

**Information Technology, INTE  
General Option**

Millersville University,  
The Management & Marketing Department  
The Lombardo College of Business

**18 Credits Maximum**

**INTE General Option Required Courses:**

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**Interdisciplinary Course Requirements (6 Credits)**

Choose any two from the following:

<b>Index</b>	<b>Title</b>	<b>Prerequisite:</b>	<b>Credits</b>
COMM 225	Communication in Nonprofit Sector	COMM 100, ENGL 110	3 cr
COMM 317	Intercultural Communication	COMM 100, ENGL 110 and junior standing	3 cr
COMM 371	Crisis Emergency & Risk Comm	COMM 100, ENGL 110 and 60 credit hours	3 cr
COMM 380	Digital Media Writing	ENGL 110 and junior standing	3 cr
COMM 390	Social Media Campaigns	ENGL 110, COMM 100, junior standing (60 credits earned)	3 cr
DESN 247	Intro to Experience and Interaction Design	DESN 144 or permission of instructor	3 cr
DESN 201	Understanding Web Design	None. Offered winter, summer.	3 cr
PHIL 281	Business and Professional Ethics	ENGL 110	3 cr
ECON 101	Principles of Macroeconomics	None	3 cr
BUAD 251	Principles of Management	ENGL 110 and C- or higher in ECON 101, 102	3 cr

**INTE & CSCI Elective Courses (10-12 Credits)**Choose any three courses from the following:

<b>Index</b>	<b>Title</b>	<b>Prerequisite:</b>	<b>Credits</b>
INTE 255	Introduction to Data Analytics	MATH 130 or MATH 234 or MATH 235	3 cr
INTE 350	Cybersecurity	INTE 230	4 cr
INTE 425	Data Exploration and Visualization for IT Managers	INTE 255; CSCI 366	3 cr
INTE 435	IT Security, Privacy, and Ethics	ENGL 110; INTE 230; ENGL 316 recommended	4 cr
CSCI 362	Data Structures	C- or higher in CSCI 140 and 162.	4 cr
CSCI 370	Computer Architecture	C- or higher in CSCI 140 and CSCI 162	4 cr
CSCI 380	Operating Systems	C- or higher in CSCI 362, 370	4 cr
CSCI 395	Computer Networks	C- or higher in CSCI 362, ENGL 110	4 cr
CSCI 415	Computer and Network Security	C- or higher in CSCI 362.	4 cr
INTE 406	Topics in Information Technology		4 cr
INTE 3XX, or INTE 4XX, or CSCI 3XX, or CSCI 4XX	(Advisor-Approved)		4 cr
<b>Only one course (up to 4 credits) can be taken from following:*</b>			
INTE 300/400	Information Technology Internship		4 cr
INTE 489/499	Honors Courses/Thesis		4 cr
INTE 498	Independent Study in Information Technology		4 cr

\*These courses can include up to four total credits of INTE 498 (Independent Study in Information Technology), INTE 300/400 (Co-Op), and INTE 489/499 (Honors Thesis).

## **INFORMATION TECHNOLOGY GENERAL OPTION COURSES (Titles and Descriptions):**

### **COMM 225: 3 s.h.**

#### **Communication in the Nonprofit Sector (G1)**

Explores the design, management and functioning of nonprofit/civil society organizations, with an emphasis on communication theories and processes. Highlights practices unique to these organizations, with an emphasis on enabling students to establish, run and support them. Offered periodically. Prereq: COMM 100, ENGL 110.

### **COMM 317: 3 s.h.**

#### **Intercultural Communication (D, P)**

Explores the possibilities of communication between and among diverse cultures. Close study of cultural codes, symbolic interaction, nonverbal behavior and contexts of intercultural contact. Develops an understanding and appreciation of human diversity and competence in intercultural communication practices. Offered periodically. Prereq: COMM 100, ENGL 110 and junior standing.

### **COMM 371: 3 s.h.**

#### **Crisis, Emergency and Risk Communication (P)**

Examines communication challenges faced by PR practitioners; public information officers; first responders; public health officials; business, government and community benefit leaders, as well as others involved in local, state, and national crisis, emergency, disaster and risk situations. With a focus on appropriate communication message/response strategies and effective use of various communication channels, the course covers theoretical foundations helpful for developing communication plans for pre-, current-, and post-event communication. Prereq: COMM 100, ENGL 110 and 60 credit hours.

### **COMM 380: 3 s.h.**

#### **Digital Media Writing (W)**

Writing and design course focuses on construction of promotional messages for digital media. Students will complete several projects, including critique of publication and web designs; planning and production of print and electronic publications; website writing and layout. Prereq: ENGL 110 and junior standing.

### **COMM 390: 3 s.h.**

#### **Social Media Campaigns**

This course emphasizes theory and practice in the strategic planning, writing, communication design, management and analysis of social media campaigns for mobile communications, social media and online social networking. Offered fall or spring. Prereq: ENGL 110, COMM 100, junior standing (60 credits earned).

**DESN 247: 3 s.h.**

**Introduction to Web, Experience and Interaction Design**

Focuses on the fundamentals of user-centered design and usability issues surrounding web-based interfaces (internet, PDA, cell, etc.). Examines information architecture models, content/design relationships, user behaviors and user testing scenarios. The goal is ultimately to develop awareness of the pitfalls of poor design and usability while honing good design habits. Offered periodically. Prereq: DESN 144 or permission of instructor

**DESN 201: 3 s.h.**

**Understanding Web Design (G1, DL)**

This course for non design majors provides an overview of the web design process, and is intended to familiarize students with the meaning, methods and concepts necessary to understand web design. The course is designed to give students the opportunity to learn and explore the resources, skills and hands-on experience needed to design and understand the development of web design from a user-centered design perspective. No credit for DESN majors. **Offered winter, summer.**

**PHIL 281: 3 s.h.**

**Business and Professional Ethics (G1)**

Examines basic ethical concepts, principles and theories, as well as applications of them to a range of issues in business and professional contexts. Students will explore case studies in a range of organizational and social settings; standards of professional ethics in various disciplines; and best practices relating to ethical conduct in various contexts. Prereq: ENGL 110.

**ECON 101: 3 s.h.**

**Principles of Macroeconomics (G3)**

Introduction to macroeconomic analysis concentrating on national income, price levels, employment, monetary policy and fiscal policy, with introductory analysis of the global economy. To be successful, it is recommended that students be proficient in algebra (the equivalent of successfully completing MATH 101 or MPT equivalent); however, MATH 101 is not a prerequisite. Offered fall, spring.

**BUAD 251: 3 s.h.**

**Principles of Management (G3, W)**

Examines management processes of planning, organizing, leading and controlling, and provides basic knowledge of management history, managers' roles and functions, environmental influences, effective decision making, leadership and team management, ethical and social responsibilities, and current trends in management. Offered fall, spring. Prereq: ENGL 110 and C- or higher in ECON 101, 102.

**INTE 255 Introduction to Data Analytics (3 cr)**

Introduction to data analysis techniques and programming that enables real-time decision making in IT organizations. Includes skills and applications in pre-processing, preparing, and reporting data for further analysis. Prerequisite: MATH 130 or MATH 234 or MATH 235 (Note: to be cross-listed with MATH 255)

**INTE 350 Cybersecurity (4 cr)**

Investigate vulnerability of computer networks, systems, and computer applications. Learn methods of mitigation and/or prevention of cybercrime. Attributes of cybercrime such as virus attacks, identity theft, electronic funds transfers, and phishing will be examined along with an introduction to the cybersecurity script programming paradigm. Prerequisites: INTE 230

**INTE 425 Data Exploration and Visualization for IT Managers (3 cr)**

Students will learn dataset elements, data collection, representation and querying techniques, visual variables and statistical tools for graphing, and preparation of data for further analysis, with emphasis on issues related to healthcare. Students will also be introduced to data science tools and related coding techniques. Prerequisites: INTE 255; CSCI 366

**INTE 435 IT Security, Privacy, and Ethics (W) (4 cr)**

Examination of information technology security and privacy issues in the context of law and ethics. This course explores the civil and common law issues that apply to information technology. The course studies jurisdictional, statutes, and constitutional issues related to cybercrime and privacy issues in the information age. Prerequisites: ENGL 110; INTE 230; ENGL 316 recommended

**CSCI 362: 4 s.h.****Data Structures**

Abstract data types, objects, algorithm design and analysis, trees, graphs, sorting and searching. Emphasis on ADT-based and object-oriented design, incremental development and testing, and comparison of data structure implementations. Offered fall, spring. Prereq: C- or higher in CSCI 140 and 162.

**CSCI 370: 4 s.h.****Computer Architecture**

Structure of digital computers, including register transfer notation, instruction set architecture, computer arithmetic, pipelining and parallel processors. Offered fall. Prereq: C- or higher in CSCI 140, 162.

**CSCI 380: 4 s.h.****Operating Systems**

Design and implementation of operating systems, including types of operating systems, file systems, resource management, concurrent processes, deadlocks, memory-management techniques, processor scheduling, disk scheduling, operating system security and system administration. Students expected to develop significant operating systems programming projects. Offered fall, spring. Prereq: C- or higher in CSCI 362, 370.

**CSCI 395: 4 s.h.****Computer Networks (W)**

Introduction to computer networks. Topics include network media, architecture and topology, protocols and layering, client-server models, Ethernet media and hardware, TCP/IP and other protocols, setup and system administration, application protocols and communication, network servers and services, security, data integrity, encryption and firewalls. Offered periodically. Prereq: C- or higher in CSCI 362, ENGL 110.

**CSCI 415: 4 s.h.****Computer and Network Security**

This course is designed to introduce students to topics which include attacks, standards, data integrity, symmetric key encryption, public key encryption, authentication, electronic mail security, IP security, web security, database security, secure electronic transactions, network management security, malicious software and firewalls. Offered periodically. Prereq: C- or higher in CSCI 362.

**INTE 406 Topics in Information Technology (4 cr)**

Topics Course.

**INTE 489, 499 Honors Courses/Thesis (4 cr)**

For the definition of honors course/thesis and eligibility, refer to the Special Academic Opportunities section of this catalog.

**INTE 498 Independent Study in Information Technology (4 cr)**

Independent study is available for well-qualified students. Students who receive approval for independent study are expected to complete a significant study or project in some area of information technology. A written report is required. Prerequisite: departmental permission.

**INTE 4XX IT Senior Practicum (IT Capstone)**

Plan, Design, and implement an IT project with respect to real-world issues including cost, safety, efficiency, and suitability for the intended user. Mostly, students will be assigned to work on an IT project with non-profit organizations in the region. In this class, students demonstrate ability to integrate and apply critical technical skills with a variety of management concepts, principles, techniques, and practices, while effectively managing people, information, information and communication technologies, and business processes for the organizational strategic goals. Prerequisites: senior standing in Information Technology major.