Module Descriptions

LEADERSHIP & TEAM DEVELOPMENT This module offers an introduction to, and an overview of, the concepts of leadership and team development. This module will provide a framework and rationale for the team/cohort learning model in an organizational context. Emphasis is placed on the application of concepts to real managerial problems and issues. This module will use a combination of conceptual and practical approaches, lectures, discussions, case studies and group exercises. The differences between leadership and management will be explained.

COMMUNICATION Building on the students' experience in the first module, this module blends research, theory and practice in the art of effective team communication, presentation and facilitation skills, team dynamics, and written skills to create a dynamic contribution to the overall effectiveness of any organization. Each student comes to this course with expertise and experience. This module will reinforce individual strengths, identify areas of growth and set goals for development in the cohort as well as in the workplace.

FOUNDATIONS OF INFORMATION SYSTEMS This module is designed to introduce students to contemporary information systems and demonstrate how these systems are used throughout global organizations. The focus of this module will be on the key components of information systems: people, processes and technologies, and how these components can be integrated and managed to create competitive advantage. This module also provides an introduction to systems and development concepts, technologies and their acquisition, and various types of application software and architectures currently in use. In addition, the ethical and social implications of these components will be considered.

IT INFRASTRUCTURE This module provides an introduction to IT infrastructure. It covers topics related to both computer and systems architecture and communication networks, with an overall focus on the services and capabilities that IT infrastructure solutions enable in an organizational context. It gives students the knowledge and skills that they need for communicating effectively with professionals whose special focus is on hardware and systems software technology and for designing organizational processes and software solutions that require in-depth understanding of the IT infrastructure capabilities and limitations. It also prepares students for organizational roles that require interaction with external vendors of IT infrastructure components and solutions. The course focuses strongly on Internet-based solutions, computer and network security, business continuity, and the role of infrastructure in regulatory compliance.

PROFESSIONAL BUSINESS WRITING
This course focuses on effective writing techniques for professionals. Assignments include a business proposal, an employment letter, a memo, a performance evaluation, and interoffice correspondence. Since writing is a cumulative skill, an emphasis is placed on the revision process through online postings and in class peer feedback. Students learn to communicate professionally and succinctly using a variety of business formats. Students will refine grammar, punctuation, and proofreading techniques for clear, accurate writing. They will learn to define business issues, identify stakeholders, and apply best practices to propose well-supported recommendations. Emphasis will be placed on understanding audience, purpose, and message to create effective communication. Students will produce clear, concise business documents, such as memos, letters, and reports, while selecting appropriate tone, style, and form. The course also explores how organizational position impacts writing voice and communication strategy.

IT SECURITY & RISK MANAGEMENT This module provides an introduction to the fundamental principles and topics of Information Technology Security and Risk Management at the organizational level. Students will learn critical security principles that enable them to plan, develop, and perform security tasks. This module will introduce the student to understanding, managing, and controlling organizational risks associated with the implementation and use of IT solutions including protection of data and IT infrastructure from various security threats. The course will address hardware, software, processes, communications, applications, and policies and procedures with respect to organizational IT Security and Risk Management.

BUSINESS PROCESS MANAGEMENT: This course explores the concepts, methodologies, and tools essential for the design, implementation, management, and improvement of business processes. Students will learn how to align processes with organizational goals, enhance efficiency, and drive continuous improvement through business process management practices. This module will equip you with the skills to analyze and improve business processes, identify inefficiencies, and implement effective redesigns. You will learn to use process modeling tools, define relevant KPIs, and integrate technology to enhance efficiency, ultimately aligning processes with organizational goals and driving continuous improvement.

IS PROJECT MANAGEMENT This module is an applied study of modern techniques and approaches to the management of IT projects: project planning, outsourcing versus in-house development, team formation and building, phases of project development, including roll-out, support, and retiring of projects. The role of the project manager and project management functions will be discussed in detail: business case

development, cost justification, return on investment; management of IT projects through a geographically dispersed workforce, and the unique challenges to systems development. This module will give students exposure to the Project Management Institute (PMI) Knowledge Areas and lay a foundation for students to consider taking the Project Management Professional (PMP) exam.

INFORMATION SYSTEMS ANALYSIS & DESIGN This module is an applied study of information systems analysis. The course covers a systematic methodology for analyzing a business problem or opportunity, determining what role, if any, computer-based technologies can play in addressing the business need, articulating business requirements for the technology solution, specifying alternative approaches to acquiring the technology capabilities needed to address the business requirements, and specifying the requirements for the information systems solution. Topics covered will include traditional and contemporary systems development lifecycles, including waterfall, object-oriented, and rapid methodologies. The role of the business analyst in scope definition, requirements analysis, and functional requirements documentation creation will be discussed. Students will learn about completing a system design using CASE tools.

PROGRAMMING CONCEPTS I This module provides an introduction to fundamental programming concepts and techniques using Python. It covers basic programming constructs, problem-solving strategies, and the syntax and semantics of Python. Students will learn to design, write, and debug simple programs. This course will introduce fundamental programming concepts using Python, including variables, data types, control structures, functions, and basic algorithms. You will learn to design, write, and debug Python programs to solve computational problems, applying best practices and understanding Python syntax. The course also covers file I/O operations, handling different formats like text, CSV, and JSON, and using effective debugging techniques to resolve coding errors.

DATA & INFORMATION MANAGEMENT This module provides the students with an introduction to the core concepts in data and information management. It is centered around the core skills of identifying organizational information requirements, modeling them using conceptual data modeling techniques, converting the conceptual data models into relational data models and verifying its structural characteristics with normalization techniques, and implementing and utilizing a relational database using an industrial-strength database management system. The course will also include coverage of basic database administration tasks and key concepts of data quality and data security. In addition to developing database applications, the course helps students understand how large-scale packaged systems are highly dependent on the use of DBMSs.

PROGRAMMING CONCEPTS II Building upon the foundational concepts introduced in Programming Concepts I, this course delves deeper into intermediate programming concepts and techniques using Python. Students will explore advanced data structures, algorithmic problem-solving, object-oriented programming principles, and software development methodologies, further enhancing their programming skills and preparing them for more complex programming challenges. This course will deepen your Python skills, focusing on advanced language features like list comprehensions, lambda functions, and exception handling to write efficient and concise code. You will learn to work with advanced data structures such as stacks, queues, trees, graphs, and dictionaries, and apply object-oriented programming principles to solve complex challenges. The course also covers test-driven development, debugging techniques, and strategies for optimizing code performance to enhance the efficiency and scalability of Python programs.

ETHICAL IMPLICATIONS OF INFORMATION SYSTEMS
This course explores the ethical, legal, and social implications of information systems in contemporary society. It provides a framework for understanding the moral responsibilities of individuals and organizations in the development and use of information technology. You will learn about the impact of data collection on privacy, the legal aspects of intellectual property, and the ethical challenges of emerging technologies. Additionally, the course covers creating privacy policies, applying critical thinking to IT ethics, and understanding relevant laws and regulations.

DATA ANALYTICS & BUSINESS INTELLIGENCE Building on the transactional database understanding, the course provides an introduction to data and information management technologies that provide decision support capabilities under the broad business intelligence umbrella. Students will study how data drives business and strategic planning.

INFORMATION SYSTEMS STRATEGY & FINANCE: This module explores the issues and approaches in managing organizational information systems at the strategic level. It explores the acquisition, development and implementation of plans and policies to achieve efficient and effective information systems. The focus is on developing an intellectual framework that will allow leaders of organizations to critically assess existing IS components as well as plan for new technologies and systems that support organizational strategy. The ideas developed and cultivated in this module are intended to provide an enduring perspective that can help leaders make sense of an increasingly globalized and technology intensive business environment.

MULTIDISCIPLINARY PROJECT: CAPSTONE Utilizing their knowledge from the previous modules, students will create an information systems solution to an existing organizational issue compounded by non-existent systems, poor systems or a lack of information. The organization may be profit or nonprofit, and the students will develop a business case that supports their solution. The format of the course will consist of independent study that includes the selection and execution of a project by the student teams.