INFORMATION TECHNOLOGY (IT)

IT 121 IT Visual Communications
2 Class Hours, 2 Lab Hours, 3 Quarter Credit Hours
Visual communication is often more effective than written or spoken communication. Like other forms of communicating, visual communication has its own set of rules, slang and conventions. The goal of this course is to teach students about the fundamentals of effectively organizing and communicating ideas through graphics. Among the topics addressed in this course are the logical organization of information, presentation skills, with the use of industry standard desktop publishing and digital imaging applications.

IT 260 Internship
15 Lab Hours, 3 Quarter Credit Hours
Prerequisites: NE 245 or NE 247 or SE 245 or SE 251
Students will gain practical experience through work experience at a local company within an Information Technology department or industry. Students will use the knowledge through previous coursework in their program to work in an entry-level position within a programming or networking environment.

IT 374 IT Project Management
3 Class Hours, 3 Quarter Credit Hours
Students will learn what is involved in becoming a successful project manager. The course covers the foundations of IT project management: project integration, scope, time, cost, quality, human resources, communications, risk and procurement and will include case studies of multiple projects, both successful and failed.

IT 379 Cloud Foundations
4 Class Hours, 4 Quarter Credit Hours
This course gives students an overall understanding of cloud computing concepts, independent of specific technical roles. It provides a detailed overview of cloud concepts, AWS core services, security, architecture, and support. Students are introduced to database administration for relational, NoSQL and cloud systems. Successful completion of this course prepares the student to sit for the AWS Cloud Foundations Certification Exam.

IT 415 Cooperative Learning I
18 Lab Hours, 6 Quarter Credit Hours
Students will use the knowledge gained through previous coursework in their program with mostly paid, planned and supervised work experiences in the public or private sector. The course allows students to enhance the practical skills necessary for success by being exposed to the reality of the world of work beyond the boundaries of the campus, enhancing their self-confidence and career direction.

IT 425 Cooperative Learning II
21 Lab Hours, 7 Quarter Credit Hours
Prerequisites: IT 415
This course allows students to continue and expand on the experiences started in the IT 415 course. Here, hopefully in the same public or private sector organization, students increase the scope and depth of their real-world technical experiences.

IT 502 Data Warehousing and Data Analytics
4 Class Hours, 4 Quarter Credit Hours
Prerequisites: MGM 533 (may be taken concurrently)
This course will build upon the student's database knowledge by examining data warehousing and data mining techniques. This course will examine database architecture and implementation necessary to enable corporations to maximize their investment within their business intelligence departments. Students will compare and contrast product offerings from major vendors as well as analyze case studies of organizations using these technologies to drive their business. Students will also gain experience with the latest tools and techniques through a series of hands-on exercises.

IT 512 Network Infrastructure and Design
4 Class Hours, 4 Quarter Credit Hours
Corequisites: MGM 533
The course will enhance and build upon the student's knowledge of networking. By examining the network infrastructure from the perspective of the customer's needs and goals, students will learn the practical aspects of network design. Students will learn how to characterize, classify and interpret existing networks and traffic, and how those characteristics are impacted by logical network design and physical network design. Students will discover the appropriate methodologies and acumen for examining the technologies and devices needed for a campus network and an enterprise network.

IT 522 Software Architecture and User Interface Design
4 Class Hours, 4 Quarter Credit Hours
Prerequisites: MGM 533 (may be taken concurrently)
This course reviews some of the most successful strategies for building a software system, including data-flow, data-centered, hierarchical, component-based and distributed architectures. Students will gain a thorough understanding of software components, connectors and configurations and learn how to apply user interface design principles for developing systems that are intuitive and meet the client's requirements.

IT 524 Information Systems Security
4 Class Hours, 4 Quarter Credit Hours
Prerequisites: MGM 533 (may be taken concurrently)
Students in this course will get a high-level overview of the information security topics for which today's corporations need competencies. Essential security topics in this course cover network fundamentals and applications, standards, privilege management, environmental security issues, defense in depth, risk management, vulnerability assessments, business continuity planning, security policies, incident handling, web application security, and advanced persistent threats.

IT 544 Cloud Computing
4 Class Hours, 4 Quarter Credit Hours
Prerequisites: MGM 533 (may be taken concurrently)
This course provides students with a detailed exploration of the cloud-computing paradigm. After studying cloud architecture, students will study the strategic, risk and financial impact of utilizing this platform. Pertinent topics also include design, implementation and security aspects of applications stored in the cloud. The course will cover the entire spectrum of moving applications into the cloud.

IT 546 IT Professional Ethics
4 Class Hours, 4 Quarter Credit Hours
Prerequisites: MGM 533 (may be taken concurrently)
As future managers and leaders in the information technology field, students will be confronted by many challenging ethical decisions where the correct decision is not clear or may not even exist. This course aims to increase the student's awareness of the implications of the digitization of data, information, and communications on organizations and society and provide a strong foundation in professional ethics. Topics include but are not limited to globalization, outsourcing and ethical issues such as information privacy, accessibility, property, disclosure and accuracy. Students will be given case studies and ethical scenarios where the decision-making process is as important as the final decision students reach.

IT 556 Master's Project
5 Class Hours, 5 Quarter Credit Hours
This course is graded as pass/fail. Information Technology and Cybersecurity Defense students must choose one of the following two options: Option 1: The capstone project requires IT and CD students to demonstrate their competence in the skills and knowledge associated with their degree program. It is designed to show the in-depth learning and higher order thinking of students. With this option, students must choose a project in the field of information technology or cybersecurity and then plan, organize, implement, and work towards the completion of the project in a controlled manner, to meet the goals and objectives of their project. The capstone project is carried out by an individual student and may be derived from the student's workplace where the student can exploit the workplace experience to benefit both the student and the student's place of employment. Before beginning work, each capstone project must first be approved by an Information Technology Faculty Advisor. At the end of the project, the student will prepare a Final Project Report and defend this work product before the Faculty Advisor and a panel of other assigned faculty members. Option 2: The master's thesis requires students to carry out an investigation of technology or methodology in which the student has a strong interest. The topic of this investigation or research should be an extension or continuation of the topics covered in the MSIT or MSCD curriculum. The topic must first be approved by an Information Technology Faculty Advisor. The thesis option requires a presentation of the paper to the Faculty Advisor and a panel of assigned faculty members.