CYBER AND INFORMATION SECURITY, BS

The Roosevelt University Center for Cyber and Information Security is an NSA accredited **Center of Academic Excellence in Cyber Defense** and offers the Bachelor of Science in Cyber and Information Security Degree.

Students completing this program will have an understanding of the field of cyber security in its technical depth and also of the environments in which cyber defense activities take place. Students will learn how to collaborate, communicate, and work at all levels with the various stakeholders and decision makers of the corporate, government, and defense communities. Students will understand and be prepared to use the tools and techniques common to those environments.

Upon completion of the program, students will have a deep understanding of the profession and a solid preparedness to enter the workforce.

Students who meet all of the degree requirements will earn a diploma for their BS in Cyber and Information Security *and* an approved CAE-CD Certificate of Completion indicating their completion of a DHS/NSA approved program.

Prerequisites
Students planning to transfer in from other institutions should plan to take only prerequisite courses and the supporting sequence of major courses at those institutions.

There are several requirements unique to this major. To plan their program of study, students considering a Cyber and Information Security major should *speak to an advisor from the Cyber and Information Security Center* at their earliest opportunity.

Standards and Other Requirements

- Students must maintain a 2.0 GPA in the major, and must earn grades of C or higher in all major coursework.
- All courses in the major, except the supporting sequence courses, must be completed at Roosevelt University or another CAE-CD certified institution.
- Students must prove successful participation in each of the following: one cyber competition, one cyber community outreach activity, and one cyber research activity during their program of study.

Requirements

- All courses in the major, except the supporting sequence of major courses, must be completed at Roosevelt or at another CAE-CD designated institution.
- Students must maintain a 2.0 GPA in the major, and must earn grades of C or higher in all major coursework.
- At least 60 credit hours in computer science, cyber security, natural sciences, mathematics, and/or psychology.
- Students must prove successful completion in each of the following: one cyber competition, one cyber community outreach activity, and one cyber research activity, during their program of study.
- Because of the rapidly changing nature of this field of study, computing courses taken more than eight years ago cannot be counted towards degree requirements unless the student has been continuously registered since the time the course was taken (excluding summers).

Code	Title	Credit Hours
Required Supporting Sequence of Major Courses		
CSIA 150	COMPUTER SCIENCE I	4
CSIA 261	COMPUTER ORGANIZATION	3
Required Major Core Courses		
CSIA 236	PYTHON SCRIPT PROGRAMMING	3
or CSIA 250	COMPUTER SCIENCE II	
CSIA 301	COMPUTER NETWORKING	3
CSIA 317	OPERATING SYSTEMS	3
CSIA 318	UNIX AND SYSTEM ADMINISTRATION	3
CSIA 333	DATABASE SYSTEMS	3
CSIA 355	APPLIED CRYPTOGRAPHY (Applied Cryptography, cross-listed from CST 355)	3
CSIA 359	INTRO TO COMPUTER SECURITY	3
CSIA 368	INTERNET SECURITY	3
Required Math Courses		
MATH 217	ELEMENTARY STATISTICS	3
MATH 245	DISCRETE STRUCTURES (counts as one science elective) [1]	3
Electives		
300 level CSIA courses		9
Science Electives [1]		12
Capstone		
CSIA 399	SENIOR PROJECT	3
General Education, University Writing Requirement, and Electives		
Courses to total 120		59
Total Credit Hours		120

1

Students must select science electives from any science with the following restrictions at least 6 hours must come from CST, CSIA, Math, or ACSC, at least 6 hours at the 300 level, and at most 6 hours from among special topics courses (CST/CSIA 390), Internship (CST/CSIA 394), and independent study (CSIA/CST 395)

CORE Requirements (General Education)

Code	Title	Credit Hours
First Year Success Course or Transfer Success Course		
FYS 101	FIRST YEAR SUCCESS COURSE	1
or TRS 101	TRANSFER SUCCESS 101	
Communication Requirement		
ENG 101	COMPOSITION I: CRITICAL READING & WRITING	3
ENG 102	COMPOSITION II: INTRODUCTION TO ACADEMIC RESEARCH	3
COMM 101	PUBLIC SPEAKING (or program specific CORE communications course)	3
Ideas of Social Justice		
3 credits in coursework categorized as Ideas.		3
Humanities and Fine and Performing Arts		

9 credits from the following subject areas: African-American Studies, Art History, English (excluding ENG 101 and ENG 102), History, Languages, Music, Philosophy, Theatre, Communication and Women's and Gender Studies	9
Mathematics	
MATH 110 QUANTITATIVE LITERACY (or above) [1]	3
Science	
One biological science and one physical science required (one must include a one credit lab).	7-8
Social Sciences	
9 credits from the following subject areas: African-American Studies, Criminal Justice, Economics, History, Journalism, Philosophy, Political Science, Psychology, Sociology and Women's and Gender Studies	9
Experiential Learning	
6 credits from coursework categorized as Experiential Learning.	6
Total Credit Hours	47-48

1

Higher level of Math may be required by major

These quantitative requirements also apply to degrees.

- Students must earn a minimum of 120 semester hours.
- Students may apply no more than 60 credit hours of 100-level courses toward the degree.
- Students must apply no fewer than 60 credit hours of 200- and 300-level courses toward the degree.
- Students must have at least 18 credit hours (of the 60 credit hours above) at the 300 level.
- Students may transfer in no more than 70 credit hours from community colleges.
- Students earning less than 60 total hours in residence must take their final 30 hours at Roosevelt University. Note that some majors have additional requirements for RU hours.
- Students must have a grade point average of 2.0 or higher to graduate. Note that some majors have additional GPA requirements.
- Students may apply no more than 51 hours in the major (BA) or 57 hours in the major (BS)

Your degree map is a general guide suggesting courses to complete each term on the academic pathway to your degree. It is based on the most current scheduling information from your academic program. Your program's degree map is reviewed annually and updated as schedules change although you retain the same course requirements as long as you are continuously enrolled in your degree program.

This degree map represents a guide to the coursework component of your degree. Students in the Cyber and Information Security major **must** work with a program advisor from the Cyber and Information Security Center to make sure the student understands and meets *all* of the requirements of this major prior to the student's expected date of graduation.

Year 1

Fall	Credit Hours	Spring	Credit Hours
FYS 101		1 ENG 102	3
MATH 121		3 MATH 217	3
ENG 101		3 CSIA 150	4
Social Science #1		3 Ideas of Social Justice	3
BIOL 111 or 112[1]		4 Social Science #2	3
		14	16

Year 2

Fall	Credit Hours	Spring	Credit Hours
COMM 101		3 CSIA 261	3
CSIA 236 or 250		3 CSIA 318	3
General Elective		3 Social Science #3	3
Humanities #1		3 Humanities #2	3
Physical Science[1]		3 General Elective	3
		15	15

Year 3

Fall	Credit Hours	Spring	Credit Hours
CSIA 301		3 CSIA 355	3
CSIA 317		3 CSIA 3XX[4]	3
CSIA 333		3 Science Elective[3]	3
MATH 245[3]		3 General Elective	3
Humanities #3		3 General Elective	3
		15	15

Year 4

Fall	Credit Hours	Spring	Credit Hours
CSIA 359		3 CSIA 368	3
CSIA 3XX[4]		3 CSIA 399[2]	3
CSIA 3XX[4]		3 Science Elective[3]	3
General Elective		3 Science Elective[3]	3
Experiential learning #1[2]		3 General Elective	3
		15	15

Total Credit Hours 120

1

One Natural Science course must include a lab and one must be BIOL

2

Experiential Learning class must be 200/300 level. Satisfies CORE Experiential Learning requirement.

3

Students must select science electives from any science with the following restrictions: at least 6 hours must come from CST, CSIA, Math, or ACSC, at least 6 hours at the 300 level, and at most 6 hours from among special topics courses (CST/CSIA 390), Internship (CST/CSIA 394), and independent study (CSIA/CST 395). MATH 245 counts toward this requirement.

4

Any 300 level CSIA course.