MCL CURRICULUM

A JOINT PROGRAM OFFERED BY THE INSTITUTE OF TECHNOLOGY + THE MILGARD SCHOOL OF BUSINESS

THE MASTER OF CYBERSECURITY AND LEADERSHIP is a non-thesis, 40 credit-hour cohort based program, with a balance between a technically-oriented curriculum focused on understanding the basic operations and functionality of cybersecurity systems and information assurance and a more behaviorally-oriented curriculum focused on the management of technical professionals and organizational leadership.

Eight 5-credit courses are offered over four quarters, commencing in Autumn quarter. Instruction will be held twice a week in the evening. Each quarter two 5-credit courses will be delivered concurrently. One course will be taught through the Institute of Technology and the other course will be taught by the Milgard School of Business. These courses set the foundation for students to complete capstone projects by the conclusion of the program.

AUTUMN COURSES

T CSL 510
Principles of Cybersecurity

This course examines concepts, elements, strategies, skills related to the life cycle of information assurance - involving policies, practices, mechanisms, dissemination, and validation - that ensure the confidentiality, integrity, and availability of information and information systems. Analysis of the information assurance planning process, including determination and analysis of information assurance organization goals, the threat spectrum, risk, and legal and ethical issues.

Through readings, lectures and discussions with leading academic and industry professionals, labs and security responses exercises students develop an deep foundation of cybersecurity principles in tandem with the enterprise presentation of Business Essentials 520.

T CSL 520
Business Essentials

News headlines in recent years have demonstrated the importance to the business of an effective approach to information security management by illustrating what can happen in its absence. This course offers an overview of the key concepts, tools, and techniques that are required to succeed in today's challenging business environment. It introduces various essential business aspects such as communication, marketing, accounting, finance, business law and ethics. Through participation in discussions, exercises and assignments, students gain experience in applying their knowledge to business situations and making business decisions. Interpersonal, technical and problem solving skills are emphasized.

WINTER COURSES

T CSL 550
Network and Internet Security

This courses looks at the issues of information security with a focus on raising the students' awareness of the difficulties of maintaining a secure network environment, and providing them with fundamental knowledge and skills to implement and manage appropriate security practices and controls in an organization's network. Coursework covers concepts of encryption and network security, explore threats posed to Internet-based systems, and assess network vulnerabilities. Specifically, you will learn operating system attacks and countermeasures, application attacks and countermeasures, cryptographic applications, as well as legal and ethics of security practice.

T CSL 560
Strategic Organization Change

This course prepares students to be effective cyber leaders and change agents by exploring concepts, tools, and techniques for aligning an organization's strategy to the environment and for creating, leading and managing change. The course explores the repertoire of concepts, tools, and techniques for understanding the dynamics of change and how successful cyber leaders and change agents can create, implement and manage change.

In this course, we will examine different perspectives on strategic change, consider various change methodologies and explore examples of best practice. We will trace the theoretical and conceptual roots of current practice in change management using a variety of methods including readings, cases, experiential exercises and class discussions.

SPRING COURSES

T CSL 530
Information Assurance, Risk Management, and Security Strategies

This course examines the concepts, processes, and skills related to risk management in information assurance involving risk assessment, risk analysis, and mitigation planning. Analysis of the risk management process through several structured approaches that facilitate information assurance decision-making.

The course examines various quantitative softwares and qualitative methodologies through labs, lectures and class discussion. Students develop risk management competences completing and presenting risk assessments to industry professionals.

T CSL 540
Leadership and Team Dynamics

The purpose of this course is to enhance your leadership and management skills. The course focuses on conceptual training and practice designed to hone your ability to analyze and diagnose individual, group and network dynamics, evaluate the influence of organization structures and processes on each of these, determine your strategic and tactical options as a manager and engage in managerial action that enhances individual, team, and organizational performance. The course focuses in particular on developing your critical thinking, communication, collaboration and leadership skills.

SUMMER COURSES

T CSL 570
Cybersecurity Management

This course applies and combines information assurance concepts, processes, and skills to solve case studies from practitioner experiences and explore the role of policy in creating a successful information assurance program.

Leading private, public and government sector organizations present real cybersecurity/risk management projects impacting their enterprise. Student teams perform a full range of cybersecurity assessments and evaluations, complete and present written evaluations and recommendations to organization leaders and faculty.

T CSL 580
Project Management

This course builds the foundations for information technology services and project management by focusing on key aspects of commoditization of hardware (e.g., on-demand, utility computing, cloud computing), software (the software-as-a-service model), and even business processes. The course introduces the IT product development and service delivery processes with sound management principles for on-budget and on-time projects that meet end users' needs (high quality of service). The course also discusses the added complexity introduced by globalization and virtualization of IT projects.
The main objectives are to review the fundamentals and to offer practical solutions for these challenges.