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|  FLORIDA ATLANTIC UNIVERSITY | NEW/CHANGE PROGRAM REQUEST Graduate Programs | | UGPC Approval _____ UFS Approval _____ Banner _____ Catalog _____ |
| | Department _____ College _____ | | |
| Program Name _____ | | New Program* Change Program* | Effective Date (TERM & YEAR) |
| Please explain the requested change(s) and offer rationale below or on an attachment. | | | |
| *All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes. | | | |
| Faculty Contact/Email/Phone _____ | | Consult and list departments that may be affected by the change(s) and attach documentation Department of Electrical Engineering and Computer Science | |
| Approved by Department Chair  College Curriculum Chair  College Dean  UGPC Chair _____ UGC Chair _____ Graduate College Dean _____ UFS President _____ Provost _____ | | Date 09/05/2025 9/22/2025 9/22/2025 _____ _____ _____ _____ _____ | |

Email this form and attachments to UGPC@fau.edu 10 days before the UGPC meeting.

Catalog Change (newly added courses are color coded in blue):

Cyber Security

Graduate Certificate

(Minimum of 12 credits required)

Cybercrime-related issues especially impact the State of Florida because a significant part of the state's economic development comes from tourism, international banking and high-tech industries. The number of scientists, engineers and experts needed with special skills in cyber security exceeds the number available. The Cyber Security certificate provides opportunities for graduate students to expand their knowledge and skills to meet the needs of the cyber security field. Due to their extensive expertise and facilities, the departments of Electrical Engineering and Computer Science (EECS) and Mathematics and Statistics have jointly designed the Cyber Security certificate. This 12-credit certificate program has two tracks: Computer Science (CS), which is also available fully online, and Mathematics (Math).

Tracks

CS Track: The Cyber Security certificate with a track in Computer Science will be granted to a student who completes four 3-credit courses as follows: three 3-credit courses from the CS Cyber Security course list and one 3-credit course from either the CS or the Math Cyber Security course list.

Math Track: The Cyber Security certificate with a track in Mathematics will be granted to a student who completes four 3-credit courses as follows: three 3-credit courses from the Math Cyber Security course list and one 3-credit course from either the Math or the CS Cyber Security course list.

Admission

CS Track: Open to students who have a B.S. degree in Computer Science or in a related field of Science or Engineering and a GPA of at least 3.0. Students must satisfy the prerequisites for each course in the program. All four courses must be completed with a GPA of 3.0 or better. All course materials are in English; all international students must demonstrate proficiency in English to enter the program.

Math Track: Open to students who have a bachelor's degree in mathematics or in a related field and a GPA of at least 3.0. Students must satisfy the prerequisites for each course in the program. All four courses must be completed with a GPA of 3.0 or better. All course materials are in English; all international students must demonstrate proficiency in English to enter the program.

Cyber Security Courses by Track

CS Cyber Security Courses

Select three from this list and one more from this list or the list of Math courses. Additional courses may be used as replacements with prior approval of the EECS Department.

| Course Title | Course Number | Credits |
|--|---------------|---------|
| Practical Aspects of Modern Cryptography | CIS 5371 | 3 |
| Computer Data Security | CIS 6370 | 3 |
| Distributed Systems Security | CIS 6375 | 3 |
| Secret Sharing Protocols | COT 6427 | 3 |
| Data Analysis and Modeling for Cybersecurity | CAI 6803 | 3 |

Math Cyber Security Courses

Select three from this list and one more from this list or the list of CS courses.

| Course Title | Course Number | Credits |
|---|---------------|---------|
| Introduction to Cryptology and Information Security | MAD 5474 | 3 |
| Cryptanalysis | MAD 6478 | 3 |
| Coding Theory | MAD 6607 | 3 |
| Number Theory and Cryptography | MAS 6217 | 3 |
| Mathematical Foundations of Post-Quantum Cryptography | MAD 6515 | 3 |
| Introductory Discrete Mathematics | MAD 6018 | 3 |
| Survey of Statistics & Probability | STA 6116 | 3 |

Supporting letter from EECS

Subject: Re: a few items
From: Hari Kalva <hkalva@fau.edu>
Date: 9/8/2025, 2:00 PM
To: Yuan Wang <YWANG@fau.edu>

Hi Yuan, we support all the three proposed items:

- a revision of the Math track of the Cyber Security Graduate Certificate by adding a few elective courses in the Math course list
- a proposal of new graduate course Mathematical Foundation of Post-Quantum Cryptography
- a proposal of new graduate course Mathematics for Artificial Intelligence (primary audience will be teachers in mathematics)

I will take care of CAP 5768 for Spring 26.

Thank you.

From: Yuan Wang <YWANG@fau.edu>
Sent: Sunday, September 7, 2025 2:50 PM
To: Hari Kalva <hkalva@fau.edu>
Subject: Re: a few items

Dear Hari,

I'm very sorry, but I attached in my previous email a wrong version the course proposal for Math Foundation of Post-Quantum Cryptography so the syllabus was missing. Please use the file in this email.

For your convenience, I'm including the other two attached files in this email.

Thank you.
Yuan

On 9/7/2025 1:59 PM, Yuan Wang wrote:

Dear Hari,

I hope all has been going well with you.

I have a few items for your attention:

- For Spring 2026, we do not plan to offer a section of CAP 5768. Could you please

cancel or hold CAP 5768-001, under Chang? We plan to offer a section in Spring 2027. I hope this is okay with you.

- I'm seeking your support on the following:
 - a revision of the Math track of the Cyber Security Graduate Certificate by adding a few elective courses in the Math course list
 - a proposal of new graduate course Mathematical Foundation of Post-Quantum Cryptography
 - a proposal of new graduate course Mathematics for Artificial Intelligence (primary audience will be teachers in mathematics)

The proposals, including the course syllabus, are attached. Your feedback and support would be greatly appreciated!

Thank you.

Yuan