

Computing Security

Golisano College of Computing & Information Sciences

Graduate Open House - October 2020

Sumita Mishra, PhD

Professor & Graduate Program Director

Agenda



- Introductions
- Program Highlights
- Research Highlights
- Q&A
- Student Panel
- Q&A

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Introductions



- ❖ Dr. Sumita Mishra CSEC Graduate Program Director
- ❖ Ms. Rita McCarthy Senior Staff Specialist
- ❖ Ms. Karen Palmer Graduate Admissions Rep.

- ❖ Current Students
 - ❖ Rajeev Karuvath (First term)
 - ❖ Aditya Kotle (Second Term)
 - ❖ Neha Sharma (Third term)
 - ❖ Geoff Twardokus (BS/MS student – First term MS)

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Computing Security @ RIT



National Center of Academic Excellence
in Cyber Defense Research and Cyber
Defense Education

On Campus Program

Prerequisite/Bridge Requirements



2 courses in Computer Programming

Discrete Mathematics

1 year of Calculus (Recommended)

Statistics

CSEC 600 Introduction to Computing Security or Equivalent

3.0 or better in prerequisite coursework required.

Prerequisite courses are not part of 30 credit hours required for MS degree

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English Language Testing and GRE

- Students with international undergraduate degrees required to take TOEFL/IELTS and need to submit GRE scores
- Students from domestic degree programs do not need to submit GRE scores
- For borderline TOEFL/IELTS scores, English course(s) assigned by ELC
 - Either take the recommendation or get tested by ELC

Program Of Study

(30 semester credit hours)

Core Courses: (6 credit hours)

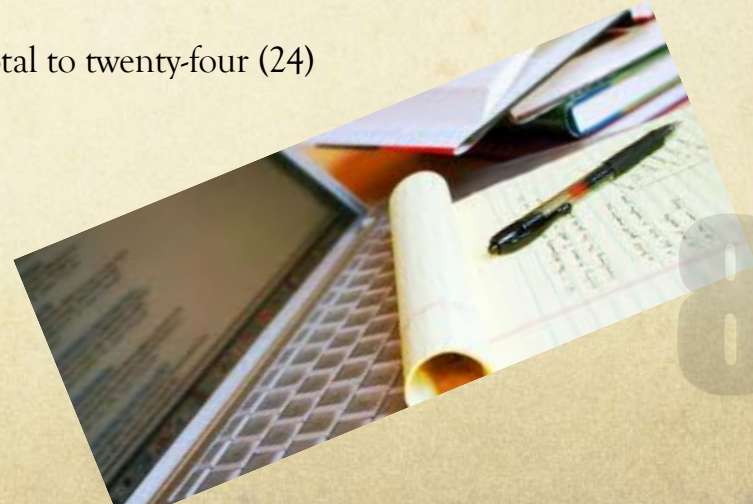
- GCCIS-CSEC-604 Cryptography and Authentication - Fall
- GCCIS-CSEC-742 Computer Systems Security - Spring

○ Research Electives (6 credit hours)

○ Advanced Electives: (12 - 15 credit hours)

○ Capstone (3 or 6 credit hours)

- The credit hours for the electives and the capstone must total to twenty-four (24)



Research Electives (Pick Two)*

- GCCIS-CSEC 659 Graduate Seminar in Computing Security – Usable Security (F)
- GCCIS-CSEC-720 Graduate Seminar in Computing Security – Deep Learning Security (S)
- GCCIS-CSEC-741 Sensor and SCADA Security (S)
- GCCIS-CSEC-750 Covert Communications (F)
- GCCIS-CSEC-759 Graduate Seminar in Computing Security – Wireless Security (F)
- GCCIS-CSEC-759 Graduate Seminar in Computing Security – Advanced Malware Forensics and Anti-Forensics (S)

* Current list - subject to change

Advanced Electives

(Pick 4-5)*

- GCCIS-CSEC-603 Enterprise Security
- GCCIS-CSEC 620 Cyber Analytics and Machine Learning
- GCCIS-CSEC-730 Advanced Computer Forensics
- GCCIS-CSEC-731 Web Server and Application Security Audits
- GCCIS-CSEC-732 Mobile Device Forensics
- GCCIS-CSEC-733 Information Security and Risk Management
- GCCIS-CSEC-743 Computer Viruses and Malicious Software
- GCCIS-CSEC-744 Network Security
- GCCIS-CSEC-751 Information Security Policy and Law
- GCCIS-CSEC-759 Graduate Seminar in Computing Security (Penetration Testing)
- GCCIS-CSEC-759 Graduate Seminar in Computing Security (Innovations in National Security)
- GCCIS-ISTE-721 Information Assurance Fundamentals
- GCCIS-CSCI-620 Introduction to Big Data
- GCCIS-CSCI-622 Secure Data Management
- GCCIS-CSCI-642 Secure Coding
- GCCIS-CSCI-720 Big Data Analytics
- GCCIS-CSCI-734 Foundations of Security Measurement and Evaluation
- GCCIS-CSCI-735 Foundations of Intelligent Security Systems
- GCCIS-CSCI-736 Neural Networks and Machine Learning
- GCCIS-CSCI-762 Advanced Cryptography
- KGCOC-CMPE-661 Hardware and Software Design for Cryptographic Applications

* Current list - subject to change

Capstone Options



- MS Thesis (6 credits)
- MS Project (3 credits)
- Capstone Course (3 credits) – Spring only

Research Highlights



Cyber Analytics: Applying Machine Learning to Security and Privacy

Security and Privacy in Distributed Systems

Cryptography and Trusted Hardware

Cybersecurity Education

Deployment and Usability of Security

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Global Cybersecurity Institute

- A new state-of-the-art 50,000-sq. ft. facility



- Hands-on and research labs
- Cyber Range

Meet Our Students



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Important Websites

- ❖ Computing Security (CSEC) department
<https://www.rit.edu/computing/departments-computing-security>
- ❖ CSEC MS Program
<https://www.rit.edu/computing/study/computing-security-ms>
- ❖ Global Cybersecurity Institute
<https://www.rit.edu/cybersecurity/>

Questions?



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