

Information Technology Auditing and Cyber Security MS

FOX SCHOOL OF BUSINESS AND MANAGEMENT

Learn more about the Master of Science in Information Technology Auditing and Cyber Security.

About the Program

The MS in Information Technology Auditing and Cyber Security (MS ITACS) program prepares students for careers in Information Technology (IT) risk management, cyber security and information systems auditing in business and government. MS ITACS is a STEM educational program recognized by employers in business and government as a top choice for students seeing to learn necessary knowledge and skills to succeed and become leaders in the cyber security workforce.

MS ITACS' educational program is aligned with knowledge domains of ISACA® and ISC2® for information security audit, control, and cybersecurity and is the basis for Temple University's designation by the U.S. National Security Agency as a National Center of Academic Excellence in Cyber Defense Education. This enables graduates of the MS ITACS program to earn a three-year education experience waiver toward the Certified Information Systems Auditor (CISA®) designation and a one-year education experience waiver toward the Certified Information System Security Professional (CISSP®) designation.

On completion of the MS ITACS program, graduates are able to:

- Describe how an IT organization should be governed and managed.
- Explain how IT systems are implemented and recommend appropriate controls.
- Demonstrate how to protect an organization's information.
- Demonstrate the ability to conduct research related to emerging IT issues.
- Describe how IT services are delivered and maintained and recommend appropriate controls.
- Demonstrate an understanding of the IT audit process and apply it to business situation.
- Demonstrate an understanding of how organizations' systems are attacked and the skills used.
- Explain how organizations can mitigate cyber risks through prevention, detection and response.

MS ITACS students take common core courses focused on IT governance, risk and compliance and specialized courses in one of two concentrations: Information Technology (IT) Auditing or Cyber Security. The IT Auditing concentration culminates in a capstone course that prepares the student for the CISA® certification exam, while the capstone course for the Cyber Security concentration prepares the student for the Certified Information Systems Security Professional (CISSP®) certification exam. Qualified students with necessary prerequisites are able to take courses from both concentrations.

Time Limit for Degree Completion: 6 years

Campus Location: Main and/or Online

Full-Time/Part-Time Status: The MS ITACS program can be completed on a full- or part-time basis.

Affiliation(s): Research interests of Fox faculty are supported by numerous centers and institutes throughout the Fox School and Temple University.

Accreditation: The MS ITACS program is accredited by the Association to Advance Collegiate Schools of Business (AACSB International). The MS Cyber Security concentration is validated as a Program of Study of a National Center of Academic Excellence in Cyber Defense Education by the U.S. National Security Agency (NSA).

Areas of Specialization: Two areas of concentration are offered:

- Cyber Security
- Information Technology Auditing

Job Prospects: The Fox Center for Student Professional Development (CSPD) provides students with career coaching and professional development resources that support the job search. The MS ITACS degree prepares graduates for employment in IT risk management, cyber security and information systems auditing positions at accounting and consulting firms, banks and financial companies, businesses producing goods and providing services, computer software and hardware companies, information/data service providers, and government agencies and non-governmental organizations. The U.S. Bureau of Labor Statistics reports 32% job growth through 2032.

Licensure/Certification: Preparation for certification varies by area of concentration, as detailed below:

- Certified Information Systems Auditor (CISA®): The MS ITACS program's **IT Auditing** concentration and capstone course (MIS 5902) prepares students in the IT Auditing concentration to take the CISA® certification exam. The MS ITACS program does not require students to take the CISA® exam. This is optional. Experience required for CISA® certification is a minimum of five years of professional work experience in information systems auditing, control or security. A master's degree in information security, information systems or related field from an accredited university can be substituted for three years of experience. For more information, visit <https://www.isaca.org/credentialing/cisa/get-cisa-certified>.
- Certified Information Systems Security Professional (CISSP®): The MS ITACS program's **Cyber Security** capstone course (MIS 5903) prepares students in the Cyber Security concentration to take the CISSP® certification exam. The MS ITACS program does not require students to take the CISSP® exam. This is optional. Experience required for CISSP® certification is a minimum of five years of cumulative paid work experience in *two or more of the eight domains* of the CISSP® Common Body of Knowledge (CBK). For more information, visit <https://www.isc2.org/certifications/cissp>.

Non-Matriculated Student Policy: This program requires the student to be matriculated in the degree program or graduate certificate program.

Financing Opportunities: Citizens and permanent residents of the United States are considered domestic students and are typically eligible for federal student loans and alternative loans through private lenders. The Fox School grants 5% tuition scholarships to alumni who are admitted to the program.

Admission Requirements and Deadlines

Application Deadline:

Fall:

- December 15 – Early Admissions Deadline
- March 1 – Scholarship Deadline and International Deadline
- June 30 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE to this Fox graduate program.

Letters of Reference:

Number Required: 1

From Whom: Professional references from an immediate supervisor, current or past, are preferred. Academic references are acceptable.

Bachelor's Degree in Discipline/Related Discipline: The equivalent of a four-year U.S. baccalaureate degree from an accredited university or college is required. For three-year degrees, mark sheets must be evaluated by WES or another NACES organization.

Statement of Goals: Essay prompts can be found in the online application portal.

Standardized Test Scores:

GRE/GMAT: Scores may be requested based on the applicant's academic and/or professional background. Candidates with an undergraduate GPA below 3.0 are required to submit valid GMAT or GRE test scores. Consult an admissions advisor with any questions.

Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master's degree in a country where the language of instruction is English, must report scores for a standardized test of English that meet these minimums:

- TOEFL iBT: 90
- IELTS Academic: 7.0
- Duolingo: 110
- PTE Academic: 68

Resume: Current resume or CV is required.

Interview: Candidates are invited to interview in person or virtually. Interviews are required on a case-by-case basis.

Optional Essay: Prompts for this optional essay can be found in the online application portal.

Transfer Credit: Upper-level graduate credits from an AACSB-accredited graduate business program, but not previously applied to a conferred degree, may be transferred into the MS ITACS program. The credits must be part of the required degree program at Temple University. To be transferred, the grade must be a "B" or better. The Admissions Committee makes recommendations for transferring credits to the department chair. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:

Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

Information Technology Auditing Concentration

| Code | Title | Credit Hours |
|---|---|--------------|
| Core Courses | | |
| MIS 5202 | IT Governance | 3 |
| MIS 5206 | Protection of Information Assets | 3 |
| MIS 5214 | Security Architecture | 3 |
| MIS 5687 | Business Skills for ITACS Professionals I ¹ | 1.5 |
| MIS 5688 | Business Skills for ITACS Professionals II ¹ | 1.5 |
| IT Auditing Concentration Courses ² | | |
| MIS 5201 | IT Audit Process | 3 |
| MIS 5203 | Systems and Infrastructure Lifecycle Management 1 | 3 |
| MIS 5205 | IT Service Delivery and Support | 3 |
| MIS 5208 | Data Analytics for IT Auditors | 3 |
| IT Auditing Elective ³ | | |
| Select one from the following: | | 3 |
| MIS 5121 | Enterprise Resource Planning Systems | |
| MIS 5170 | Special Topics | |
| MIS 5182 | Independent Study | |
| IT Auditing Capstone Course | | |
| MIS 5902 | IT Auditing Capstone | 3 |
| Total Credit Hours | | 30 |

¹ For our partner program with the Beijing National Accounting Institute (BNAI) in **China only**, students may substitute MIS 5287 Business Skills for ITACS Professionals (3 s.h.) for MIS 5687 Business Skills for ITACS Professionals I (1.5 s.h.) and MIS 5688 Business Skills for ITACS Professionals II (1.5 s.h.).

² MIS 5122 Enterprise Architecture for IT Auditors (3 s.h.) may also be required of students who are admitted to the program but lack sufficient technical background.

³ Students in the Information Technology Auditing concentration alternately may select up to two courses from the Cyber Security concentration and/or in Computer Science and/or Engineering Security as electives. This is done in consultation with the ITACS Program Director.

Cyber Security Concentration

| Code | Title | Credit Hours |
|--|--|--------------|
| Core Courses | | |
| MIS 5202 | IT Governance | 3 |
| MIS 5206 | Protection of Information Assets | 3 |
| MIS 5214 | Security Architecture | 3 |
| MIS 5687 | Business Skills for ITACS Professionals I | 1.5 |
| MIS 5688 | Business Skills for ITACS Professionals II | 1.5 |
| Cyber Security Concentration Courses | | |
| MIS 5211 | Ethical Hacking | 3 |
| MIS 5213 | Intrusion Detection & Response | 3 |
| MIS 5215 | Operating System Security | 3 |
| MIS 5216 | Organizational Forensics | 3 |
| MIS 5217 | Network Security | 3 |
| Cyber Security Elective(s) ¹ | | |

| | | |
|---|-------------------------|-----------|
| Select one or more from the following, if desired: ² | | 0 |
| MIS 5170 | Special Topics | |
| MIS 5182 | Independent Study | |
| MIS 5212 | Penetration Testing | |
| Cyber Security Capstone Course | | |
| MIS 5903 | Cyber Security Capstone | 3 |
| Total Credit Hours | | 30 |

- ¹ Students in the Cyber Security concentration alternately may select up to two courses from the Information Technology Auditing concentration and/or in Computer Science and/or Engineering Security as electives. This is done in consultation with the ITACS Program Director.
- ² Students earn credit for any elective course(s) taken. The Cyber Security concentration does not, however, require completion of an elective to earn the degree.

Culminating Event:*Capstone Course:*

The MS ITACS program culminates in a capstone that prepares students to take the appropriate professional certification examination:

- Certified Information Systems Auditor (CISA®)
- Certified Information Systems Security Professional (CISSP®), with a minimum of five years' experience

Accelerated Programs

Undergraduate student may opt to pursue an accelerated +1 program, enabling them to complete both a bachelor's degree and master's degree in less time than the traditional route.

The accelerated pathway for the Information Technology Auditing and Cyber Security MS is open to all Fox School of Business and Management students pursuing a BBA or a BS degree as well as any other undergraduate students who meet the admissions criteria.

Cohort Code: XMISTACS

Minimum Cumulative GPA: 3.25

Graduate Courses Approved to Count for Both Undergraduate and Graduate Degrees

| Code | Title | Credit Hours |
|----------|--|--------------|
| MIS 5202 | IT Governance | 3 |
| MIS 5203 | Systems and Infrastructure Lifecycle Management ¹ | 3 |
| MIS 5206 | Protection of Information Assets | 3 |
| MIS 5214 | Security Architecture | 3 |
| MIS 5215 | Operating System Security ² | 3 |

¹ Approved for IT Audit Track only.

² Approved for Cyber Security Track only

Note: The following courses may be taken with permission of advisor if unable to register for the courses in the above list: MIS 5121, MIS 5122, MIS 5201, MIS 5205, MIS 5208, MIS 5211, MIS 5213, MIS 5216, MIS 5217.

Suggested Academic Plan for Information Technology Auditing Concentration

| Course | Title | Credit Hours |
|---------------------|---|--------------|
| Year 3 | | |
| Fall | | |
| MIS 5202 | IT Governance | 3 |
| Credit Hours | | 3 |
| Spring | | |
| MIS 5203 | Systems and Infrastructure Lifecycle Management 1 | 3 |
| Credit Hours | | 3 |

| Year 4 | | |
|---------------------------|----------------------------------|-----------|
| Fall | | |
| MIS 5206 | Protection of Information Assets | 3 |
| Credit Hours | | 3 |
| Spring | | |
| MIS 5214 | Security Architecture | 3 |
| Credit Hours | | 3 |
| Total Credit Hours | | 12 |

Suggested Academic Plan for Cyber Security Concentration

| Course | Title | Credit Hours |
|---------------------------|----------------------------------|--------------|
| Year 3 | | |
| Fall | | |
| MIS 5206 | Protection of Information Assets | 3 |
| Credit Hours | | 3 |
| Spring | | |
| MIS 5214 | Security Architecture | 3 |
| Credit Hours | | 3 |
| Year 4 | | |
| Fall | | |
| MIS 5202 | IT Governance | 3 |
| Credit Hours | | 3 |
| Spring | | |
| MIS 5215 | Operating System Security | 3 |
| Credit Hours | | 3 |
| Total Credit Hours | | 12 |

Admissions Criteria

Candidates to the +1 program must:

- meet the general +1 program admissions criteria:
 - possess a minimum GPA of 3.25 in at least 45 credits of coursework.
 - apply in spring semester of sophomore year. Junior year applicants will be considered for all programs assuming they meet other eligibility criteria.
 - be able to complete junior and senior years within four full-time semesters.
 - possess 12 credits of elective space to be used for graduate coursework. Candidates with less elective space will be considered with the understanding that they will therefore have more than 18 credits remaining to complete the master's degree.
 - be able to complete a graduate degree in the year directly following undergraduate graduation.
- possess sufficient foundational skills as determined by the program's academic director in a pre-admission skill assessment consultation for each track.
- provide two letters of recommendation from Temple faculty.

Application link: https://fox.az1.qualtrics.com/jfe/form/SV_a9vvymYpuGaWY8l

Contact Information

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Learn more about the accelerated IT Auditing and Cybersecurity program.

Contacts

Program Web Address:

<https://www.temple.edu/academics/degree-programs/information-technology-auditing-and-cyber-security-ms-bu-itac-ms>

Department Information:

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215-204-5890
215-204-7678
Fax: 215-204-1632

Submission Address for Application Materials:

<https://apply.temple.edu/FOX/Account/Login>

Department Contacts:

ITACS Academic Director:

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Specialized Master's Programs Coordinator:

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