What is Typical Coursework in Master’s in Information Security Degree Program?

A Master’s in Information Security degree provides IT professionals with opportunities to advance their careers and competency levels regarding cyber-security and privacy technologies. The primary objective of this degree is to provide students with strong foundations in IT security tools and techniques. These programs are perfect for students who want to advance their skills and knowledge in relation to advanced cyber security technologies.

# Basic Classes

Graduate [Information Security](https://www.techopedia.com/definition/10282/information-security-is) degrees will start out with fundamental IT security classes. Students should already be familiar with office productivity suits, such as MS Office, and common Internet technologies, such as Google and YouTube. A class on Internet technologies will cover everything from website design concepts to copyright issues to synchronous communication tools, such as IM and email programs. A class on computer basics is an introductory course that examines the broad field of computing within the framework of daily life and the business world. Topics covered include mobile technology, super computers, the history of operating systems and the software development process. These classes will often culminate in a final assignment that requires students to demonstrate mastery of the skills discussed in class by completing a capstone project.

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Advanced Coursework

In the final semesters, students may take classes related to infrastructure design and architecture practices. These courses cover basics IT infrastructure concepts such as networking administration, where students will how about firewall setups and router configurations, and also operating system (OS) administration, which teaches about service and account management. These classes emphasize hands-on lab exercises that deal with standard IT infrastructure concepts, practices and equipment. Instruction in web-based application development will explores the basic concepts of developing interactive web based applications, so students will learn about HTML, user interface design and client and service side scripting. Because this degree is associated with supervisory duties, there are almost always classes in IT project management, which teaches topics like client-specific solutions, systems integration and planned technological obsolescence.

Specialized Coursework

Graduate Information Security degrees often allow students to either select a specialization or choose electives in certain areas. Coursework in human-computer interaction will include topics on the cognitive characteristics and technical abilities of people. These classes cover the processes of interface design, evaluation methods and information system elements. Alternatively, applied cryptography introduces students to modern cryptographic protocols and algorithms that are used to design and implement security critical applications. This popular specialization not only covers standard cryptographic techniques, but also teaches advanced key cipher, hashing algorithm and authentication signatures. Finally, software system design classes teach students how to plan and install large software systems. This involves software testing, languages and documentation. All of these IT professionals who earn an Information Security degree will have the requisite knowledge, understanding of threats and communication skills to create change and mobilize resources.

Aspiring students should note that most Master’s in Information Security degree programs will require an accredited Bachelor’s degree and substantial knowledge of data structures, networking technology and object-oriented programming. Familiarity with databases, data management and operating scripts will also help.