students enrolled in the full-time MBA program cannot use this course on the Plan of Study. This course is intended for students enrolled in the part-time MBA, M.S. in Management or those seeking degrees in other schools at Rensselaer.

MGMT 6700 Corporate Entrepreneurship

Organizations that increase their capacity for entrepreneurship build a foundation for long-term competitiveness. This course examines how organizations can build management systems to enable entrepreneurial activities while simultaneously addressing current operational concerns. This tension differentiates the corporate entrepreneurial challenge from the start-up venture. The course focuses on both the organizational and project levels, studying how organizations can build an entrepreneurial capacity and how project champions can ensure their projects are effectively evaluated, supported, and managed.

2 – *Law Courses:

MGMT 6007 Contracts I

In the Fall and Spring semesters, Contracts will cover the principles governing the formation of the contract relation; reality of consent; capacity of the parties; consideration; legality of subject matter; form required under the Statutes of Frauds; construction and operation of contracts; methods of discharge; illegal arrangements; remedies for breach; statutory modifications of common law principles; and various sections of Article Two of the Uniform Commercial Code. We will also discuss why the theory of contract formation is at odds with the reality of ubiquitous form contracts and contracts of adhesion.

MGMT 6007 Cyberspace Law (Spring) Taught online

This graduate level course exposes students will provide students with an opportunity to review and understand how the internet influences and changes legal analysis, either by changing the focus of legal reasoning or by changing statutory rules for behavior online (and off). Topic areas will include jurisdiction, freedom of speech, content online, control over the Internet, and others, all in the explicit context of today's information society.

3 – Technology Core under one of 3 Tracks - See sample courses from each track below:
Stem Technology – e.g. *Engineering Science, Materials Science, IT, Computer Science or Biology Biomedical Engineering etc.*

BMED 6550 Cell Biomechanics

This is an undergraduate/graduate course on the mechanics of biopolymers, cell cytoskeleton, cell membrane, the whole cell, and multicellular structures in the context of the modulation of cell function by mechanical stresses. Topics include state-of-the-art experimental techniques in cell biomechanics, and cutting-edge research in stem cell mechanobiology, cell motility, collective cell behavior, neurite growth, osteocyte sensing, cardiovascular diseases, and immunology.

BMED 6700 Ethical Issues in Biotechnology

This discussion course reviews the principles of ethical behavior and responsible conduct of research and then discusses specific areas of biotechnology research, medical research, and societal issues in the context of these principles. Representative topics include genetic engineering, stem cell research, assisted reproduction, human subjects, animal research, and nanotechnology. Class performance is dependent on active participation and discussion, student presentations, and the submission of analytical essays.

BIOL 4400 Bioterrorism, Biowarfare & Biodefense

Policy

STSS 4310 Energy Politics

Through lectures and in-class discussions, this course explores the history, domestic and international politics, policy, philosophy, economics, environmental consequences, media coverage of, and alternatives to, the US addiction to fossil fuels. Students, who may earn either humanities or social science credit, maintain analytical blogs with twice-weekly posts or write and present semester-length research papers, take a midterm exam and a comprehensive final exam. This is a communication intensive course. Satisfies the PDI II Requirement.

STSS 6961 Epochal Technologies

STSS 4962 Economics, Technology & Sustainability

Technology Management

MGMT 6630 Starting Up a New Venture

An understanding of the critical issues related to starting up a new business is gained through team-based experiential learning. Small teams of students develop a comprehensive business plan that can be used to raise money for a new or relatively new venture. The experiential learning process is enhanced through team meetings with faculty and/or course advisers and through oral presentations to the entire class.

MGMT 6260 Entrepreneurial Finance

The overall objective of this course is to understand how entrepreneurs and investors create value, noting that their interests do not always coincide. This involves learning about topics, which trace out the “venture capital cycle”: opportunity recognition; valuation and evaluation; negotiation; structuring financing contract; managing investment; exit strategy. This course is structured into three modules: valuation, private equity market, and harvesting entrepreneurial value.

MGMT 6580 Marketing High-Tech Products

This course deals with the peculiarities of marketing products and services in high-tech environments. High-tech environments are characterized by high dynamism, high uncertainty, and compressed time cycles. The course consists of case studies, computer simulations, and a team project.

Technology Management Electives List:

MGMT 6640 – Invention, Innovation, and Entrepreneurship

Creativity is the starting point for technological entrepreneurship. Through interaction with faculty and guest speakers, students increase their understanding of the creative process and some of the tools that can be implemented to stimulate and/or manage individual and collective creativity. In addition, through application of these techniques in course activities, students explore and attempt to enhance their own creativity.

MGMT 6260 – Entrepreneurial Finance

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MGMT 6630 – Starting Up a New Venture

An understanding of the critical issues related to starting up a new business is gained through team-based experiential learning. Small teams of students develop a comprehensive business plan that can be used to raise money for a new or relatively new venture. The experiential learning process is enhanced through team meetings with faculty and/or course advisers and through oral presentations to the entire class.

MGMT 6530 – Making Business Happen

Analyze the process of identifying prospective markets and customers, developing channels, defining the value proposition, selling products and services, and managing a sales force. Learn about tools ranging from customized consultative sales to commodity brokering, customer relationship management systems to trade press articles. Develop the skills to effectively listen, recognize opportunity, verbally persuade, handle objections, and prospect. Develop an understanding of customer needs, approach strategies, and effective presentations.

MGMT 6580 – Marketing High-Tech Products

This course deals with the peculiarities of marketing products and services in high-tech environments. High-tech environments are characterized by high dynamism, high uncertainty, and compressed time cycles. The course consists of case studies, computer simulations, and a team project.

MGMT 7070 – Managing on the Edge

This course investigates the challenges of managing and leading organizations in situations characterized by their non-linear, unpredictable nature. Students will be challenged to develop innovative responses and solutions, drawing upon the full array of knowledge, skills, and insights they have gained from their two years of MBA study. Along with learning to deal with risk and uncertainty, the soon-to-be MBA graduates will be prepared for addressing the increasing degrees of fluidity and turbulence found in today’s business, economic, and competitive environments.