Checklist for Cybersecurity and Computer Science Double Major

We recommend to students interested in the Cybersecurity and Computer Science major: take CSC 117 in their first semester, because it is part of the major required sequence CSC 117, 250, 305; and CYB 115 in their first year, because it is part of the major required sequence CYB 115, 230, 235.

 * = double counts as a Computer Science elective

Cybersecurity Major: Required Courses (14)

Requirement	Course	Fall	Spring	Prerequisite	Semester Planned	Completed
Cybersecurity Fundamentals	CYB 115	x	x			
Intro. to Programming	CSC 117	x				
Statistics	ECO 115	x	x			
	PSY 224	x	x			
	SOC 300	x				
Networking and Data Comm.	CSC/CYB 230	x		CYB 115, CSC 117 or CSC 120		
* Securing Wired and Wireless Networks	CSC/CYB 235		x	CYB 115 and CSC/CYB 230		
Operating Systems Admin.	CYB 265	x		CYB 115		
* Operating Systems	CSC 303		x	CSC 117 or CSC 120		
Database Mgmt. Systems	CSC 321		x	CSC 117 or CSC 120		
Cryptography	CYB 304		Even	CYB 235 (can be taken concurrently)		
Software & Appl. Security	CYB 318	x		CYB 235		
Computer, Network Forensics and Digital Investigations	CYB 328	x		CYB 235		
Ethical Hacking	CYB 338	x		CYB 235		
Preparing for Cyber Disasters	CYB 401		Even	CYB 235 (can be taken concurrently)		
CYB Project or Internship	CYB 438		x	JR/SR standing in CYB major		

Computer Science Major: Required Courses (10)

Requirement	Course	Fall	Spring	Prerequisite	Semester Planned	Completed
Intro. to Programming	CSC 117	x				
Intermediate Programming	CSC 250		x	CSC 117		
Data Structures	CSC 305	x		CSC 250		
Command Line Interfaces	CSC 260		x	CSC 117		
Calculus I	MAT 131H or	x		Placement		
	MAT 117	x	x	MAT 114 or placement		
Calculus II	MAT 132H or		x			
	MAT 118	x	x	MAT 131H/117		
Discrete Structures	MAT 202	x		MAT 118/132H, or coreq.		
Networking/Data Comm.	CSC/CYB 230	x		CYB 115, CSC 117 or CSC 120		
Computer Architecture/ Programming in Assembly	CSC 231	Even		CSC 117		
Database Mgmt. Systems	CSC 321		x	CSC 117		

Computer Science Electives (5 total, 2 * from above plus 3 from below)

Requirement	Course	Fall	Spring	Prerequisite	Semester Planned	Completed
Take a minimum of 3 of:						
Large Data Sets	CSC 233		x	CSC 120		
Simulation	CSC 261		Even	CSC 117		
Systems Analysis and Design	CSC 301	Odd		CSC 117		
Java Programming	CSC 317		Odd	CSC 305		
Operations Research	CSC 327	Even		CSC 305, or corequisite		
Machine Learning	CSC 333	x		CSC 233		
Numerical Analysis	MAT 356		Even	MAT 118/132H		
Intro to Engineering	PHY 213		x	MAT 118/132H, or coreq.		

Suggested Schedule for Cybersecurity and Computer Science Double Major

See Assumption's Catalog for additional information, e.g. Foundations requirements.

First Year: Fall 20____	Spring 20____
1. CSC 117 Intro to Programming (Fall)	1. CSC 250 Intermediate Programming (Spring)
2. MAT 131H Honors Calculus I (Fall) or MAT 117 Calculus (any semester), or follow your math placement	2. MAT 132H Honors Calculus II (Spring) or MAT 118 Calculus II (any semester) (Finish Calculus I and II as soon as possible)
3. CYB 115 Cybersecurity Fundamentals (CYB 115 should be completed by the end of 1st year)	3. Statistics (ECO 115, PSY 224, or SOC 300 - Fall only)
4	4.
5.	5.

Second Year: Fall 20____	Spring 20____
1. CSC 305 Data Structures (Fall)	1. CSC 260 Command Line Interfaces (Spring)
2. CSC/CYB 230 Networking and Data Communications (Fall)	2. *CSC/CYB 235 Securing Wired and Wireless Networks (Spring)
3. CYB 265 Operating Systems Administration (Fall)	3. *CSC 303 Operating Systems (Spring)
4.	4.
5.	5.

Third Year: Fall 20____	Spring 20____
1. CYB 328 Computer, Network Forensics and Digital Investigations (Fall)	1. CYB 401 Preparing for Cyber Disasters (Spring even) (Move to 4th year if odd year)
2. CYB 318 Software and Application Security (Fall)	2. CYB 304 Cryptography (Spring even) (Move to 4th year if odd year)
3. MAT 202 Discrete Structures (Fall) (Switch with CYB 265 if even year)	3. CSC 321 Database Management Systems (Spring)
4.	4.
5.	5.

Fourth Year: Fall 20____	Spring 20____
1. CYB 338 Ethical Hacking (Fall)	1. CYB 438 Independent Cybersecurity Project or Internship
2. CSC 231 Computer Architecture (Fall even) (Move to 3rd year if odd year)	2. CSC Major Elective #4/5
3. CSC Major Elective #3/5	3. CSC Major Elective #5/5
4.	4.
5.	5.

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