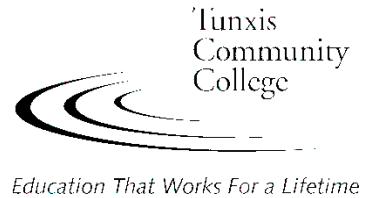


COURSE SYLLABUS



Course Title:	Virtualization and Cloud Security		Date submitted:	April 2021 (AAC: 21-13)	
Department:	STEAM				
Curriculum:	Computer Information Systems				
Course Descriptors: Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.	Course Code: (eg. ACC 101)	CST*214	Prerequisites:		
	Course Type:	L/D	C- or better in Network Essentials I (CST*130)		
	A: Clinical B: Lab D: Distance Learning I: Individual/Independent L: Lecture N: Internship M: Seminar P: Practicum U: Studio X: Combined Lecture/Lab Y: Combined Lecture/Clinical/Lab Z: Combined Lecture/Studio		Elective Type:	Corequisites:	
			G	None	
	AH: Art History E: English FA: Fine Arts FL: Foreign Language G: General HI: History HU: Humanities LAS: Liberal Arts & Sciences M: Math S: Science SS: Social Science		Credit Hours:	None	
			3	Other Requirements:	
	Developmental: (yes/no)		No	None	
	Contact Hours:		Lecture: 3 Clinical: 0 Lab: 0 Studio: 0 Other: 0 TOTAL: 3		
	Class Maximum:		24		
	Semesters Offered:		S		
Catalog Course Description:	This course covers the techniques to implement security controls and threat protection, managing identity and access, and protecting data, applications, and networks in cloud and hybrid environments as part of an end-to-end infrastructure. Topics include maintaining the security posture, identifying, and remediating vulnerabilities by using a variety of cloud security tools, implementing cloud threat protection, and responding to cloud security incident escalations in both Amazon Web Services (AWS) and Microsoft Azure cloud environments.				
Topical Outline: List course content in outline format.	1. Virtualization Concepts – Azure and AWS Products 2. Infrastructure Security – Edge, Network, Compute in the Cloud 3. Security Operations – Monitoring & Alerting 4. Security Operations – Logging Solution in AWS and Azure 5. Identity & Access Management – AWS Authorization and Authentication System				

	<ol style="list-style-type: none"> 6. Identity & Access Management – Azure Active Directories Identities 7. Identity & Access Management - Configure Secure Access with Azure AD 8. Identity & Access Management – Manage Application Access 9. Identity & Access Management – Manage Access Control 10. Data Protection – AWS Key Management and Data Encryption 11. Data Protection – Azure Storage and Database Security 12. Data Protection – Azure Key Vault
<p>Outcomes: Describe measurable skills or knowledge that students should be able to demonstrate as evidence that they have mastered the course content.</p>	<p>Upon successful completion of this course, the student will be able to do the following:</p> <ol style="list-style-type: none"> 1. Demonstrate an understanding of specialized data classifications and AWS data protection mechanisms. 2. Demonstrate an understanding of data-encryption methods and AWS mechanisms to implement them. 3. A working knowledge of AWS security services and features of services to provide a secure production environment. 4. Demonstrate an understanding of cloud security operations and risks. 5. Gain exposure to the latest Microsoft Azure platform protection implementation techniques. 6. Demonstrate an understanding of secure identity and access management in the Azure cloud 7. Understand how to implement data and application security in Azure cloud.
	<p>PROGRAM: <i>(Numbering reflects Program Outcomes as they appear in the college catalog)</i> Cybersecurity Associate of Science Degree</p> <ol style="list-style-type: none"> 3. solve computer-related problems 7. synthesize computer information systems knowledge and skills in solving basic information processing systems problems 10. knowledge of industry standard networking and communication technology
	<p>GENERAL EDUCATION/TAP OUTCOMES: <i>(Numbering reflects General Education Outcomes as they appear in the college catalog)</i></p> <ol style="list-style-type: none"> 2. Critical Analysis/ Logical Thinking - Students will be able to organize, interpret, and evaluate evidence and ideas within and across disciplines; draw reasoned inferences and defensible conclusions; and solve problems and make decisions based on analytical processes. <p>Demonstrates: Identifies the issue(s); formulates an argument; explains and analyzes relationships clearly; draws reasonable inferences and conclusions that are logical and defensible; provides support by evaluating credible sources of evidence necessary to justify conclusions.</p> <p>Does Not Demonstrate: Identifies few or no issues; formulates an argument without significant focus; provides an unclear explanation of analysis and relationships; drawing few reasonable inferences and conclusions that are illogical and indefensible; provides little to no support using credible sources of evidence necessary to justify conclusions.</p> 3. Ethical Dimensions - Students will identify ethical principles that guide individual and collective actions and apply those principles to the analysis of contemporary social and political problems.

	<p>Demonstrates: Identifies and reflects critically on ethical issues presented in classroom instruction or in assigned co-curricular or civic activities and/or professional internships and practica.</p>
<p>Evaluation: List how the above outcomes will be assessed.</p>	<p>Assessment will be based on the following criteria:</p> <ol style="list-style-type: none"> 1. Hands-on assignments and case studies will demonstrate an understanding of theories. 2. Written examinations will demonstrate an understanding of major facts, procedures, and theories.
<p>Instructional Resources: List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.</p>	<p>Required: Computer Cloud Lab (Azure Cloud) or Access to a computer with internet connectivity is required. No special software is required as a pre-requisite.</p> <p>Desired: None</p>
<p>Textbook(s)</p>	<p>Refer to current academic year printout</p>