

# UTICA



# COLLEGE

## TRANSFER ARTICULATION AGREEMENT

Utica College  
Cybersecurity (BS)

and

Mohawk Valley Community College  
Computer Science: Cybersecurity (AAS)

January 20, 2017

Utica College and Mohawk Valley Community College, in recognition of a mutual respect for the integrity of parallel academic programs and in an effort to better serve students intending to pursue the completion of a bachelor's degree, hereby enter into an agreement of articulated degree programs.

**OBJECTIVES:**

- To encourage the transfer of qualified students from Mohawk Valley Community College (MVCC) to Utica College (UC).
- To award academic credit for courses completed at MVCC, that meet the terms of the Associate Degree programs for application toward the requirements a Bachelor of Arts or a Bachelor of Science at UC.
- To provide effective and concise guidelines for students seeking to transfer to UC. Students will have accurate and clear information regarding the transfer of their coursework and credits toward the Bachelor's degree at UC.

**TERMS OF THE TRANSFER ARTICULATION AGREEMENT:**

- UC guarantees the acceptance of students who completed an Associate Degree at MVCC with a cumulative GPA of 2.5 or better to UC. Transfer students who do not meet these criteria will be evaluated individually.
- This agreement assumes the completion of the Associate Degree. UC requires that the last 30 credit hours granted toward the Bachelor degree must be earned in residence, with matriculated status. Additionally, the Bachelor of Arts degree requires that a *minimum of 90 credits must be in the liberal arts* while the Bachelor of Science requires a *minimum of 60 credits must be in the liberal arts*.
- MVCC transfer Students will be subject to all general education requirements of UC as set forth in the UC catalogue.
  - Transfer students with a completed Associates Degree will be exempt from Components I & II of UC's Core Requirements.
  - Students who transfer 30 credits of liberal arts and sciences (with at least 2 courses in each of UC's three categories of Component II Core—including one lab science course) will be exempt from Component II Core.
  - Transfer Students who enter UC with Components I & II complete will be required to complete 3 credits of Component III: Integrated Writing.
- This document is based upon the evaluation of course descriptions presented to UC. Courses will transfer to UC provided a grade of "C" or better has been earned. Credit will be granted where the coursework is comparable to that offered at UC or as general elective and/or liberal arts credit.
- This Agreement shall remain in effect for a period of two years from the date listed below, with the provision that the terms specified herein will continue to apply to the students admitted from MVCC within one year of the expiration of the agreement. Each institution agrees to provide timely notice to the other in the event of any modification to the curriculum that might affect the compatibility for admission and transfer of coursework. This agreement may be subject to change, without notice, if curriculum requirements change at either institution. Students admitted to MVCC prior to such notification shall be admitted to UC on the basis of this agreement.

**BENEFITS/ADVANTAGES:**

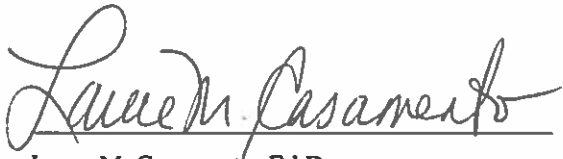
- MVCC transfer students are eligible for scholarship and financial aid in all ways the same as continuing Utica College students.
- Utica College will provide housing in campus residence halls within the guidelines and practices governing availability of housing for continuing students.
- MVCC transfer students are eligible to participate in internships, externships, co-ops, field placements and study abroad opportunities open to continuing Utica College students.

Approved on (date) January 20, 2017

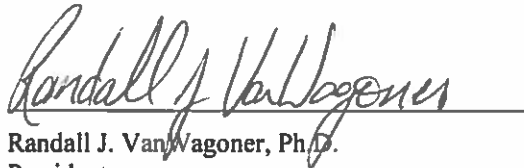
**SIGNATURES**

**Utica College**

**Mohawk Valley Community College**



Laura M. Casamento, Ed.D.  
President



Randall J. VanWagoner, Ph.D.  
President



Craig P. Dewan, M.S.  
Registrar



Michael H. Henningsen  
Assitant Director, Career & Transfer Services

# MVCC Computer Science: Cybersecurity

## Associate in Science Degree

This program combines the study of criminal justice and computer-technology to address current needs in the cybersecurity field. It prepares students to identify vulnerabilities and threats that affect corporate and government computer networks; to protect critical information in cyberspace and to defectively design, implement, and support security policies for a large scale enterprise network. Students examine a wide variety of security analysis/defensive tools and concepts, and then attempt to circumvent them. This program prepares students to transfer to upper division Cybersecurity programs or assume entry-level positions in the Cybersecurity Industry.

**Total MVCC Credit Hours: 63**

**Utica College Equivalents: Max 60 Credits**

### *First Semester*

ED100 College Seminar	1
CI104 Introduction to Cybersecurity	3
EN101 English 1: Composition	3
HI101 History of Civilization 1	3
SO101 Introduction to Sociology	3
CJ101 Introduction to Criminal Justice	3
OR	
PS102 Introduction to Public Policy	3
Physical Education	.5

FEL 1FE College Seminar	1
CRJ 228 Cyber Technologies for Criminal Justice	3
ENG 101 Written Communication I	3
TRN 1CV1 Asia and the World	3
SOC 151 Human Society	3
CRJ 103 Intro to Criminal Justice	3
GOV 1LA Govt & Politics Elective	3
PED 001 Physical Education	.5

### *Second Semester*

CI112 Networking Fundamentals	3
CJ106 Ethics in Criminal Justice	3
EN102 English 2: Ideas & Values in Lit	3
IS120 Computer Operating Systems and Environments	3
MA110 Elementary Statistics	3
Physical Education	.5

CSC 323 Introduction to Networks	3
PHI 1LA Philosophy Elective	3
ENG 135 Introduction to Literature	3
CRJ 107 Computer Hardware and Peripherals	3
MAT 112 Basic Statistics	3
PED 001 Physical Education	.5

### *Third Semester*

CI110 Principles of Programming	3
CI142 Computer Forensics	3
MA150 Pre-calculus	4
Core GE Natural Science Elective (a)	4
Physical Education	.5

CSC 101 Computer Science 1	3
CRJ 355 Cybercrime Investigations and Forensics I	3
MAT 151 Pre-Calculus	4
Science or Liberal Arts Elective	4
PED 001 Physical Education	.5

### *Fourth Semester*

CI130 Programming in C++	3
CI212 Internet Security	3
CI232 Security Policies	3
Natural Science Elective (a)	4
Program Elective (b)	3
Physical Education	.5

CSC 1FE Computer Science Elective	3
CRJ 362 Information System Threats, Attacks and Defenses	3
CRJ 348 Information Assurance Risk and Compliance	3
Liberal Arts Elective	4
Free Elective	3
PED 001 Physical Education	.5

(a) Students take one of the following sequences: CH141 General Chemistry 1 and CH142 General Chemistry 2, or PH151 General Physics 1 and PH152 General Physics 2. Natural Science sequence should be selected in consultation with your advisor to ensure appropriate transferability.

(b) Students select from one of the following Program Electives depending on their desired track: CJ216 Selected Topics in Criminal Justice, CI132 Unix Operating System & Security, or CI204 Software Support Strategies. Appropriate elective should be selected in consultation with your advisor.

# MVCC - Course Planning Worksheet

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Curriculum: \_\_\_\_\_ Catalog Year: \_\_\_\_\_

Educational Goal: • AS • Transfer • Advisor: \_\_\_\_\_

Transfer Major: Cybersecurity Transfer University: Utica College

Fall: <u>1</u> Spring: _____ Summer: _____ 20_____			
Course Title & Number	Utica College Equivalency	Credits	Grade
ED 100	FEL 1FE	1	
CI 104	CRJ 228	3	
EN 101	ENG 101	3	
HI 101	TRN 1CV1	3	
SO 101	SOC 151	3	
CJ 101 (or PS 102)	CRJ 103 (GOV 1LA)	3	
Phys Educ	PED 001	.5	
<b>Total Credits</b>			
Fall: _____ Spring: <u>2</u> Summer: _____ 20_____			
Course Title & Number	Utica College Equivalency	Credits	Grade
CI 112	CSC 323	3	
CJ 106	PHI 1LA	3	
EN 102	ENG 135	3	
IS 120	CRJ 107	3	
MA 110	MAT 112	3	
Phys Educ	PED 001	.5	
<b>Total Credits</b>			
Fall: <u>3</u> Spring: _____ Summer: _____ 20_____			
Course Title & Number	Utica College Equivalency	Credits	Grade
CI 110	CSC 101	3	
CI 142	CRJ 355	3	
MA 150	MAT 151	4	
Nat Sci Elective	Elective	4	
Phys Educ	PED 001	.5	
<b>Total Credits</b>			

Fall: _____ Spring: <u>4</u> Summer: _____ 20_____			
Course Title & Number	Utica College Equivalency	Credits	Grade
CI 130	CSC 1FE	3	
CI 212	CRJ 362	3	
CI 232	CRJ 348	3	
Nat Sci Elective	Elective	4	
Program Elective	Elective	3	
Phys Educ	PED 001	.5	
<b>Total Credits</b>			
Fall: _____ Spring: _____ Summer: _____ 20_____			
Course Title & Number	Utica College Equivalency	Credits	Grade
<b>Total Credits</b>			
Fall: _____ Spring: _____ Summer: _____ 20_____			
Course Title & Number	Utica College Equivalency	Credits	Grade
<b>Total Credits</b>			

Student ID: \_\_\_\_\_  
Student Name: \_\_\_\_\_  
Adviser Name: \_\_\_\_\_

Publication: Summer - Fall 2016 Undergraduate Catalog  
Program: Cybersecurity (B.S.)  
Minimum Credits Required: \_\_\_\_\_

## Cybersecurity (B.S.)

*(Bachelor of Science Degree)*

The assurance of information during transmission or while in storage and the security of critical information infrastructures are a major responsibility of government and the private sector. Securing computers and computer networks, and conducting investigations of cybercrimes and forensic analysis of digital devices are principal methods of securing cyberspace. Through a multidisciplinary approach integrating criminology, criminal justice, economic crime, and computer science, students will be prepared for entry level positions either in cybercrime investigation and computer forensics or the security of information stored in or transmitted by computers and computer networks.

Utica College offers an on-ground undergraduate program in Cybersecurity; there is also an undergraduate online program for transfer students. The online BS in Cybersecurity degree is a completion program, which means that students must have an Associate's degree from an accredited institution prior to enrolling in the program. Students transferring into this program without an associate's degree, but who have at least 57 transferable credits from a four-year institution may be considered. Additionally, students who show academic promise and don't meet the prior 2 requirements may also be considered. However all students must meet the New York State Education Department's mandated liberal arts requirements. A success coach will create an academic plan for students to ensure all core, liberal arts and graduation requirements are satisfied. Please see Utica's Academic Requirements for more information on Utica's Core and liberal arts requirements for transfer students.

There is also an online master's program in Cybersecurity. For more information on the master's program, consult the UC graduate catalog.

Total credit hours required for degree: 120

### Learning Objectives

*A student who completes the undergraduate major in Cybersecurity will demonstrate the following either orally or in writing:*

Knowledge of the technologies and methods to protect the confidentiality ("disclosure threat"), integrity ("authentication threat") and availability ("denial of service threat") of information and the computers, systems and networks that create, process, store and communicate valued information;

Explore the nature and relationships qualitatively and quantitatively of risk, threats, impact, vulnerabilities and countermeasures applied to cybersecurity, computer forensics and information assurance;

Apply problem solving techniques and Attack / Defense (A/D) scenarios to defend / respond to the critical cyber / information infrastructure threats;

Knowledge of contemporary organization, principles, and best practices that govern cybersecurity activities at the federal, state, and local level and in the private sector;

Plans for deployment of national assets into critical infrastructure sectors (CIS) and their protection against terrorist cyber threats - especially SCADA systems;

Development of relevant theoretical knowledge, employment of strategic and tactical skills, and demonstration of cooperative leadership in solving problems of cybersecurity, computer forensics, identity fraud, child pornography, cyber terrorism, cyber-stalking, computer crimes, etc.;

Synthesis of a broad-based knowledge of information assurance / security issues with government policies, procedures, laws and strategies;

Effective and innovative strategies for rapid, creative responses to cybersecurity threats on our nations' and corporate computer systems, by using research skills, knowledge of Federal and state policies, procedures, best practices and creative teamwork to respond to simulated cyber emergencies;

Preparation of "on-target" executive PowerPoint situation reports that focus on key cybersecurity issues and joint dependencies and vulnerabilities, and recommend required short- and long-term actions;

Explore the nexus between cybersecurity, economic crime, identity fraud, drug trafficking, and combating terrorism;

Discuss how ethical issues impact organizational and individual decision making in the cybersecurity field;

Understanding of information assurance, security policy; secure acquisitions, research and development; systems operations, vulnerability analysis, secure systems testing, triage and incident response, technology, procedures, insurance, training, and certification;

For forensics professionals, students will additionally demonstrate:

Knowledge of how to set up an investigator's office and laboratory, and understanding of what computer forensic hardware and software tools are required;

Understanding of the importance of digital evidence controls and how to process crime and incident scenes;

Details of data acquisition, computer forensic analysis, e-mail investigations, image file recovery, cell phone forensics, investigative report writing, and expert witness requirements;

Effective performance of a range of laboratory and hands-on assignments about theory and practical application of computer forensic investigation;

Construction of a solid Computer Forensics Evidence Plan, a fundamental component of preparing a legal case based on seized digital evidence.

### Special Requirements

Students in Cybersecurity are required to achieve a cumulative grade point average of at least 2.5 (on a 4.0 scale) across major, major-related, major elective, and major concentration courses by the first semester of their junior year and to maintain that average thereafter.

## Academic Requirements

**Core: 34-55 Credit Hours**

### Major Course Requirements

Course Name	MVCC Course	Grade	Credits
CRJ 103 - Introduction to Criminal Justice (3)	CJ 101		3
CRJ 107 - Computer Hardware and Peripherals (3)			
• <i>or</i>			
CRJ 228 - Cyber Technologies for Criminal Justice (3)	CI 104**		3
CRJ 205 - Software Foundations for Cybersecurity (3)			
• <i>or</i>			
CSC 207 - Linux for Security and Forensics (3)			
CRJ 333 - Information Security (3)			
CRJ 335 - Cybercrime Law and Investigations (3)			
• <i>or</i>			
GOV 341 - Jurisprudence of the Criminal Law (3)	CJ 108**		3
CRJ 362 - Information System Threats, Attacks and Defenses (3)			
CRJ 461 - Pro seminar in Justice Studies (3)			
CRJ 470 - Criminal Justice - Internship (6 to 15)			
• <i>or</i>			
CRJ 475 - Senior Project (3 to 6) * plus CRJ 300 level or above electives			

**18 - 27 Credit Hours**

**Note:**  
\*Only available to online students enrolled in the major or students with appropriate professional criminal justice work experience, with permission from the director of the program.

### Major-Related Requirements

Course Name	MVCC Course	Grade	Credits
PHI 107 - Ethics (3)	HU 280**		3
• <i>or</i>			
PHI 108 - Professional Ethics (3)			
SOC 274 - Criminology (3)	CJ 204**		3
SOC 376 - Criminological Research Methods (3)	CJ 218**		3
MAT 112 - Basic Statistics (3)	MA 110		3
• <i>or</i>			
PSY 211 - Statistics in the Behavioral Sciences (3)			
• <i>or</i>			
SOC 211 - Statistics in the Behavioral Sciences (3)			
• <i>or</i>			
ECN 241 - Statistics (3)	AC 221**		3

**12 Credit Hours**

## Major Specializations

Each student must select one of the following specializations:

### Cybercrime and Fraud Investigation

Course Name	MVCC Course	Grade	Credits
CRJ 232 - Economic Crime Theory (3)	CJ 206**		3
• <i>or</i>			
CRJ 321 - White-collar Criminology (3)			
CSC 338 - Applied Cryptography (3)			
• <i>or</i>			
CRJ 348 - Information Assurance Risk and Compliance (3)	CI 232		3
CRJ 355 - Cyber Crime Investigations and Forensics I (3)	CI 142		3
CRJ 356 - Cyber Crime Investigations and Forensics II (3)			
CRJ 455 - Cyber Crime Investigations and Forensics III (3)			
CRJ 347 - Fraud Prevention and Detection Technologies (3)			
CRJ 354 - Payment Systems and Fraud (3)			

### Cyber Operations

Course Name	MVCC Course	Grade	Credits
CSC 101 - Computer Science I (0,3)	CI 110 or, CI 226** or, CI 272** or, CI 220**		3
CSC 102 - Computer Science II (0,3)	CI 230**		3
CSC 206 - Cybersecurity Scripting (3)			
CSC 316 - Object-Oriented Programming (3)	CI 245**		3
CSC 225 - Introduction to the UNIX Operating System (0,3)	CI 132**		3
CSC 323 - Introduction to Networks (3)	CI 112		3
• <i>or</i>			
CRJ 337 - Computer Network Investigations (3)			
CRJ 438 - System Vulnerability Assessments (3)			

### Homeland Security and Emergency Management

Course Name	MVCC Course	Grade	Credits
CRJ 305 - Terrorism (3)			
CRJ 307 - Homeland Security and Counter Terrorism (3)	CJ 209**		3
CRJ 311 - Emergency Management (3)			
CRJ 328 - Security Administration (3)			
• <i>or</i>			
GOV 332 - Public Administration (3)			
CRJ 358 - Introduction to Intelligence Studies (3)			
HEM 332 - Technological Challenges in Homeland Security and Emergency Management (3)			
HEM 391 - The National Incident Management System and The Incident Command System (NIMS and ICS) (3)			



<b>Information Assurance</b>			
<b>Course Name</b>	<b>MVCC Course</b>	<b>Grade</b>	<b>Credits</b>
CSC 101 - Computer Science I (0.3)	CI 110 or, CI 226** or, CI 272** or, CI 220**		3
CSC 102 - Computer Science II (0.3)	CI 230**		3
CSC 201 - Discrete Mathematics I (4)			
CSC 316 - Object-Oriented Programming (3)	CI 245**		3
CSC 323 - Introduction to Networks (3)	CI 112		
CSC 432 - Computer and Network Security (4)			
CRJ 438 - System Vulnerability Assessments (3)			
<b>Network Forensics and Intrusion Investigation</b>			
<b>Course Name</b>	<b>MVCC Course</b>	<b>Grade</b>	<b>Credits</b>
CRJ 101 - Freshman Seminar in Justice Studies (1)			
CSC 206 - Cybersecurity Scripting (3)			
CRJ 337 - Computer Network Investigations (3)			
CRJ 355 - Cyber Crime Investigations and Forensics I (3)	CI 142		3
CRJ 356 - Cyber Crime Investigations and Forensics II (3)			
CRJ 438 - System Vulnerability Assessments (3)			
CRJ 455 - Cyber Crime Investigations and Forensics III (3)			
CRJ 457 - Network Forensics (3)			
<b>Electives</b>			
The student must complete sufficient elective courses to earn at least the minimum credit hours required for this degree, and at least 60 credit hours of the 120 required must be in the liberal arts and sciences.			
<b>Notes:</b>			

**\*\*These classes indicate additional equivalent courses that may be transferred that are not expressly part of the Associate's Curriculum. Some classes taken, that are not listed here, may also be accepted. They may be transferred in place of other credits taken in the Associate's program, up to a total of 60 credits.**