Graduate Certificate in Cybersecurity
Unit: Speed School of Engineering (http://engineering.louisville.edu) (GS)
Department: Computer Engineering and Computer Science (https://
engineering.louisville.edu/academics/departments/computer)
Academic Plan Code(s): NIS_CNSGS, NIS_CNSGSO

Program Information
This program can be completed in a traditional classroom format or entirely
online (http://louisville.edu/online/programs).

The graduate certificate in Cybersecurity is designed for advanced
computer professionals who wish to strengthen their knowledge and
skills in the fast-changing field of cybersecurity, as well as students
majoring in disciplines other than Computer Engineering and Computer
Science who want to gain knowledge and skills in cybersecurity.

The Cybersecurity graduate certificate program consists of 12 credit
hours with two required courses from Computer Engineering and
Computer Science department and two elective courses selected from a
list of relevant elective courses in Computer Engineering and Computer
Science department.

As networking technology continues to rapidly advance, so do new
and sophisticated threats and attacks to the nation’s information
infrastructure. The Graduate Certificate in Cybersecurity from the
University of Louisville will prepare you to respond to these challenges,
training you to monitor and identify cybercriminals.

Admission Requirements
The admission standards for the Graduate Certificate program in Data
Science are as follows:

1. All admission applications for the Graduate Certificate program shall
   include the following:
   a. Completed application (http://louisville.edu/graduate/
      futurestudents/apply-materials/application) for the Graduate
      School,
   b. Application fee,
   c. Official transcript(s) for all previous post-secondary coursework.
      All transcripts not in English must be certified as authentic and
      translated verbatim into English.
2. The minimum requirement for admission is the baccalaureate degree
   or its equivalent from an accredited institution or current enrollment
   in an undergraduate Speed School program.
3. The successful applicant will typically have an undergraduate grade
   point average of 2.75 or above (on a 4.00 scale).
4. International students whose primary language is not English must
   show English language proficiency. Applicants must either submit an
   official TOEFL or IELTS score or demonstrate a degree award from an
   acceptable English language institution. The successful applicant
   will typically have a total TOEFL score of 80 or higher or an overall
   IELTS score of 6.5 or higher.

Students enrolling in this graduate certificate program will need to
have sufficient background to be successful. Therefore, students must
have completed the required course prerequisites, or have equivalent
knowledge from courses taken at other universities, or from work
experience. Prerequisites include courses (or equivalent) such as
CECS 130, CECS 310, and CECS 503.

Students can enroll in a Graduate Certificate program either as a non-
degree seeking student or as a student simultaneously enrolled in
a graduate degree program and this graduate certificate program.
Students who wish to earn a graduate degree must meet all admission
criteria for the degree program.

All students enrolled in a graduate certificate program are expected
to make steady and satisfactory progress toward the completion of the
certificate. Students who are not enrolled for a period of more than
12 months will be considered to have withdrawn from the certificate
program. Students who seek to return after such a period of time must
contact the graduate program director.

Program Requirements
A total of 12 credit hours are required with 2 required courses and two
elective courses.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CECS 554</td>
<td>Introduction to Cryptography</td>
<td>3</td>
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<tr>
<td>or CECS 568</td>
<td>Computer Forensics</td>
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<tr>
<td>CECS 566</td>
<td>Information Security</td>
<td>3</td>
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<tr>
<td>Select two of the following:</td>
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<td>6</td>
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<tr>
<td>CECS 613</td>
<td>Network Security</td>
<td></td>
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<tr>
<td>CECS 617</td>
<td>Mobile Computing</td>
<td></td>
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<tr>
<td>CECS 632</td>
<td>Data Mining</td>
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<tr>
<td>CECS 694</td>
<td>Special Topics in Computer Engineering and Computer Science</td>
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<tr>
<td>CECS 694</td>
<td>Special Topics in Computer Engineering and Computer Science (Advanced Cryptography)</td>
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<tr>
<td>CECS 694</td>
<td>Special Topics in Computer Engineering and Computer Science (Database Security)</td>
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Minimum Total Hours 12

The Certificate Program of Study must be completed with a 3.00 GPA or
better for all graduate courses used to satisfy certificate requirements.

Graduate certificate students must take all certificate course work at
the University of Louisville. No transfer credits will be accepted toward a
graduate certificate.