Information Assurance

Interdepartmental Graduate Major

Iowa State University has been offering courses in information assurance since 1995 and has one of the largest programs in the country. Graduate degrees can be obtained in a traditional on-campus setting or as an on-line program. For information on the Engineering-LAS Online Learning program visit www.eol.iastate.edu.

Students graduating from the major will help to fill the need for well-educated system security specialists in the government, private sector, and academia. The program objectives identified as being critical to the accomplishment of this mission are:

1. Impart and enhance knowledge about information infrastructure security
2. Expand and develop the ability to engineer complex systems
3. Instill and nurture social awareness, and the ability to function in a team
4. Instill and nurture a sense of ethics
5. Develop an understanding of strategic and policy issues

We offer 4 different graduate degree options:

1. Masters of Science with thesis
2. Masters of Science without thesis
3. Masters of Engineering (coursework only)
4. Graduate certificate

Master of Science with & without thesis:
The degree Master of Science with a major in information assurance is under a cooperative arrangement with various home departments including Electrical and Computer Engineering, Computer Science, Political Science, Supply Chain and Information Systems, and Mathematics.

The degree Master of Science with thesis is recommended for students who intend to continue toward the Doctor of Philosophy degree or to undertake a career in research and development. The non-thesis Master of Science degree requires a creative component and is intended for students interested in a career in information assurance.

Students interested in the interdepartmental major apply and are admitted to both a home department (the department that is most closely aligned with the student’s research interest and background) and to the program. The home department sets the admission standards, course requirements, and thesis standards. (Note: Electrical and Computer Engineering is the only home department for off-campus students pursuing the Master of Science in Information Assurance)

The program is broadly based and uses courses in the various departments. The program will consist of 24 course credits with 6 credits of research work for a Master of Science with thesis. A non-thesis Master of Science will consist of 27 credits of courses and 3 credits of creative component. The courses are divided into three categories: core, electives, and thesis. A student’s Program of Study Committee, in consultation with the student, determines the elective courses to be taken and the acceptability of transfer credits. The major professor will be selected from the discipline where the student is admitted (home department).

The basic prerequisite for admission to this program is a baccalaureate degree in engineering, mathematics, computer science, management information systems, political science, or closely related field. The GRE or GMAT examination may be required based on the standards of the home department. If the GRE or GMAT is not required it will be considered in admissions decisions if offered. Potential students with baccalaureate degrees in the physical sciences, statistics, or other related fields will be considered on an individual basis, possibly with provisional admission.

Master of Engineering:
The Master of Engineering (MENGR) in Information Assurance degree is only offered to off-campus students. This program is designed to assist all individuals who already have a bachelor’s degree in computing or related areas to pursue an in-depth study in information assurance. The Master of Engineering program is based on coursework credits only (a thesis or creative component is not required). Courses are offered via our Engineering-LAS Online Learning streaming media online education program. (Note: Electrical and Computer Engineering is the only home department for the Master of Engineering in Information Assurance)

A coursework only Master of Engineering degree in Information Assurance consists of 30 credits. The courses are divided into three categories: core, electives, and capstone course. (Note: Students pursuing the MENGR do not have a program of study committee and the major professor is the Information Assurance, Director of Graduate Education (DoGE)

 Students interested in the MENGR in IA degree apply and are admitted to Information Assurance (InfAs) with ECpE as the home department. The admission requirements for students entering the program without work experience are the same as the admission requirements for the ECpE department. For students with 3 or more years of work experience in a computer related position the GRE and GPA minimum may be waived. Students with an undergraduate degree in a non-computing field that have at least 3 years of work experience in an information technology field may be admitted to the program.

Graduate Certificate:
A graduate certificate in Information Assurance is offered, which consists of four courses (12 credits). The graduate certificate is targeted for off-campus students as a way to either supplement their education or as way to try out online education courses. All of the certificate courses will transfer into the MS or MENGR degree in IA.

Graduate Certificate:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
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<tbody>
<tr>
<td>INFAS 530</td>
<td>Network Protocols and Security</td>
<td>3</td>
</tr>
<tr>
<td>INFAS 531</td>
<td>Information System Security</td>
<td>3</td>
</tr>
<tr>
<td>INFAS 532</td>
<td>Information Warfare</td>
<td>3</td>
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<tr>
<td>INFAS 533</td>
<td>Cryptography</td>
<td>3</td>
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<tr>
<td>or INFAS 535</td>
<td>Steganography and Digital Image Forensics</td>
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<tr>
<td>or INFAS 534</td>
<td>Legal and Ethical Issues in Information Assurance</td>
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<tr>
<td>or INFAS 536</td>
<td>Computer and Network Forensics</td>
<td></td>
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<tr>
<td>or CPR 537</td>
<td>Wireless Network Security</td>
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</tbody>
</table>

Total Credits: 12

For additional information students should visit http://www.iac.iastate.edu.