# MS Cybersecurity & MS MIS Dual Degree Worksheet

This program would be providing the skillset for those with the adequate background to start in or transition to a cybersecurity professional. This will also provide the managerial training needed by those already within that industry to manage the cybersecurity professionals and processes.

**Suggested Course Plan**

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| **Fall—Year One** | **Spring—Year One** | **Fall—Year Two** | **Spring—Year Two** |
| CSEC 700 | CSEC 701 | CSEC 702 | MIS Elective |
| MIS 740 | CSEC 704 | CSEC 705 | MIS 766 |
| MIS 762 | MIS 746 | MIS 760 | CSEC 706 |
|  |  |  |  |
| **Fall—Year Three** | **Spring—Year Three** |  |  |
| CSEC 703 | MIS 781 |  |  |
| MIS Elective | CSEC 790 |  |  |

**Required Courses—24 Credits - Cybersecurity**

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| --- | --- | --- | --- |
| **Course #** | **Course Title** | **Description** | **Credits** |
| CSEC 700 | Security Operations | Operating systems, command line interface, coding and infrastructure | 3 |
| CSEC 701 | Secure Communication Protocols | Secure routing, IPv6, HIP, SSH, VoIP, IPTV, Proxy, VPN, DTLS | 3 |
| CSEC 702 | Security Data Analytics | Cybersecurity data mining, log management, machine learning, AI, big data architecture | 3 |
| CSEC 703 | Cyber Physical Systems Security | Industrial Control systems, SCADA, IoT, Smart TV, embedded systems, TPM, autonomous cars | 3 |
| CSEC 704 | Human Factors in Cybersecurity | Social engineering, phishing, physiological aspects, insider threat prevention, DLP, log analysis, awareness training | 3 |
| CSEC 705 | Enterprise Security Administration | Cybersecurity budget and ROI, Security Insurance, Cost of cybercrime, Risk analysis  Vulnerability Management | 3 |
| CSEC 706 | Cybersecurity Strategy and Governance | Continuation of 705 materials, further exploration of cyber enterprise, strategy and management | 3 |
| CSEC 790 | Cybersecurity Capstone | Cyber related project to showcase skills learned in program | 3 |

**Required Courses—24 Credits - Cybersecurity**

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| **Course #** | **Course Title** | **Description** | **Credits** |
| MIS 740 | Software Concepts | Introduction to programming languages and basics | 3 |
| MIS 746 | Information Systems Project Management | Software development lifecycle, the project management body of knowledge, and other concepts which help to improve the ability of one to be in and manage a technology-related project | 3 |
| MIS 760 | Data Communications and Systems | Computer and network architecture and applications to the enterprise level architecture | 3 |
| MIS 762 | Systems Analysis, Modeling and Design | How systems requirements are gathered, analyzed and use for the procurement or development of a system | 3 |
| MIS 766 | Data Management | Hardware based overview of SQL and database designs and architecture. Managerial introduction to the principles of data, master data management, and how organizational cycles of data use, storage and application alter an organization | 3 |
| MIS 781 | MIS Capstone | Technology related project to showcase skills learned in program | 3 |
| MIS Electives |  | Complete six credits of MS MIS courses, or other approved by the Director of the MS MIS program. | 6 |