

IT: Cybersecurity (A25590CS)

A.A.S. Degree (Full-Time)

Semester by Semester Planning Guide

Course Placement Note for English and Math Courses:

Wake Tech is committed to student success, so we want to make sure you start with the right English and math courses to give you the strongest foundation possible as you progress.

Depending on your experience and several other factors, you will start on one of the following paths: **(1)** College-Level Courses, **(2)** Co-Requisite Courses, or **(3)** Transition Courses. [Review these determining English and math placement factors when starting your degree completion journey.](#)

Note – English and math courses listed below may need prior co-requisite or transition course completion depending on your English and math placement path.

Technology Course Note:

Technology related courses completed more than 5 years ago may not receive transfer credit. Consult your advisor for details.

FALL SEMESTER		Hrs Per Week		Credit Hrs	Prerequisite	Corequisite	Notes:
Course	Course Name	Class	Lab				
<input type="checkbox"/> CTI 110	Web, Prog, & Database Foundations	2	2	3	ENG-025 & MAT-025 or MAT-035		<i>*Important pre-req course to complete early in program.</i>
<input type="checkbox"/> CTI 120	Network & Security Foundations	2	2	3			<i>*Important pre-req course to complete early in program.</i>
<input type="checkbox"/> ENG 111	Writing & Inquiry	3	0	3	*See important notes above concerning English placement.		
<input type="checkbox"/> NOS 110	Operating System Concepts	2	3	3			<i>*Important pre-req course to complete early in program.</i>
<input type="checkbox"/> SEC 110	Security Concepts	2	2	3			<i>*Important pre-req course to complete early in program.</i>
Semester Credit Hrs				15			

SPRING SEMESTER		Hrs Per Week		Credit Hrs	Prerequisite	Corequisite	Notes:
Course	Course Name	Class	Lab				
<input type="checkbox"/> CSC 121	Python Programming	2	3	3	CTI 110		<i>*Important pre-req course before CSC 227.</i>
<input type="checkbox"/> NET 125	Introduction to Networks	1	4	3	CTI 120		<i>*Can be completed 1st 8 weeks of semester.</i>
<input type="checkbox"/> NET 126	Routing Basics	1	4	3	NET 125		<i>*Can be completed 2nd 8 weeks of semester.</i>
<input type="checkbox"/> NOS 120	Linux/UNIX Single User	2	2	3	NOS 110		
<input type="checkbox"/> NOS 130	Windows Single User	2	2	3	NOS 110		
Semester Credit Hrs				15			

SUMMER SEMESTER		Hrs Per Week		Credit Hrs	Prerequisite	Corequisite	Notes:
Course	Course Name	Class	Lab				
<input type="checkbox"/>	Math Elective			3 - 4	*See important notes above concerning math placement.		*Choose from one of the following: MAT 121, MAT 143, MAT 171, MAT 172, or MAT 271
<input type="checkbox"/> NOS 125	Linux & UNIX Scripting	2	2	3	NOS 120		
Semester Credit Hrs				6-7			

FALL SEMESTER		Hrs Per Week		Credit Hrs	Prerequisite	Corequisite	Notes:
Course	Course Name	Class	Lab				
<input type="checkbox"/> CCT 121	Computer Crime Investigations	3	2	4	NOS-110 & CTI-120		<i>*Important pre-req course before CCT 240.</i>
<input type="checkbox"/> CCT 250	Network Vulnerabilities I	2	2	3	NOS 130	NOS 125	<i>*Important pre-req course before CCT 251.</i>
<input type="checkbox"/> CTS 115	Info Sys Business Concepts	3	0	3	ENG-025 or ENG-111		
<input type="checkbox"/> SEC 160	Security Administration I	2	3	3	SEC-110 & NET-125		
Semester Credit Hrs				13			

SPRING SEMESTER		Hrs Per Week		Credit Hrs	Prerequisite	Corequisite	Notes:
Course	Course Name	Class	Lab				
<input type="checkbox"/> CCT 240	Data Recovery Techniques	2	3	3	CCT 121		
<input type="checkbox"/> CCT 251	Network Vulnerabilities II	2	2	3	CCT 250		
<input type="checkbox"/> CSC 227	Cloud Application Development	2	2	3	CTI 110, NOS 110, & CSC 121		<i>*Important pre-req course before CCT 280 (if chosen as security project elective).</i>
<input type="checkbox"/>	English and Communications Elective			3	*Prerequisite / Corequisite requirements vary depending on elective choice.		<i>*Choose from one of the following: COM 120, COM 231, or ENG 112</i>
<input type="checkbox"/>	Humanities and Fine Arts Elective			3	*Prerequisite / Corequisite requirements vary depending on elective choice.		<i>*Choose from one of the following: HUM 110, HUM 115, or PHI 240</i>
Semester Credit Hrs				15			

SUMMER SEMESTER			Hrs Per Week				
Course	Course Name	Class	Lab	Credit Hours	Prerequisite	Corequisite	Notes:
<input type="checkbox"/>	Social and Behavioral Sciences Elective			3	<i>*Prerequisite / Corequisite requirements vary depending on elective choice.</i>		<i>*Choose from one of the following:</i> ECO 151, ECO 251, PSY 118, PSY 150, or SOC 210
<input type="checkbox"/>	Project Elective			2	<i>*Prerequisite / Corequisite requirements vary depending on elective choice.</i>		<i>*Choose from one of the following:</i> CCT 280, CET 245, SEC 285, or WBL <i>*Consult next page for Project Elective course details.</i>
Semester Credit Hrs				5			

Graduation Requirement: 69 Credit hours

Project Elective Options (Choose 1 – at least 2 credit hours needed for this section)

CCT 280: Cloud Penetration Testing (3 credit hours)

Pre-requisite: CSC 227

This course provides students the technical skills required to perform penetration tests in cloud environments. Topics include penetration testing commonly deployed in cloud environments such as operating systems, web servers, databases, and virtual containers/networks, while ensuring the integrity of user access multiple levels. Upon completion, students should be able to perform penetration tests to evaluate the overall security of cloud environments.

SEC 285: Systems Security Project (3 credit hours)

Pre-requisites: CTI 110, CTI 120, CTS 115, SEC 160, & CCT 121

The culmination of theory and skills from the Cyber Security degree program. This course provides the student the opportunity to apply the skills and competencies acquired in the program that focus on systems security. Emphasis is placed on security policy, process planning, procedure definition, business continuity, compliance, auditing, testing procedures and systems security architecture. Upon completion, students should be able to design and implement comprehensive information security architecture from the planning and design phase through implementation. The content of this course can change annually to represent employer desired skills in the marketplace. (O/H/S). Credit for this course can be granted if a student presents a valid CompTIA CySA+ certification.

WBL (Work Based Learning)

Pre-requisites: Program override required. Should be nearing degree completion.

Internship based course. This course provides work-based learning experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

There are three options for completing work-based learning. **At least 2 WBL credit hours** must be earned for degree completion.

- **WBL 111-MJ – 1 credit hour**
 - Must complete 160 work hours at an internship placement (*about 10 hrs per week over a 16-week semester*).
 - One credit hour course, so **two WBL 111 courses must be completed in two different semesters** for degree completion.
- **WBL 112-MJ – 2 credit hours**
 - Must complete 320 work hours at an internship placement (*about 20 hrs per week over a 16-week semester*).
 - Two credit hour course, so **only one WBL 112 section must be completed** for degree completion.
- **WBL 123-MJ – 3 credit hours**
 - Must complete 460 work hours at an internship placement (*about 30 hrs per week over a 16-week semester*).
 - Three credit hour course, so **only one WBL 123 section must be completed** for degree completion.

General Education Electives

Course descriptions, prerequisites, and corequisites should be reviewed before planning to register for any general education elective. [These requirements can be reviewed here on the Wake Tech website.](#)

English and Communications Electives

- COM 120 – Interpersonal Communication
- COM 231 – Public Speaking
- ENG 112 – Writing and Research in the Disciplines

Humanities and Fine Arts Electives

- HUM 110 – Technology and Society
- HUM 115 – Critical Thinking
- PHI 240 – Introduction to Ethics

Mathematics Electives

- MAT 121 – Algebra/Trigonometry I
- MAT 143 – Quantitative Literacy
- MAT 171 – Precalculus Algebra
- MAT 172 – Precalculus Trigonometry
- MAT 271 – Calculus I

Social and Behavioral Sciences Electives

- ECO 151 – Survey of Economics
- ECO 251 – Principles of Microeconomics
- PSY 118 – Interpersonal Psychology
- PSY 150 – General Psychology
- SOC 210 – Introduction to Sociology