

COMPUTER AND INFORMATION SCIENCE/ CYBERSECURITY

Students with an interest in both areas can pursue a dual BS program in Computer and Information Science and Cybersecurity and thus can earn two BS degrees at the same time:

- BS degree in Computer and Information Science (Information Systems Concentration)
- BS degree in Cybersecurity and Information Assurance (Cybersecurity and Privacy or Digital Forensics Concentration)

The dual degree program requires specified coursework that equals a minimum of 138 total credits.

Dearborn Discovery Core

Please see the Dearborn Discovery Core (General Education) (<https://umdearborn.edu/faculty-staff/academic-program-and-course-development/dearborn-discovery-core-general-education/>) webpage or additional information.

Foundational Studies

Written and Oral Communication (GEWO) – 6 Credits

Upper-Level Writing Intensive (GEWI) – 3 Credits

Quantitative Thinking and Problem Solving (GEQT) – 3 Credits

Critical and Creative Thinking (GECC) – 3 Credits

Areas of Inquiry

Natural Science (GENS) – 7 Credits

- Lecture/Lab Science Course
- Additional Science Course

Social and Behavioral Analysis (GESB) – 9 Credits

Humanities and the Arts (GEHA) – 6 Credits

Intersections (GEIN) – 6 Credits

Capstone

Capstone (GECE) – 3 Credits

Major Requirements

In addition to completion of the Dearborn Discovery Core, the following courses are required to earn a dual BS degree in Computer and Information Science and Cybersecurity and Information Assurance.

General Requirements

Code	Title	Credit Hours
COMP 270	Tech Writing for Engineers (Fulfills 3 credits of DDC Written and Oral Communication)	
PHIL 240	Ethics (Also fulfills 3 credits of DDC Humanities and the Arts)	

Social and Behavioral Analysis

ECON 201	Prin: Macroeconomics (Fulfills 3 credits of DDC Social and Behavioral Analysis)
or ECON 202 Prin: Microeconomics	
OB 354	Behavior in Organization (Fulfills 3 credits DDC Social and Behavioral Analysis)
CRJ 200	Intro to Criminal Justice (Fulfills 3 credits DDC Social and Behavioral Analysis)

Intersections

CIS 479	Intro to Artificial Intel (Fulfills 3 credits DDC Intersections)
ENGR 400	Appl Business Tech for Engr (Fulfills 3 credits DDC Intersections)
or ENT 400 Entrepreneurial Thinking&Behav	

Mathematics and Cognates

Code	Title	Credit Hours
Mathematics and Statistics		18
MATH 115	Calculus I	4
MATH 116	Calculus II	4
CIS 275	Discrete Structures I	4
IMSE 317	Eng Probability and Statistics	3
MATH 227	Introduction to Linear Algebra	3

Laboratory Science Sequence

Two courses, 8 credits, in a sequence from:		8
BIOL 130	Intro Org and Environ Biology	4-8
& BIOL 140	and Intro Molec & Cellular Biology	
or		
CHEM 134	General Chemistry IA	4
or		
CHEM 144	Gen Chemistry IB	4-8
& CHEM 136	and General Chemistry IIA	
or		
GEOL 118	Physical Geology	8
& GEOL 218	and Historical Geology	
or		
PHYS 125	Introductory Physics I	8
& PHYS 126	and Introductory Physics II	
or		
PHYS 150	General Physics I	8
& PHYS 151	and General Physics II	

CIS-CIA Courses and Electives (85)

Code	Title	Credit Hours
Basic Requirements		
ACC 298	Financial Accounting	3
CIS 150	Computer Science I	4
CIS 200	Computer Science II	4
CIS 310	Computer Org and Assembly Lang	4
CIS 350	Data Struc and Algorithm Anlys	4
CIS 375	Software Engineering I	4
CIS 421	Database Mgmt Systems	4

CIS 427	Comp Networks and Dis Process	4
CIS 435	Web Technology	3
CIS 450	Operating Systems	4
Choose either the CIA-DF Concentration or the CIA-CP Concentration		
CIA_DF Concentration REQUIRED		23
CIS 387	Digital Forensics I	4
CIS 467	Digital Forensics II	4
CIS 447	Intro Computr & Ntwrk Security	3
CRJ 468	Criminology	3
CRJ 475	Digital Evidence	3
CRJ 487	Forensic Science Evidence in Criminal Cases	3
Take one of the following courses:		
CRJ 409	Intel and Homeland Security	3
CRJ 474	Cyber Crimes	3
CIA-CP Concentration REQUIRED		22
CIS 316	Prac. Comp. Sec.	3
CIS 446	Wireless & Mobi Comp Security	3
CIS 447	Intro Computr & Ntwrk Security	3
CIS 4851	Data Security and Privacy	3
CRJ 409	Intel and Homeland Security	3
ECE 427	Digi Content Protec	4
MATH 396	Introduction to Cryptography	3
Additional CIS-INSY Requirements		14
IMSE 3005	Intro to Operations Research	4
CIS 425	Information Systems	4
CIS 476	Soft Arch & Design Patterns	3
Take one COURSE FROM the following:		
CIS 296	Java Programming	3
or CIS 297	Intro to C Sharp	
or CIS 298	Intro to Python	
Capstone		4
CIS 4951	Design Seminar I	2
CIS 4952	Design Seminar II	2
Electives (Approved list of CIS-CIA Electives) ¹		7-8
CIS 285	Software Engineering Tools	3
CIS 316	Prac. Comp. Sec.	3
CIS 376	Software Engineering II	4
CIS 381	Industrial Robots	4
CIS 387	Digital Forensics I	4
CIS 436	Mobile App Des & Impl	3
CIS 437	Advanced Networking	3
CIS 447	Intro Computr & Ntwrk Security	3
CIS 467	Digital Forensics II	4
CIS 487	Computer Game Design & Implem	3
ENGR 399	Experiential Honors Prof. Prac	1
ENGR 492	Exper Honors Directed Research	1
ENGR 493	Exper Hnrs Dir Dsgn	1

¹ Select electives not used to fulfill the requirements of your concentration.