PROGRAM TRANSFER GUIDE

CARROLL COMMUNITY COLLEGE

TOWSON UNIVERSITY

This transfer guide is intended for students pursuing an Associate Degree in Computer Science at Carroll Community College who are interested in pursuing a Bachelor's Degree in Computer Science: Cyber Operations Track at Towson University. This transfer guide outlines the courses and program requirements a student should follow to satisfy degree requirements at Carroll in order to complete both the Carroll and TU degrees within a total of 4 years and 120 credits.

Associate Degree in Computer Science

Bachelor's Degree in Computer Science: Cyber Operations Track

Effective Term: Spring 2027

YEAR 1 - Carroll Community College

Fall	TU Equivalent	Credits	Spring	TU Equivalent	Credits
CMSC 201 - Computer Science 1 OR*	COSC 236	4	CMSC 202 - Computer Science 2*	COSC 237	4
CIS 132 - Principles of Programming (3 credits)*			OR CIS 232 - Adv. Principles of Programming (3 credits)*		
MATH 135 - Calculus of a Single Variable 1 * ©* (Core 3)	MATH 273	4	MATH 136 - Calculus of a Single Variable 2*	MATH 274	4
ENGL 101 - College Writing * ©* (Core 2)	ENGL 102	3	ENGL 102 - Writing About Literature © (Core 13) ◆	ENGL TLL	3
PSYC 101- General Psychology © (Core 6) ◆	PSYC 101	3	COMM 105 - Introduction to Speech Comm © (Core 5) *	COMM 131	3
General Education Elective	USEL TLL	3			
TOTAL CREDITS:		17	**TOTAL CREDITS:**		14

YEAR 2 - Carroll Community College

Fall	TU Equivalent	Credits	Spring	TU Equivalent	Credits
General Elective	USEL TLL	3	FPA 101 - Introduction to the Arts © (Core 4) ◆	IDFA TLL	3
BIOL 101 - Fundamentals of Biology I © (Core 7) ◆ *	BIOL 200/200L	4	PHYS 111 -Physics I for Scientists & Engineers © ◆ (Core 8)*	PHYS 241	4
SOC 101 - Introduction to Sociology © (Core 10) ◆	SOCI 101	3	GEOG 105 - Human Geography © (Core 12) ◆	GEOG 109	3
CMSC 203 - Discrete Structures*	MATH 263	3	MATH 210-Linear Algebra*	MATH 265	4
HIST 105 - History of the United States to 1876 © (Core 11) ◆	HIST 145	3			
TOTAL CREDITS:		16	**TOTAL CREDITS:**		14

YEAR 3 - Towson University

Fall	Credits	Spring	Credits
COSC 336 Data Structures & Algorithm Analysis*	4	COSC 412 Software Engineering*	3
COSC 290 Principles of Computer Organization*	4	COSC 350 Data Communications & Networking*	3
MATH 330 Introduction to Statistical Methods*	4	COSC 457 Database Management Systems*	3
CIS 377 Introduction to Cybersecurity*	3	ENGL 317 Writing for Business & Industry (Core 9)*	3
		MATH 314 Introduction to Cryptography*	3
TOTAL CREDITS:	15	**TOTAL CREDITS:**	15

YEAR 4 - Towson University

Fall	Credits	Spring	Credits
COSC 439 Operating Systems*	3	COSC 440 Operating Systems Security*	3
COSC 455 Programming Languages: Design & Implementation*	3	COSC 481 Case Studies in Computer Security	3
COSC 340 Systems Programming*	3	COSC 458 Application Software Security*	3
COSC 418 Ethical & Societal Concerns of Computer Scientists (Core 14)*	3	COSC 485 Reverse Engineering & Malware Analysis*	3
COSC 450 Network Security*	3	General Elective	2
TOTAL CREDITS:	15	**TOTAL CREDITS:**	14

** Denotes course that must be completed with a grade of C or better* *** Must consult with a TU Academic Advisor* *© Core Curriculum*

Notes & Recommendations from Towson University:

*Core 1 at TU is automatically waived for all transfer students.
*Students must follow the course selections outlined in this agreement. Failing to complete the specified courses will require them to fulfill remaining requirements at TU and could jeopardize their ability to earn a bachelor's degree within two years.
*Courses with the ◆ symbol are recommendations only; consult with advising for alternate options to complete all coursework within four years.
*Course equivalents ending in TLL are general lower-level elective coursework at TU

Bachelor's degree requirements for all students:

- A cumulative grade point average (GPA) of 2.0 is required.
- A C grade (2.0 GPA) or higher is required for all major courses and prerequisites.
- 32 credits of the bachelor's degree must be completed at the upper level (courses numbered 300 or above) at TU

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