CYBERSECURITY (CAREER FOCUSED BS)

Program Overview
Bachelor of Science Degree

The Career-Focused Bachelor of Science degree program in Cybersecurity is designed to prepare motivated students for their careers in two short years. These results-oriented programs have fewer credits than the traditional programs and focus on workplace-ready skills. The Career-Focused programs are designed with liberal arts outcomes embedded within the context of courses in the major, highlighting the importance of soft skills in technology-focused careers.
Career-Focused programs are closely aligned with market needs, providing students with a robust framework for both academic and professional success. These innovative programs will not only provide graduates with a skillset that is in demand but will also reduce the cost of their education and the time to enter their chosen career.

NEIT's reduced credit Career Focused programs will be sufficient to meet admission requirements for NEIT's master's degree programs. However, other institutions may not accept NEIT's reduced credit Career Focused program as an undergraduate credential sufficient for admission. It is critical that students confirm specific   requirements with their institution of choice.

From multi-national corporations to local small businesses, cybersecurity defense is an integral piece of an organization's strategy. Information and the technology infrastructure it resides on are two of an organization's most valuable assets and these are often continuously threatened or under active attack. Successful defense and protection of these assets requires a trained cybersecurity professional who not only understands the technical aspects, but also is aware of strategic business interests.

The Career-Focused Cybersecurity program, offered by the Computer Science Department, is designed to prepare graduates for careers in the cybersecurity field. The Career-Focused Bachelor of Science degree provides students with extensive experience in the management of Local Area Networks (LANs), intranets, Wide Area Networks (WANs) and exposure to configuring and managing web servers. The curriculum includes core topics in the realm of cybersecurity, such as: computer systems, mobile and network forensics, cloud computing, Windows and Linux security and incident response.

Students will learn best practices for the design of secure modern networks as well as how to secure existing computers and networks. They will apply practical cybersecurity theory to real-life cyber incidents and computer system issues in hands-on scenarios. Evolving threats and the proper use of specific security tools are studied and both security theory and hands-on practice are stressed.

A key feature of this program is a senior project in which each student works with a faculty member to develop and present a project that focuses in depth on a particular topic and allows students to bring together knowledge gained throughout the program.

Graduates of this program will be eligible to take such internationally recognized certification exams as the CompTIA Security + and Network + exams, the Cisco Certified Network Associate Certification (CCNA), CCNA Cyber Ops, Microsoft MCP, Microsoft Technology Associate (MTA)

Security Fundamentals, and the Microsoft Certified System Administrator (MCSA).

With a Career-Focused Bachelor of Science degree in Cybersecurity, students can compete for positions like systems operations and maintenance professional, network security specialist, digital forensics and incident response specialist, vulnerability analyst, and LAN managers. Positions in law enforcement will also be attainable. While the emphasis of the program is on network security, graduates are qualified for positions advertised as network administrators, network engineers and network analysts. Upon successful completion of this program, students can also continue into the NEIT Master of Science in Cybersecurity Defense degree program.

Curriculum

Course	Title	Quarter Credit Hours
Term I		
NE 131	Networking for Small Businesses	3
IT 121	IT Visual Communications	3
SE 116	Programming Essentials Using Python	4
MA 110	Introduction to College Math	4
EN 100	Introduction to College Writing	4
	Quarter Credit Hours	**18**
Term II		
CYB 123	Cybersecurity Threats and Defense	3
NE 121	Windows Networking Essentials	4
NE 255	Linux Fundamentals	3
SE 126	Intermediate Programming Using Python	4
	Quarter Credit Hours	**14**
Term III		
CYB 241	Security of the Internet of Things	3
NE 247	Windows Server	4
SE 111	HTML and JavaScript	4
MA 125	Technical Math I	4
	Quarter Credit Hours	**15**
Intersession 1		
Elective	100-200 Level Social Sciences Core	4
	Quarter Credit Hours	**4**
Term IV		
CYB 252	Cyber Scenarios	1
IT 374	IT Project Management	3
NE 245	Introduction to Networks	4
NE 263	Introduction to Azure Administration	4
MA 210	Technical Math II	4
	Quarter Credit Hours	**16**
Term V		
NE 257	Routing and Switching Essentials	4
NE 381	Design and Implementation of an Active Directory Network	4
NE 385	Linux System Administration	4
IT 379	Cloud Foundations	4
	Quarter Credit Hours	**16**

Term VI

CYB 394	Windows Security	4
CYB 408	Linux Security	4
CYB 423	Incident Response	3
NE 406	Router Security and Firewall Management	3
EN 322	Advanced Career Writing for Digital Media	4
	Quarter Credit Hours	**18**

Term VII

CYB 373	Ethical Hacking	3
CYB 409	Web Application Security	3
CYB 412	Network Security	4
Elective	300-400 Level Math/Science Elective	4
OR		
PHY 200	Physics I & Lab	4
HU 315	Cultural Competence in the Workplace	4
	Quarter Credit Hours	**22**

Intersession 2

Elective	300-400 Level Humanities or Social Sciences	4
	Quarter Credit Hours	**4**

Term VIII

CYB 425	Cybersecurity Senior Project	8
IT 400	IT Project Documentation	4
CYB 426	Advanced Information Security	3
	Quarter Credit Hours	**15**
	Total Quarter Credit Hours	**142**

Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

Subject to change.

Program Mission, Goals, and Outcomes
Program Mission

The mission of the Cybersecurity bachelor program is to provide preparation for the field of information technology with a focus on cybersecurity and network engineering. Through a combination of theory, labs, and optional field experience, the program emphasizes application of knowledge to the specifications and requirements of the cybersecurity, information assurance, network engineering and computer support industries, and teaches students to strive towards providing and enhancing a productive business environment. The Cybersecurity bachelor's program is designed to provide more depth and breadth with topics learned in the Cybersecurity and Network Engineering associate program, and to introduce more advanced concepts and practices with topics beyond what was covered in that program.

Program Goals

The program goals of the Career-Focused Cybersecurity Bachelor's Degree are:

1. Through participation in a Senior Project or Internship, provide appropriate learning opportunities for students to acquire the theoretical knowledge, applicable skills, and the professional attitude necessary to function as an IT professional requiring intermediate and advanced skills.
2. Educate students in the skills required to gather and analyze information required to successfully translate business scenarios into technical solutions through appropriate design, implementation, and troubleshooting.
3. Cultivate every student's ability to critically analyze advanced IT and security problems, and efficiently and correctly troubleshoot those problems.
4. Provide an environment that encourages self-learning and lifelong learning by furthering each student's ability to adapt to and incorporate new concepts, ideas, and evolving technologies.
5. Strive to instill in each student a sense of professional commitment and integrity with respect to the security and privacy of clientele and information, the rights of copyright holders, and the inherent responsibilities of license users.
6. Help prepare students to acquire various entry and intermediate level industry certifications.

Program Outcomes

Graduates of the Career-Focused Cybersecurity program will be able to:

1. Apply practical and theoretical network engineering knowledge based upon the foundation concepts defined in an integrated environment, while understanding how proper design applies to information security.
2. Research, formulate and critique security policies regarding the collection, preservation, safeguarding and disposition of personal and organizational information by performing risk management and threat awareness.
3. Create, follow, and meet objectives of a project plan and recognize the need for adaptation, adjustments, and restructuring of the plan, both as an individual IT professional, and in a team environment.
4. Develop organizational business continuity plans and implement them by analyzing digital evidence to determine user and intruder activity on systems.
5. Demonstrate effective oral and written communications with supervisors, subordinates, team members and clients. Students should exhibit lucid, clear and concise technical and professional communication as well as be able to communicate complex technical ideas in layman's terms to non-technically trained people.
6. Provide network and system administration support with security auditing services in a responsible and ethical manner that complies with applicable laws and regulatory standards.
7. Acquire proficiency with and provide support for security principles, computer hardware, operating systems, software, Internet/network connectivity based on legacy, current, and state of the art technologies.

Q&A and Technical Standards
Questions and Answers

1.When do my classes meet?

Day Classes: Technical classes normally meet for at least three hours a day for up to five days a week. Classes normally begin in the early

morning (7:45 a.m.), late morning (usually 11:25 a.m.), or mid-afternoon. A technical time slot may vary from term to term.

Evening Classes: Technical classes meet on the average of three nights a week, although there may be times when they will meet four nights a week. Classes normally begin at 5:45 p.m.

In addition, to achieve your bachelor's degree, you will take a total eight liberal arts courses, which will be scheduled around your program schedule over the course of your entire program. Each liberal arts course meets approximately four hours per week. Liberal arts courses are offered days, evenings, and Saturdays, and online.

At the beginning of each term you will receive a detailed schedule giving the exact time and location of all your classes. The university requires that all students be prepared to take classes and receive services at any of NEIT's locations where the appropriate classes and services are offered.

When a regularly scheduled class falls on a day which is an NEIT observed holiday (Martin Luther King Jr. Day, President's Day, Memorial Day, Juneteenth, Labor Day, Columbus Day and Veteran's Day), an alternate class will be scheduled as a make up for that class. The make up class may fall on a Friday. It is the student's responsibility to take note of when and where classes are offered.

2.How large will my classes be?
The average size for a class is about 20 to 25 students; however, larger and smaller classes occur from time to time.

3.How much time will I spend in lab?
Almost half of your technical courses consist of laboratory work. In order for you to get the most out of your laboratory experiences, you will first receive a thorough explanation of the theory behind your lab work.

4.Where do my classes meet?
Students should be prepared to attend classes at any of NEIT's classroom facilities: either at the Post Road, Access Road, or East Greenwich campuses.

5.How long should it take me to complete my program?
To complete your degree requirements in the shortest possible time, you should take the courses outlined in the prescribed curriculum. For a typical eight-term curriculum, a student may complete the requirements in as little as 24 months as long as you take classes in both intersessions. The Intersession is a special five-week term scheduled between Spring and Summer Terms.

6.Is NEIT accredited?
NEIT is accredited by the New England Commission of Higher Education (formerly the Commission on Institutions of Higher Education of the New England Association of Schools and Colleges, Inc.). Accreditation by NECHE is recognized by the federal government and entitles NEIT to participate in federal financial aid programs. Some academic departments have specialized professional accreditations in addition to accreditation by NECHE. For more information on accreditation, see NEIT's catalog.

7.What are the admissions criteria to this program?
To be considered for admission to this program, you must provide/meet the following requirements:
•Transcripts from high school or prior college coursework
•A minimum high school GPA of 3.0 or a college GPA of 2.5 (B- or higher for all English and math courses).

•An Accuplacer entrance exam for students with a GED and those 24 and older with no college achieving a reading score of 236 or higher, a writing score of 14 or higher and a math score of 244 or higher.

8.Can I transfer the credits that I earn at NEIT to another college?
The transferability of a course is always up to the institution to which the student is transferring.

9.Can I transfer credits earned at another college to NEIT?
Transfer credit for appropriate courses taken at an accredited institution will be considered for courses in which the student has earned a "C" or above. An official transcript from the other institution must be received before the end of the first week of the term for transfer credit to be granted for courses to be taken during that term.

10.Can I switch to a traditional bachelor's program after being enrolled in the career-focused bachelor's program?
Students enrolled in the Career-Focused Bachelor of Science degree program have the flexibility to transition to the traditional program at any point during their first two terms. After the second term, students who wish to shift to the traditional program will need to meet with their student advisor to develop a custom program.

11.Can I use this degree as an entrance requirement for a graduate degree at NEIT?
Graduates of the career-focused bachelor's program in Cybersecurity may enroll in the master's program in Information Technology or the master's program in Cybersecurity Defense if their undergraduate GPA is at least 2.5.

12.What is the "Feinstein Enriching America" Program?
New England Institute of Technology is the proud recipient of a grant from the Feinstein Foundation. To satisfy the terms of the grant, the university has developed a one-credit community enrichment course which includes hands-on community enrichment projects. The course can be taken for a few hours per term, spread over several terms. Students who are already engaged in community enrichment on their own may be able to count that service towards course credit.

13.Are NEIT's career-focused baccalaureate programs eligible for federal financial aid?
NEIT's career-focused baccalaureate programs are eligible for Title IV federal financial aid. However, students who leave NEIT having completed a career-focused baccalaureate degree but later choose to return to NEIT or attend another institution to complete additional undergraduate credits, either to earn a Certificate of Post-Baccalaureate Studies or to earn a second baccalaureate degree, will not be eligible for federal grant aid and may have limited eligibility for other federal aid programs.

14.How many credits do I need to acquire my Financial Aid?
In order to be eligible for the maximum financial aid award, you need to maintain at least 12 credits per academic term.

15.What kind of employment assistance does NEIT offer?
The Career Services Office assists NEIT students and graduates in in all aspects of the job search, including resume writing, interviewing skills, and developing a job search strategy. Upon completion of their program, graduates may submit a resume to the Career Services Office to be circulated to employers for employment opportunities in their fields. Employers regularly contact us about our graduates. In addition, our Career Services Office contacts employers to develop job leads.

A strong relationship with employers exists as a result of our training students to meet the needs of industry for over fifty years. No school can,

and NEIT does not, guarantee to its graduates employment or a specific starting salary.

16.Where will job opportunities exist?
Graduates have obtained employment in the local area. However, one of the most exciting aspects of this program is the ability to look nationally for employment opportunities.

17.Is there any state or federal licensing required in my field?
No, there is currently no federal or state licensing requirements to gain entry into a work position in the cybersecurity field.

18.Where will job opportunities exist?
Graduates have obtained employment in the local area. However, one of the most exciting aspects of this program is the ability to look nationally for employment opportunities. Upon completion of a bachelor's degree at NEIT, positions on the management level become attainable.

19.What kind of jobs will I be qualified to look for?
With a Career-Focused Bachelor of Science degree in Cybersecurity, students can compete for positions like systems operations and maintenance professional, network security specialist, digital forensics and incident response specialist, vulnerability analyst, and LAN managers. Positions in law enforcement will also be attainable. While the emphasis of the program is on network security, graduates are qualified for positions advertised as network administrators, network engineers and network analysts. Upon successful completion of this program, students can also continue into the NEIT Master of Science in Cybersecurity Defense degree program.

Technical Standards

These technical standards set forth by the Computer Science Department establish the essential qualifications considered necessary for students admitted to the program. The successful student must possess the following skills and abilities or be able to demonstrate they can complete the requirements of the program with or without reasonable accommodation, using some other combination of skills and abilities.

Cognitive Ability

• Good reasoning and critical thinking skills.
• Ability to learn, remember and recall detailed information and to use it for problem solving.
• Ability to deal with materials and problems such as organizing or reorganizing information.
• Ability to use abstractions in specific concrete situations.
• Ability to separate complex information into its component parts.
• Ability to perform tasks by observing demonstrations.
• Ability to perform tasks by following written instructions.
• Ability to perform tasks following verbal instructions.
• Possession of basic keyboarding skills and knowledge of computer programs.

Communications Skills

• Ability to speak in understandable English in a classroom situation on a one-on-one basis as well as before a group.
• Ability to communicate effectively with faculty and other students.
• Ability to demonstrate and use the knowledge acquired during the classroom training process.
• Ability to verbally express technical concepts clearly and distinctly.

• Ability to express thoughts clearly.

Adaptive Ability

• Ability to remain calm in the face of computer lab equipment and/or software failure.
• Ability to maintain emotional stability and the maturity necessary to interact with members of the faculty and students in a responsible manner.
• Ability to tolerate the differences in all students, faculty, and administration.
• Ability to follow instructions and complete tasks under stressful and demanding conditions.
• Ability to adapt in a positive manner to new and changing situations with an open mind and flexibility.
• Ability to think clearly and act quickly and appropriately in stressful situations.

Physical Ability

• Ability to sit continuously at a personal computer for long periods of time in order to learn and become proficient in computer programming and networking.
• Ability to perform learned skills independently, with accuracy and completeness within reasonable time frames in accordance with classroom and business procedures.

Manual Ability

• Sufficient motor function and sensory abilities to participate effectively in the classroom laboratory.
• Sufficient manual dexterity and motor coordination to coordinate hands, eyes and fingers in the operation of computers and business equipment.

Sensory Ability - Visual

• Acute enough to see clearly and interpret the contents on the computer screen.

Degree Progress Checklist

Checklist coming soon!