Course Sequences and Curriculum Pattern

Bachelor of Arts in Cybersecurity

The **Bachelor of Arts in Cybersecurity** concentration required nine (9) semester hours.
The courses related to the **Bachelor of Arts in Cybersecurity** and its concentration will have the Prefix CYB. The Bachelor of Arts in Cybersecurity courses will be hosted On-Campus and Online to increase enrollment in the program. All courses are the 8-week duration, and the Bachelor of Arts in Cybersecurity degree programs can be completed four years or less.

General Education Requirements

ENGLISH (6 CREDIT HRS)

Course#	Course Title	Cr.
ENG 101	English Composition	3
ENG 102	English Composition	3

* See General Requirement section

HUMANITIES (6 CREDIT HRS)

Course#	Course Title	Cr.
HUM 101	Intro. to Humanities	3
HUM 102	Intro. to Humanities	3

MATHEMATICS (3 CREDIT HRS)

Course#	Course Title	Cr.
103	College Algebra	3

* See General Requirement section

NATURAL/PHYSICAL SCIENCE (4 CREDIT HRS)

Course#	Course Title	Cr.
NE 101	Biological Science	4
Or		
NS 102	Physical Science	4

Computer Information Systems and Cybersecurity majors can take either NS 101 or NS 102 course as per availability along with the Lab.

SOCIAL SCIENCE /HISTORY (9 CREDIT HRS)

Course#	Course Code	Cr.
235	HIS	3

| 236 | HIS | 3 |
| Social Science Elective | | 3 |

PHYSICAL EDUCATION (2 CREDIT HRS)

Course#	Course Code	Cr.
101	PE	1
102	PE	1
306	First Aid	2

Note: PE 101/102 or PE First Aid

COLLEGE ORIENTATION (1 CREDIT HRS)

Course#	Course Name	Cr.
100	EDU	1

* See General Requirement section

Total: For baccalaureate programs, a minimum of 31 semester hours or the equivalent of a general education component at the collegiate level. These credit hours are to be drawn from and include at least one course from each of the following areas: Humanities/fine arts, social/behavioral science, and natural science/mathematics.

General education courses are college-level and comprise a substantial component of each undergraduate degree

* A grade of "C" or better is required for all CYB core courses.

The minimum number of semester hours in all CYB core courses for graduation: 65 The minimum number of semester hours needed for graduation: 120

A minimum of 120 credit hours and a 2.0 GPA is required to graduate from the Talladega College with a bachelor's degree in Cybersecurity.

Mathematics Requirements for Bachelor of Arts in Cybersecurity program Note: Prerequisite requirements must be met before taking Mathematics courses

CYBER OPERATIONS: Focus Area: Programming

The National Security Agency's (NSA) National Centers of Academic Excellence in Cyber Operations (CAE-CO) program supports the Pres ident 's " National Initiative for Cybersecurity Education (NICE): Building a Digital Nation " and furthers the goal of broadening the pool of skilled workers capable of supporting a cyber-secure nation.

The Cyber Operations concentration (focus Area) in the cybersecurity degree provides the learner the ability to specialize their skills in the python programming and Java security API (Application Programming Interface) because Python is a widely-used programming language for cybersecurity,

penetration testing, and digital forensic applications. It is also a dominant language in the world of information security while Java contains a set of APIs spanning major security areas, including cryptography, public key infrastructure, authentication, secure communication, and access control. The courses selected prepare the students to handle penetrating testing, cyber incidents, and the context of man-in-the-middle attacks by using python language.

Requirements

> • Minimum of 9 credits.

Programming Concentration for Bachelor of Arts in Cybersecurity program

Bachelor of Arts in Cybersecurity Program	
Course Number and Name:	**Credit Hours**
CS 250: Basic Programming with Python	3
CS 251: Advanced Programming with Python	3
CS 358: Fundamental of Java security API	3
Required Semester hours:	9

Note: The nine (9) semester hours of the concentration can substitute with the CYB core courses. CS 432-Computer Architecture, CYB 460 and CYB 470

Pre-Requisite for Concentration:

The following courses should be taken and passed with "C" or better grade before selecting the concentration or Focus Area.

- CS 330: Data Communication and Networking
- CYB 415: Digital Forensics and investigation
- CYB 435: Software Reverse Engineering and Malware
- CYB 445: Cyber Defense Tools and Techniques

Cybersecurity (BACYB) Major

Fall-I	Credit Hours	Fall-II	Credit Hours	Spring-I	Credit Hours	Spring-II	Credit Hours
Freshman							
ENG 101 English Composition	3	ENG 102 English Composition	3	HUM 102 Introduction to Humanities	3	CS 212 Formal Thinking	3
SS Electives	3	HUM 101 Introduction to Humanities	3	HIS 236 African American History II	3	CS 309: Data Structures and Algorithms	3
PE 101 Physical Education/ PE 306 First Aid	1/2	PE 102 Physical Education /PE 306 First Aid	1/2	MTH 105 Precalculus	3	Free Elective	3

	Credit Hours		Credit Hours		Credit Hours		Credit Hours
NS 101 Biological Science with lab or NS 102: Natural Science with Lab	4	CS 150: Intro to Computer Science	3	Free Elective	3	Foreign language	3
EDU 100 College Orientation	1	HIS 235 African American History I	3				
	12/13		13/14		12		12
Fall-I	**Credit Hours**	**Fall-II**	**Credit Hours**	**Spring-I**	**Credit Hours**	**Spring-II**	**Credit Hours**
Sophomore							
CIS 300 Information Security and Policy	3	CS 354 Assembly language	3	CYB 445: Cyber Defense Tools and Techniques	3	CS 415 Digital Forensics and Investigations	3
CS 370 Computer and Cyber Ethics	3	ENG 210 Pract. In Writ. Or ENG 202 Speech	3	CS 431 Operating Systems	3	CS 432 Computer Architecture	3
MTH 200 Elementary Statistic	3	Free Elective	3	CIS 371 Research Method	3	CYB 435 Software Reverse Engineering and Malware Analysis	3
Foreign Language	3	CS 330 Network and Data Communication	3	CS 430 Network Security	3	CYB 440 Mobile Computing and Wireless Networking	3
				MTH 201 Functional Numeracy or MTH 262 Discrete Math	3		
	12		12		15		12
Fall-I	**Credit Hours**	**Fall-II**	**Credit Hours**	**Spring-I**	**Credit Hours**	**Spring-II**	**Credit Hours**
Junior		Senior				CS250Basic Programming with Python• Only for Cyber operation Concentration. or can be replaced with CS 432 Computer Architecture	3
CS/CIS 495 and 496: Research (Continue to next semester) • Internship CIS 416 (Continue to Next Semester) **Note:** i) Cybersecurity	6	CIS 475 Seminar	2				

Capstone Research ii) Students should be enrolled both courses							
CYB 450 Vulnerability Analysis and Protection	3	CYB 470 The Ethics and Compliance Standards in Cybersecurity.	3				
CYB 460: Information Technology Risk Management	3	CYB 455 Cloud Computing and Security	3				
	12		8				
CS 251 Advanced Programming with Python • Only for Cyber operation Concentration and can be replaced with CYB 460: Information Technology Risk Management	3	CS 358 Fundamental of Java security API • Only for Cyber operation Concentration and can be replaced with CYB 470 The Ethics and Compliance Standards in Cybersecurity	3				

*In Junior and Senior year: CIS 416 Internship can be completed in with two-semester work. The internship should be approved by your advisor