MASTER OF SCIENCE IN INFORMATION SYSTEMS

Program Overview

The Information Technology (IT) job market continues its rapid growth as the lower cost of developing applications and expanding user platforms creates additional demands for qualified IT employees. The Master of Science in Information Systems is a STEM designated degree designed for early to mid-career professionals who aspire to become CTO's / CIO's or rise to other senior management roles in career tracks that have a significant technological component. Such career advancements are possible through multiple pathways because of the role of technology in every aspect of an organization's functioning. This program helps students to develop the knowledge and skills needed to evaluate IS for a business organization and develop and implement the appropriate IT strategies, all while attending to the ethical and legal implications of data and technology-related issues. The program also provides students with practical experience to develop their professional communication skills and ability to work with others in diverse environments to solve IT problems.

Curriculum Overview

The Rider MS in Information Systems curriculum includes prerequisite, core and elective classes. Depending on the background of the individual student, completion of the degree may require between 30-36 credits. Rider's Norm Brodsky College of Business is accredited by the AACSB International (http://www.aacsb.edu/) (Association for the Advancement of Collegiate Schools of Business), a distinction held by fewer than 4% of business programs worldwide

Classes for the program are offered in the evening, Monday through Thursday, with some courses offered online. Students may enter the program in the fall, spring or summer semesters and can elected to pursue the MS in Information Systems on a full or part-time basis. Students who would like to complete the program within a year must start in the fall or spring. Courses are taught in small sections, usually by full-time faculty holding doctoral degrees. Faculty are engaged in research in their fields and have business experience as well.

Degree Offered

- Master of Science in Information Systems

Contact

Morteza Mashayekhy, Ph.D.
Associate Professor
Director of MSIS Program
Sweigart Hall
mmashayekhy@rider.edu

Program Website: (https://www.rider.edu/academics/colleges-schools/norm-brodsky-college-business/graduate/ms-information-systems/) Master of Science in Information Systems (MSIS)

Associated Department: Norm Brodsky College of Business, Graduate Programs (https://www.rider.edu/academics/colleges-schools/norm-brodsky-college-business/graduate/)

Master of Science in Information Systems Program

(30 credits)

Code	Title	Credits
Required Business Core		**6**
PMBA 8210	Information Technology Management	
PMBA 8250	Operations & Supply Chain Management	
Required Information Systems Core		**18**
PMBA 8311	Information Security for the Enterprise	
PMBA 8314	Project Management	
PMBA 8317	Applied Data Management for Business Users	
PMBA 8318	Business Analysis and Design	
PMBA 8352	Design Thinking and Innovation	
PMBA 8353	Digital Futures	
Elective Courses		**6**
Select two of the following:		
MACC 672	Information Technology Auditing	
PMBA 8260	Mkt Analysis & Decision Making	
PMBA 8270	Advanced Organizational Behavior	
PMBA 8290	Legal and Ethical Aspects of Management	
PMBA 8312	Business Intelligence Tech-Data Mining	
PMBA 8315	Globalization and Technology	
PMBA 8326	Principles of Risk Management	
PMBA 8351	Business Analytics Fundamentals	
PMBA 8355	Visual Analytics	
PMBA 8358	Data-Driven Strategies for Business	
PMBA 8403	Sport Analytics	
PMBA 8902	Independent Studies in Business Administration	
PMBA 8905	Internship	
Total Credits		**30**

Foundation Curriculum

(6 credits)

This section applies to students with a non-business undergraduate degree or those who have outdated course work that does not meet the waiver requirements.

Code	Title	Credits
Foundation Curriculum [1]		
PMBA 8010	Information Technology Proficiency	1.5
PMBA 8051	Fundamentals of Statistical Analysis	3
PMBA 8052	Models and Methods of Operations Management	1.5
Total Credits		**6**

[1] Students must earn a minimum grade of B in each foundation course.

MS in Information Systems –Waiver of Foundation Courses

A waiver of a course from foundation requirements may be granted under the following conditions:

I) *PMBA foundation class is waived based on previous undergraduate coursework if:*

- Student has taken the equivalent course less than six years ago and received a grade of B or above.
- Student has taken the equivalent course more than six years ago and received a grade of B or above and utilizes the knowledge in their professional position on a regular basis, as determined by the Dean's Office.

II) *PMBA foundation class is waived upon the proficiency assessment or successful completion of a review short-course if:*

- Student has taken the equivalent course less than six years ago and received a grade of B- or C+.
- Student has taken the equivalent course more than six years ago and received a grade of B or better.
- Student has taken the equivalent course more than six years ago and received a grade of B- or C+ and utilizes that specific knowledge in their professional position on a regular basis, as determined by the Dean's Office.

III) *PMBA foundation class must be taken if:*

- Student has never taken the undergraduate equivalent class.
- Student received below a C+ in the class, regardless of when it was taken.

In all cases, the comparable undergraduate courses must have been taken from an accredited school.

If a student is granted a waiver for any foundation requirements, the student is responsible for a satisfactory level of competency with the representative material. If necessary, the student should review and/or seek tutoring support for the waived material in preparation for advanced courses. Any appeal of a waiver decision based on previous coursework must be made to the Dean's Office within the first semester of the program.

Courses and Descriptions

PMBA 8210 Information Technology Management 3 Credits
This course introduces the theory and practice of Information and Communication technologies deployment in organizations. This includes planning, analysis, design, and implementation of computer-based management information systems (MIS). The course emphasizes an understanding of emergent cutting-edge technological phenomena and the effect of information systems on the practice of management.

PMBA 8250 Operations & Supply Chain Management 3 Credits
This course provides MBA students with the current knowledge and practice of operations and global supply chain management. Supply chain management has become one of the most important and talked about topics in business in recent years. Many companies have realized that they can reduce their costs, increase profits, and increase customer satisfaction by improving their supply chain practices. It is also evident that most supply chains extend beyond the borders on the U.S., and consequently, have global components and challenges. This course is designed to prepare students to meet operations and supply chain related challenges in their careers.
Prerequisite(s): Completion of PMBA 8051 and 8052.

PMBA 8260 Mkt Analysis & Decision Making 3 Credits
The purpose of the course is to provide the analytical skills required to understand complex marketing situations in order to develop and implement appropriate marketing strategies. The decision-making processes in the management of product planning, pricing practices, selection of channels of distribution and development of effective promotion programs are investigated. This involves identification and selection of appropriate target markets, the effective use of marketing research and recognition of organizational dynamics. The case approach is used to develop communication skills and further build team skills as students interact with peers in solving problems.
Prerequisite(s): PMBA 8060.

PMBA 8270 Advanced Organizational Behavior 3 Credits
A study of key individual, group, and organizational processes. At the individual level, the focus is on different personalities, job attitudes, and work motivation. The implication of individual factors is then considered in a team context focusing on the processes of communication, influence, conflict, and leadership. Finally, we examine the impact of organizational culture and change on workplace behavior. In order to integrate the individual, group, and organizational levels of study, the course emphasizes a team-based approach to learning.
Prerequisite(s): PMBA 8070.

PMBA 8290 Legal and Ethical Aspects of Management 3 Credits
The purpose of this course is to prepare students to meet the legal, ethical, and regulatory challenges and opportunities they will encounter as they conduct business as managers and entrepreneurs. To excel, managers and entrepreneurs must recognize that the law is important to firm success and that they must always consider the legal ramifications of their business decisions. Students will learn how to identify legal and ethical issues before they become legal problems and how to communicate and work collaboratively with legal counsel. The course begins with an overview of business ethics and social responsibility and goes on to cover the U.S. court system and the laws of contracts, torts, and intellectual property. The course covers corporate governance issues including the fiduciary duties of officers, directors, and controlling shareholders, public and private offerings of securities, and securities fraud. Environmental regulation, product quality, legal aspects of the employment relationship (as they relate to the liability of the corporation and managers for the acts of their employees), wrongful termination, discrimination, and sexual harassment will also be covered.
Prerequisite(s): Completion of MBA pre-program courses.

PMBA 8311 Information Security for the Enterprise 3 Credits
This course will teach students how businesses can implement security policies which will protect their significant investment in computer systems. The course topics include but are not limited to security attacks, attack prevention and mediation and security audits. Security devices, firewalls, PC and server security, authentication methods and procedures, and network security will all be discussed. The course will be delivered through a combination of hands-on labs where students will evaluate and implement computer security on computers, and class lectures.
Prerequisite(s): PMBA 8210.

PMBA 8312 Business Intelligence Tech-Data Mining 3 Credits
In this course, students will learn to solve problems/exploit opportunities by processing datasets, interpreting results, and deploying solutions. This course provides hands-on experience with these tasks. Upon this base of experience, students will build a robust data mining methodology that can be applied to real-world investigations. The course of study will include Online Analytical Processing (OLAP), statistical and machine learning techniques, and unstructured text analysis. Students will learn to apply these techniques through the study of payroll, procurement, and expense report fraud. Cell phone and credit card fraud, credit and bankruptcy analysis, and customer relationship management will also be covered.

PMBA 8313 Electronic Commerce 3 Credits
Electronic commerce involves the use of information technology to improve, enhance, simplify or enable business transactions. This course examines such business, social, and technical issues of electronic commerce as the technology of the Internet, effective system strategies to attract and maintain customers, security, and electronic payment systems.
Prerequisite(s): Completion of MBA pre-program courses.

PMBA 8314 Project Management 3 Credits
In our complex world of global economies and pervasive technology, change is constant. It is a persistent challenge to manage this change. It is the body of knowledge that is project management that helps managers address this change. This course will introduce students to project management for a variety of disciplines. The methods and techniques taught will be applicable not only to software development, but to any series of tasks that could constitute a project. The course content will cover the identification, approval, and management of complex projects. Various project management tools, techniques, and approaches will be covered.

PMBA 8315 Globalization and Technology 3 Credits
The emergence and growth of the global economy constitutes an epochal shift in the organization of the world. Technology has been a key component in the production and acceleration of these phenomena. This course introduces students to the latest theoretical and empirical literature on globalization as shaped by technology.
Prerequisite(s): Completion of MBA pre-program courses.

PMBA 8316 Application Development for the Web 3 Credits
This class will examine application development for the Web platform in detail. Through a combination of lecture and labs, students will learn the architecture of Web applications and the skills needed to develop applications using that architecture. Specific skills learned include programming with the JavaScript programming language, creating Web pages using the HyperText Markup Language (HTML) and Cascading Style Sheets (CSS). Other skills learned in this course include how to create user-friendly user interfaces, and how to retrieve and update information stored on computer servers.
Prerequisite(s): PMBA 8210.

PMBA 8317 Applied Data Management for Business Users 3 Credits
Learn the benefits of data sharing in a business organization , the benefits of the relational database model, how data is structured in a relational database model, and how data can be accessed in a relational database using the structured query language (SQL). The process of formatting, loading, and accessing data for data analytics will be shown as well as the interaction with data warehouse schemas such as the star schema and snowflake scheme.

PMBA 8318 Business Analysis and Design 3 Credits
This course will integrate the skills of business analysis with those of system design. Students will learn a dynamic visioning/planning process which will guide the development of a technology architecture model for the business enterprise. Students will learn requirements elicitation techniques and use cases. Design methods such as object modeling and prototyping and data modeling with enterprise relationship diagrams will also be covered.
Prerequisite(s): PMBA 8210.

PMBA 8351 Business Analytics Fundamentals 3 Credits
This course introduces (i) data analysis tools that are appropriate for generating useful information for decision-making and (ii) a framework for analyzing decisions based on partial information. Examples from financial analysis, marketing, and operations management are used to illustrate applications of the topics covered. Microsoft Excel and associated add-ins are used for the purpose of analysis. Students who have earned credits for CIS 350 or equivalent cannot take PMBA 8351 for credit.
Prerequisite(s): PMBA 8051.

PMBA 8352 Design Thinking and Innovation 3 Credits
This graduate course on Design Thinking and Innovation provides students with a framework for dealing with unstructured problems, and for managing the innovation process. This course introduces students to design thinking as a systematic approach to innovation, but also guide students through the process to identify and translate broadly defined opportunities into actionable innovation possibilities. Students who have earned credits for CIS 388 or equivalent cannot take PMBA 8352 for credit.
Prerequisite(s): PMBA 8210.

PMBA 8353 Digital Futures 3 Credits
This course is a holistic course drawing on all areas of Information Technology. It leverages the in-depth understanding of Technology that MSIS students possess and transforms such knowledge into a new skill set of strategic leadership development at the level of the firm, economy and society. It will enable the student to assess and respond to challenges in their current work environment as well as develop strategic leadership capacity going into the future. Case studies and readings will familiarize students with literature on rapid technology-led transformations such as Schumpeterian theories of 'creative destruction' and derivative theories of technological restructuring at the scale of an industry such as disruptive technology/innovation. Students will be engaged in a discussion of multi-firm cases of strategic innovation and will examine policy decisions by the firm and various ethical dilemmas engendered by technological changes of the last four decades.
Prerequisites: PMBA 8210.

PMBA 8355 Visual Analytics 3 Credits
This graduate course will equip the students with the fundamental skills to perform visual analytics with Tableau. Specifically, students will learn how to prepare a dataset for visual analysis, and how to "tell a good story" using basic and advanced visualizations. At the completion of this course, students will be able to apply best visualization practices and create effective visualizations to convey analytical insights to a business audience. Students who have earned credits for BDA 205 or equivalent cannot take PMBA 8355 for credit.
Prerequisite(s): PMBA 8351.

PMBA 8358 Data-Driven Strategies for Business 3 Credits
In this course, several real-world business problems will be presented as case studies for the application of descriptive, predictive, and prescriptive analytics. Relevant business areas for these problems include online recommendations, healthcare, sports management, marketing, and revenue management. Through these business case studies, students will (1) define a real-world problem in the context of business analytics (2) develop hands-on experience on implementing analytics methodologies (3) learn to derive and communicate insights from analytics results and (4) practice the formulation of data-driven strategies.
Prerequisite(s): PMBA 8051, PMBA 8351.

PMBA 8360 Artificial Intelligence Fundamentals 3 Credits
Artificial Intelligence (AI), a vast array of technologies that simulate human intelligence, is a driving force in modern innovation. It transforms traditional tasks like speech and facial recognition, decision-making, and language translation. Generative AI, in particular, is among today's most impactful and disruptive technologies, reshaping multiple industries. However, despite AI's rapid growth, there remains a significant global talent shortage, with the gap projected to widen. For recent graduates, a career in AI or machine learning offers not only strong earning potential but also high demand and long-term stability. This course is designed specifically for graduate students. It provides a solid foundation in AI and its real-world applications in business and addresses the ethical considerations tied to AI's influence. More than just an introduction, it is a vital stepping stone for students preparing to enter the rapidly evolving AI field.