

2+2 Articulation Agreement for Community College of Baltimore County and Towson University

Associate's Degree: A.S. in Computer Science, Area of Concentration Information Systems Management

Bachelor's Degree: B.S. in Information Systems, Business Track

Effective Term: Fall 2020

Section 1: Course Completion Plan for CCBC

This section outlines the courses to take for the Community College of Baltimore County (CCBC) general education and program requirements in order to complete both the CCBC and TU degrees within a total of 4 years and 120 credits. The following tables do not include any nontransferable or prerequisite coursework outside of the curriculum.

Table 1: General Education Courses Applied to TU Core Curriculum

CCBC Requirement	CCBC Course to Take	Credits	Towson University Equivalent Course
English Composition	ENGL 101 College Composition I	3	ENGL 102 Writing for a Liberal Education
Mathematics	MATH 251 Calculus I	4	MATH 273 Calculus I
Arts & Humanities	Any arts & humanities course.	3	Equivalency will vary by course.
Arts & Humanities	Any arts & humanities course.	3	Equivalency will vary by course.
Social & Behavioral Sciences	ECON 201 Introduction to Macro-Economic Principles	3	ECON 202 Macroeconomic Principles
Social & Behavioral Sciences	ECON 202 Introduction to Micro-Economic Principles	3	ECON 201 Microeconomic Principles
Biological & Physical Sciences	Any biological & physical sciences course with a lab.	4	Equivalency will vary by course.
Biological & Physical Sciences	Any biological & physical sciences course with or without a lab.	3-4	Equivalency will vary by course.
Information Technology	CSIT 111 Logic & OO Design	3	COSC 175 General Computer Science
Concentration Requirement	MATH 243 Discrete Mathematics	4	MATH 263 Discrete Mathematics

Total general education applied to the TU Core Curriculum: 33-34 credits

Completing the courses above will satisfy the general education program at CCBC. TU will transfer these courses without a course-by-course match to the Core Curriculum requirements. See section 2 for details.

Table 2: Program Requirements and Electives Applied to TU Degree

CCBC Requirement	CCBC Course to Take	Credits	Towson University Equivalent Course
Concentration Requirement	ACCT 101 Principles of Accounting I	3	ACCT 201 Principles of Financial Accounting
Concentration Requirement	ACCT 102 Principles of Accounting II	3	ACCT 202 Principles of Managerial Accounting
Concentration Requirement	CSIT 210 Introduction to Programming	4	COSC 236 Introduction to Computer Science I
Concentration Requirement	CSIT 211 Advanced Programming	4	COSC 237 Introduction to Computer Science II
Concentration Requirement	MNGT 105 Principles of Management	3	USEL TLL Unspecified Elective
Program Elective	CSIT 142 Introduction to MIS	3	CIS 211 Fundamentals of Information Systems & Technology
Program Elective	MATH 153 Introduction to Statistical Methods	4	MATH 231 Basic Statistics
Program Electives	Any approved program elective course.	3	Equivalency will vary by course.

Total program requirements applied to the TU degree: 27 credits

Total transferred to TU: 60-61 credits

Students may transfer a maximum of 64 credits. If students do not adhere to the courses outlined above in Tables 1 and 2, they are not guaranteed completion of the bachelor’s degree in 2 years. Refer to section 2 for specific course details and transfer planning information.

Section 2: CCBC Course Selection & Transfer Details

This section explains any specific course selections made in section 1 and provides transfer planning guidance specific to this degree plan. Students must follow the course selections outlined in this document. If students do not complete any or all of the courses outlined in this agreement, they will be required to complete outstanding requirements at TU.

GENERAL EDUCATION

Students must note the following general education requirements and information:

- When a course selection is not specified for a general education requirement, students may choose any approved course for that requirement at CCBC. Course selections for general education requirements are specified in this agreement only if they are specified in the CCBC catalog or if they will satisfy a TU major requirement.
- **Arts & Humanities:** At least one Arts & Humanities course must be an approved **diversity course** in order to satisfy CCBC degree requirements.
- **Biological & Physical Sciences:** At least one of these courses must include a lab component.
- **Total General Education Credits:** Though the CCBC degree requires only 30 credits of general education, TU will recognize the program requirement MATH 263 as an additional general education course in order to satisfy the TU Core Curriculum with a core package.

The following information explains the transfer of students' general education courses:

- TU will recognize the courses in Table 1 (see section 1) as a completed general education program. Students will receive a core package that satisfies most of the TU Core Curriculum without the need for course-by-course placement in specific Core Curriculum requirements.
- Students will only need to complete two Core Curriculum requirements at TU: Advanced Writing Seminar (Core 9) and Ethical Perspectives (Core 14). Students will only need to complete two Core Curriculum requirements at TU: Advanced Writing Seminar (Core 9) and Ethical Perspectives (Core 14). Both of these requirements will be satisfied by upper-level courses required by the Information Systems major at TU (see section 3). Students who take an ethics course at CCBC will be required to complete a different Core Curriculum requirement than Core 14 and will still be required to complete the COSC 418 course required for the major at TU.

PROGRAM REQUIREMENTS

Students must note the following information regarding their program requirements at CCBC:

- Both **CSIT 210 Introduction to Programming** and **CSIT 211 Advanced Programming** must be completed with a C or higher in order to transfer as COSC 236 and COSC 237. If students do not complete both courses with a C or higher, they will transfer as elective credit.

PROGRAM ELECTIVES

The CCBC program requires a total of 10 elective credits in the Information Systems Management area of concentration. Students must note the following information regarding their program electives:

- Students must take **CSIT 142 Introduction to MIS** as a program elective in order to satisfy the TU major requirement for CIS 211.
- Students must take **MATH 153 Introduction to Statistical Methods** as a program elective in order to satisfy the required math course of MATH 231 in the Information Systems major.
- The third program elective may be satisfied any approved course for the Information Systems Management concentration. Students should refer to the current CCBC catalog for their elective course options.

DEGREE COMPLETION INFORMATION

Students must note the following information about completing their A.S. degree at CCBC:

- CCBC requires any student who is new to college to take ACDV 101 Academic Development: Transitioning to College. Students must provide an official transcript(s) from an accredited institution to document successful completion of college coursework for the ACDV 101 requirement to be waived. This 1-credit course is designed to be taken in the first semester at CCBC. ACDV 101 transfers to TU as a general elective.
- The CCBC computer science program is designed for students who are calculus-ready at the start of their enrollment. Students are expected to meet the prerequisites for enrollment in MATH 251 Calculus I, which may include completion of additional CCBC courses, passing a placement exam, or department approval.

Section 3: Degree Requirements to Be Completed at TU

This section outlines the degree requirements for students transferring into the Information Systems major with the Business track. The business track prepares students in integrating technology with business processes and strategies, focusing on business comprehension, core enterprise functions and the technological challenges in a multitude of businesses. A separate degree completion plan is available for students pursuing other tracks in the IS major. Refer to section 4 for university-wide degree requirements.

CORE CURRICULUM REQUIREMENTS: 6 UNITS

Core 9 Advanced Writing Seminar – Satisfied by ENGL 317 in the major.

Core 14 Ethical Perspectives – Satisfied by COSC 418 in the major.

INFORMATION SYSTEMS MAJOR REQUIRED COURSES: 24 UNITS

CIS 239 Enterprise Systems and Architecture (3 units)

CIS 350 Telecommunications (3 units)

CIS 377 Introduction to Cybersecurity (3 units)

CIS 379 Systems Analysis and Design (3 units)

CIS 435 Human-Computer Interaction (3 units)

CIS 458 Organizational Database Management (3 units)

CIS 479 Software Project Management (3 units)

COSC 418 Ethical and Societal Concerns of Computer Scientists (3 units – counted in Core Curriculum requirements)

ENGL 317 Writing for Business and Industry (3 units – counted in Core Curriculum requirements)

ITEC 231 Fundamentals of Web Technologies (3 units)

INFORMATION SYSTEMS MAJOR CAPSTONE: 3 UNITS

CIS 475 Information Systems Capstone (3 units)

INFORMATION SYSTEMS MAJOR BUSINESS TRACK: 12-15 UNITS

CIS 334 Data Organization (3 units)

Select two of the following courses sequences for 6 units:

- CIS 328 Introduction to Data Analytics
- CIS 397 Internship in CIS
- CIS 426 Gaming Interface Design
- CIS 428 Text Analytics
- CIS 433 Select Topics in Information Systems
- CIS 440 System Development/E-Commerce (3 units)
- CIS 468 Applied Data Mining and Visual Analytics
- CIS 495 Independent Study in Computer Information Systems

- ITEC 427 Cloud Computing for Enterprises
- ITEC 433 Cyber Security Risk Management

Complete one of the following courses or course pairs for 3-6 units:

- ACCT 301 Intermediate Accounting I
- ACCT 341 Management Accounting I
- EBTM 365 Principles of Operations Management & EBTM 419 Supply-Chain Management
- EBTM 365 Principles of Operations Management & EBTM 454 Business Process Management
- HLTH 207 Health Care in the U.S. & HCMN 305 Health Administration
- MKTG 341 Principles of Marketing & MNGT 361 Leadership and Management
- MNGT 361 Leadership and Management & MNGT 395 Management of Organizational Behavior

GENERAL ELECTIVES: 11-15 UNITS

The total number of required elective units will be determined by the total units transferred and completed within the major. Electives units can be satisfied by taking additional major electives or courses for personal interests.

Section 4: Additional Requirements for TU Degree Completion

BACHELOR'S DEGREE REQUIREMENTS FOR ALL STUDENTS:

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

Degree Completion Summary

Total Units Required for B.S. Degree	120 UNITS
CCBC A.S. Degree in Computer Science – AOC Information Systems Management	60-61
Completion of Core Curriculum at TU	6
Information Systems Major Coursework at TU	39-42
General Electives Taken at TU	11-15

Update of Agreement

This agreement was originally published under a Memoranda of Understanding (MOU) between CCBC and TU. The MOU signed October 15, 2018 made this agreement effective for five years. This updated agreement reflects a change to TU's transfer policy allowing for the acceptance of ACDV 101 in transfer and a change to the CCBC curriculum removing MATH 230 as an option for the mathematics requirement. This revised agreement has been approved by both CCBC and TU and remains effective through October 2023.