Doctor of Engineering in the field of Cybersecurity Analytics

Information Session
Tuesday, May 23rd

Classes Begin August 2023

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Professor of Engineering Management and Systems Engineering
Director, Online Engineering Programs
Information Session Agenda

- Overview of The George Washington University
- Doctor of Engineering (D.Eng.) in Cybersecurity Analytics
  - Overview
  - Academic Requirements
  - Application Information
- Q & A Session
The George Washington University

- Chartered in 1821 by an Act of Congress
- 10 colleges and schools, including the School of Engineering & Applied Science
- More than 15,000 graduate students
- Alumni network of over 300,000 living alumni in more than 130 countries
- Accredited by the Middle States Commission on Higher Education
- GW’s Online Graduate Engineering Programs ranked #12 by US News
Our Online Program

• Online classes meet synchronously via Zoom and are recorded for viewing throughout the semester

• Supported by Blackboard, GW’s web-based course management software

• Exams are taken through a secure testing platform

• The degree and diploma are identical to that of the main campus
The D.Eng. in Cybersecurity Analytics empowers the student to plan and implement security measures to protect an organization’s network and systems, implement strategies to track threats and monitor networks for security breaches, build secure and resilient computer systems with subject matter expertise in cybersecurity analytics, advanced tools and techniques for ensuring confidentiality, integrity, and availability of an organization’s data and systems.
Program Overview

• Classroom Phase (24 credit hours)
  • 8 graduate-level, 3-credit-hour courses

• Research Phase (24 credit hours)
  • Culminates in Praxis defense

• Total of 48 credit hours

• Program Begins: August 2023

• Target Graduation Date: August 2025
### Curriculum

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CSCI 6015</td>
<td>Cyber Forensics</td>
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<tr>
<td>CSCI 6016</td>
<td>Applied Network Defense</td>
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<tr>
<td>SEAS 8400</td>
<td>Challenges in Cybersecurity</td>
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<td>SEAS 8405</td>
<td>Cybersecurity Architectures</td>
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<tr>
<td>SEAS 8410</td>
<td>Security Data Analysis &amp; Visualization</td>
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<td>SEAS 8414</td>
<td>Analytical Tools for Cyber Analytics</td>
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<tr>
<td>SEAS 8415</td>
<td>Applied Cryptography and Data Protection</td>
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<tr>
<td>SEAS 8499</td>
<td>Praxis Development for Cybersecurity</td>
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*schedules, regulations and policies subject to change; course substitution in the curriculum is usual and should be expected.*
# Calendar

### Session Dates

<table>
<thead>
<tr>
<th>Session</th>
<th>#Courses</th>
<th>#Credit Hours</th>
<th>Session Dates</th>
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<tbody>
<tr>
<td>Fall-1 2023</td>
<td>2</td>
<td>6</td>
<td>August 12 — October 14, 2023</td>
</tr>
<tr>
<td>Fall-2 2023</td>
<td>2</td>
<td>6</td>
<td>October 28, 2023 — January 20, 2024</td>
</tr>
<tr>
<td>Spring-1 2024</td>
<td>2</td>
<td>6</td>
<td>February 3 — April 6, 2024</td>
</tr>
<tr>
<td>Spring-2 2024</td>
<td>2</td>
<td>6</td>
<td>April 20 – June 29, 2024</td>
</tr>
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</table>

*No classes on Thanksgiving, Christmas, New Year, and Memorial Day Weekends*

- 2 courses per session
- Each session has 10 class meetings
- Classes meet on Saturdays
  - Morning Class 9:00a-12:00p (Eastern)
  - Afternoon Class 1:00p-4:00p (Eastern)
Research Phase

• After completion of the classroom phase with a GPA of 3.2 or higher, and no grade below B-, students begin praxis research

• Praxis Research
  • Minimum half-hour individual research meetings initially every other week
  • During this stage, students will develop and write a praxis
  • Praxis defenses are scheduled for the end of the final semester of research

• Research course SEAS 8188 Praxis Research
  • Session I: Summer 2024, 3 credit hours
  • Session II: Fall 2024, 9 credit hours
  • Session III: Spring 2025, 9 credit hours
  • Session IV: Summer 2025, 3 credit hours

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<thead>
<tr>
<th>Grade</th>
<th>GPA Pts</th>
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<tr>
<td>A</td>
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<tr>
<td>A-</td>
<td>3.7</td>
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<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
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Praxis Research Areas

Sample Praxis Research Areas

• Addressing the Cybersecurity Malicious Insider Threat
• Exploring Cybersecurity Requirements in the Defense Acquisition Process
• Internet of Things Device Cybersecurity
• Cybersecurity of Networked Medical Devices
• Cybersecurity Challenges in Aerospace Industries
Admissions Requirements

- Bachelor’s and master’s degrees in information technology, computer science, applied science, engineering or related field from accredited institutions
- A minimum graduate level GPA of 3.2
- Relevant professional experience
- A minimum of two college-level calculus courses
  - Applicants who do not have a grade of C or better in two calculus courses but are otherwise qualified for admission will be required to take an additional course EMSE 4197
  - Offered July 1 – August 5, 2023 on Tuesday (6:30-9:30pm) and Saturday (9am – 12noon). Class on July 5th in lieu of July 4th.
Application Process

Online Application Form, available at:
https://seasonline.gwu.edu/apply/deng-cyber/

Official Academic Transcripts:

• Send Electronic Transcripts to seasdeng@gwu.edu

• Send Paper Transcripts to Online Engineering Programs Office
  The George Washington University
  170 Newport Center Drive, Suite 260
  Newport Beach, CA 92660

All Official Transcripts must be sent directly from the institution
All submitted materials remain property of GW Online Engineering Programs
Parchment Transcripts

Send transcripts to this address to ensure receipt.
Final Application Deadline:

**JUNE 15, 2023**
Admitted Students

• Admission decisions are communicated via email.
• Admitted applicants must return a reply card and a non-refundable tuition deposit of $995 (applied to the first session’s tuition) in order to secure their slot in the cohort.
• Tuition is $1,625 per credit
Contact Information

Online Engineering Programs Office
Shahram Sarkani, Ph.D., P.E., Director
Thomas A. Mazzuchi, D.Sc., Co-Director

- Admissions Team
  - seasdeng@gwu.edu
  - Tel: 833-330-1454

- Doctoral Administrative Team
  - seasdoc@gwu.edu

- Online Technical Support Team
  - seasonline@gwu.edu
  - Tel: 202-422-2806
Answers to Frequently Asked Questions

• Transfer credit is not allowed toward doctoral programs.

• Students should expect to spend approximately 20 hours a week on coursework/research, including class attendance.

• Your research topic will be finalized during your last session (SEAS 8499 – Praxis Development for Cybersecurity)

• Your research advisor will be assigned by the Online Engineering Programs Office after the successful completion of your coursework.
Any Questions?

To protect your privacy, questions regarding individuals’ specific application, degrees, background, or experience will not be answered during this Q&A session.