Program Description

Degree Awarded: PHD Computer Science (Information Assurance)

The PhD program in computer science with a concentration in information assurance is designed for graduate students who want to pursue a thorough education in the area of information assurance. The goal of this concentration is to provide students the knowledge and skills in science and engineering for information assurance, including:

- applied cryptography
- computer and network security
- computer forensics
- data and information security
- software security

Students will have a competitive advantage to secure employment. According to the National Security Agency, information assurance is defined as the set of measures intended to protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality and nonrepudiation. This includes providing restoration of information systems by incorporating protection, detection and reaction capabilities.

ASU has been certified as a National Center of Academic Excellence in Information Assurance Education and a National Center of Academic Excellence in Information Assurance - Research by the National Security Agency and the Department of Homeland Security. Information assurance courseware at ASU has been certified by the Information Assurance Courseware Evaluation Program to satisfy the standards for Information Systems Security Professionals (NSTISSI 4011) and Senior Systems Managers (CNSSI 4012). More information on information assurance courseware at ASU is at http://ia.asu.edu/education.php.

At a Glance
Degree Requirements

84 credit hours, a written comprehensive exam, a prospectus and a dissertation

Required Core Areas (15 credit hours)
architecture and networked systems (3)
intelligent and interactive systems (3)
data and information systems (3)
software and information assurance (3)
foundations of computation and algorithms (3)

Other Requirement (6 credit hours)
six additional credit hours in one core area (6)

Concentration (18 credit hours)

Electives (18-21 credit hours)

Research (12-15 credit hours)
CSE 792 Research (12-15)

Culminating Experience (12 credit hours)
CSE 799 Dissertation (12)

Additional Curriculum Information
Please see the academic unit for the list of courses approved for each core area. Courses that are used to satisfy the core area requirement cannot be used to satisfy the concentration requirement or other requirements.

Students choose courses for the information assurance concentration in consultation with their graduate advisor. Students should see https://cidse.engineering.asu.edu/forstudent/graduate/computer-science/ for more information on information assurance course options.

Up to 18 hours of CSE 590 and CSE 790 are allowed. Additional restrictions may apply to electives course selection.

When approved by the academic unit and the Graduate College, 30 credit hours from a previously awarded master's degree are allowed to be used for this degree.

A maximum of six credit hours of 400-level coursework may be applied on the plan of study.
Admission Requirements

Applicants must fulfill the requirements of both the Graduate College and the Ira A. Fulton Schools of Engineering.

Applicants are eligible to apply to the program if they have earned a bachelor's degree in computer science, computer engineering or a closely related area. Most applicants should have earned a master's degree, but exceptional undergraduate applicants may be admitted directly into the doctoral program.

Applicants must have a minimum of a 3.50 cumulative GPA (scale is 4.00 = "A") in the last 60 hours of a student's first bachelor's degree program, or applicants must have a minimum of a 3.50 cumulative GPA (scale is 4.00 = "A") in an applicable master's degree program.

All applicants must submit:

1. graduate admission application and application fee
2. official transcripts from every university attended
3. scores for the GRE
4. three letters of recommendation
5. a statement of purpose
6. curriculum vitae or resume
7. proof of English proficiency

Additional Application Information

An applicant whose native language is not English (regardless of current residency) must provide proof of English proficiency. [https://students.asu.edu/graduate/proficiency](https://students.asu.edu/graduate/proficiency).

If the student has graduated with an undergraduate degree in computer science or computer systems engineering from ASU, GRE scores are not required.

If the student is assigned any deficiency coursework upon admission, those classes must be completed with a grade of "B" (3.00 on a 4.00 scale) or higher within two semesters of admission to the program. Deficiency courses include:

- CSE 230 Computer Organization and Assembly Language Programming (3)
- CSE 310 Data Structures and Algorithms (3)
- CSE 330 Operating Systems (3)
- CSE 340 Principles of Programming Languages (3)
- CSE 355 Introduction to Theoretical Computer Science (3)
- CSE 360 Introduction to Software Engineering (3)
The applicant's undergraduate GPA and depth of preparation in computer science and engineering are the primary factors affecting admission.

Students should see the program website for application deadlines.

**Contact Information**

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