COMPUTER AND INFORMATION SYSTEMS SECURITY, MASTER OF SCIENCE (M.S.) [SCHOOL OF BUSINESS]

Note: Admission to this program is temporarily suspended.

Program mission
The Master of Science in Computer and Information Systems Security provides for the scholarly and professional needs of several groups who have either accepted or are keen to take on the challenge of protecting information resources of firms and society at large.

Program goal
Graduates of this program are expected to take on leadership positions, including as chief security officer, in computer and information systems security in organizations. VCU's program takes a broad interdisciplinary approach to computer and information systems security that will help develop the student's ability to see the larger organizational, social, political, ethical and economic aspects of information security.

Student learning outcomes
Graduates of the program will be:

1. Prepared to take leading roles in planning, organizing, managing, designing and configuring security solutions in public and private organizations
2. Familiar with state-of-the-art security technologies and best practices

VCU Graduate Bulletin, VCU Graduate School and general academic policies and regulations for all graduate students in all graduate programs
The VCU Graduate Bulletin website documents the official admission and academic rules and regulations that govern graduate education for all graduate programs at the university. These policies are established by the graduate faculty of the university through their elected representatives to the University Graduate Council.

It is the responsibility of all graduate students, both on- and off-campus, to be familiar with the VCU Graduate Bulletin as well as the Graduate School website (http://www.graduate.vcu.edu/) and academic regulations in individual school and department publications and on program websites. However, in all cases, the official policies and procedures of the University Graduate Council, as published on the VCU Graduate Bulletin and Graduate School websites, take precedence over individual program policies and guidelines.

Visit the academic regulations section for additional information on academic regulations for graduate students. (http://bulletin.vcu.edu/academic-regs/)

Degree candidacy requirements
A graduate student admitted to a program or concentration requiring a final research project, work of art, thesis or dissertation, must qualify for continuing master's or doctoral status according to the degree candidacy requirements of the student’s graduate program. Admission to degree candidacy, if applicable, is a formal statement by the graduate student's faculty regarding the student's academic achievements and the student's readiness to proceed to the final research phase of the degree program.

Graduate students and program directors should refer to the following degree candidacy policy as published in the VCU Graduate Bulletin for complete information and instructions.

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Graduation requirements
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Admission requirements

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Graduates of the program will be prepared to take leading roles in planning, organizing, managing, designing and configuring security solutions in public and private organizations and will be familiar with state-of-the-art security technologies and best practices. The program takes a broad interdisciplinary approach to computer and information systems security that will help students develop the ability to see the larger organization and social, political, ethical and economic aspects

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of information security, as well as offering a unique graduate-level curriculum that is both technically and managerially oriented.

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Degree requirements

In addition to general VCU Graduate School graduation requirements (http://bulletin.vcu.edu/academic-regs/grad/graduation-info/), the M.S. in Computer and Information Systems Security requires 30 graduate credit hours, including a core curricular component and an elective component. The elective component consists of three courses chosen by the student and selected from CISS course offerings or, with the approval of the program co-directors, from courses offered by the departments of Computer Science, Information Systems, Criminal Justice and Forensic Science.

Curriculum requirements

Students with an accredited bachelor’s degree or post-baccalaureate certificate in fields such as computer science or information systems should be adequately prepared for the graduate curriculum. Students from other academic backgrounds may need to complete undergraduate prerequisite courses. Prerequisites are determined by the faculty adviser at the time of admission.

Prerequisite courses

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<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CMSC 312</td>
<td>Introduction to Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>or INFO 361</td>
<td>Systems Analysis and Design</td>
<td></td>
</tr>
<tr>
<td>CMSC 355</td>
<td>Fundamentals of Software Engineering</td>
<td>3</td>
</tr>
<tr>
<td>or INFO 370</td>
<td>Fundamentals of Data Communications</td>
<td></td>
</tr>
<tr>
<td>CMSC 401</td>
<td>Algorithm Analysis with Advanced Data</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Structures</td>
<td></td>
</tr>
<tr>
<td>CMSC 508</td>
<td>Database Theory</td>
<td>3</td>
</tr>
<tr>
<td>or INFO 364</td>
<td>Database Systems</td>
<td></td>
</tr>
<tr>
<td>MATH 211</td>
<td>Mathematical Structures</td>
<td>3</td>
</tr>
<tr>
<td>or CMSC 302</td>
<td>Introduction to Discrete Structures</td>
<td></td>
</tr>
<tr>
<td>STAT 212</td>
<td>Concepts of Statistics</td>
<td>3</td>
</tr>
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<tbody>
<tr>
<td>Core component</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CISS/CMSC 618</td>
<td>Database and Application Security</td>
<td>3</td>
</tr>
<tr>
<td>CISS/CMSC 622</td>
<td>Network and Operating Systems Security</td>
<td>3</td>
</tr>
<tr>
<td>CISS 624/CMSC 620</td>
<td>Applied Cryptography</td>
<td>3</td>
</tr>
<tr>
<td>CISS 634</td>
<td>Ethical, Social and Legal Issues in Computer and Information Systems Security</td>
<td>3</td>
</tr>
<tr>
<td>CISS/INFO 644</td>
<td>Principles of Computer and Information Systems Security</td>
<td>3</td>
</tr>
<tr>
<td>INFO 646</td>
<td>Security Policy Formulation and Implementation</td>
<td>3</td>
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</table>

Elective component

Choose four of the following courses. Students must select a minimum of one CMSC and one INFO course

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>CMSC 502</td>
<td>Parallel Algorithms</td>
<td>3</td>
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Total Hours 30

The minimum total of graduate credit hours required for this degree is 30.

Contact

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