COLUMBUS STATE
COMMUNITY COLLEGE

Columbus State Cloud Curriculum

NSF ATE Reach for the Cloud: Building an Industry-Aligned Pathway to Careers in Cloud Computing

Principal Investigator: Michael Greer

Contents

This material is based upon work supported by the National Science Foundation under Grant No. 1800988. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Columbus State Community College
Information Systems Technologies Department

COURSE NUMBER: ITST-1130
COURSE TITLE: Cloud Foundations for AWS Cloud Practitioner
INSTRUCTOR: **Instructor Name** **CONTACT:** Instructor Email Address
Credits / Class Hours per Week: 3/5 **PREREQUISITES:** None.

DESCRIPTION OF COURSE: The Cloud Foundations course is intended for all students, irrespective of their chosen majors, who seek an overall understanding of cloud computing concepts, independent of specific technical roles. It provides a detailed overview of cloud concepts, AWS core services, security, architecture, pricing, and support.

At the end of this course all students will sit for the AWS Cloud Practitioner exam.

COURSE STUDENT LEARNING OUTCOMES:

- Describe the six advantages of cloud computing
- Describe three cloud deployment models
- Use the AWS Cloud Adoption Framework to help organizations transform the way they work
- Understand the AWS pricing philosophy
- Review fundamental pricing characteristics
- Understand the elements of Total Cost of Ownership
- Understand the difference between AWS Regions, Availability Zones, and Edge Locations
- Understand the different AWS compute services
- Describe Amazon Elastic Compute Cloud
- Explain AWS Lambda, which is serverless computing
- Describe AWS Elastic Beanstalk
- Discuss storage services including Amazon EBS, Amazon S3, Amazon EFS, and Amazon Glacier
- Describe use cases for storage options, along with a demonstration of Amazon Glacier
- Understand storage pricing
- Understand virtual networking in the cloud with Amazon VPC
- Create virtual firewalls with security groups
- Secure delivery of data, videos, applications, and APIs with Amazon CloudFront
- Provide an overview of different database services in the cloud
- Highlight the differences between unmanaged and managed database solutions
- Differentiate between Structured Query Language and NoSQL databases
- Review the availability differences of alternative database solutions
- Learn how to distribute traffic across Amazon EC2 instances using Elastic Load Balancing

- Discover the ability of Auto Scaling to launch servers in response to workload changes
- Use CloudWatch to monitor AWS resources and applications in real time
- Describe the AWS Shared Responsibility Model
- Examine IAM users, groups, and roles
- Describe different types of security credentials
- Review the AWS Trusted Advisor checks
- Discuss security compliance
- Understand best practices on day 1 with a new AWS account
- Explore the well-architected pillars and design principles
- Understand high availability and reliability

OUTCOMES BASED ASSESSMENT OF STUDENT LEARNING: For this course, students are expected to demonstrate the skills associated with the Institutional Learning Goals (ILG) identified below:

- Critical Thinking
- Effective Communication
- Scientific and Technological Effectiveness
- Information Literacy

TEXTBOOK(S), MANUALS, REFERENCES, AND OTHER READINGS

1. *AWS Certified Cloud Practitioner Study Guide,* by David Clinton and Ben Piper. ISBN: 978-1119490708.

2. White Paper: "Overview of Amazon Web Services." (Link to white paper here.)
3. White paper: "Architecting for the Cloud." (Link to white paper here.)
4. White paper: "How AWS Pricing Works." (Link to white paper here.)
5. Web Page: "Compare AWS Support Plans." (Link to web page here.)
6. Web Page: "AWS Cloud Practitioner Exam Guide." (Link to guide here.)
7. Web Page: "Prepare for Your AWS Certification Exam." (Link to web page here.)

Important Note: You must purchase the textbook for this class.

COURSE MATERIALS REQUIRED

- AWSEducate.com account
- Labs.Vocareum.com account
- VitalSource.com account
- Slack.com account
- Internet Access

GENERAL INSTRUCTIONAL METHODS

- Lecture/Discussions
- Demonstrations
- Assigned Reading
- In-class Demonstrations
- In-class Group Exercises

STANDARDS AND METHODS FOR EVALUATION

Item	Points	Percentage
Attendance	50	10%
Discussion Board Assignments—total of 4 @ 25 points each	100	20%
Knowledge Check Quizzes—total of 4 @ 25 points each	100	20%
Homework/Lab Assignments—total of 5 @ 20 points each	100	20%
Reading Quizzes—total of 6--@ 20 points each (lowest grade dropped)	100	20%
Final Certification Practice Exam	50	10%
Total Points	**500**	**100%**

SPECIAL GRADING NOTE

It is a requirement that you schedule and sit for the AWS Practitioner exam. If you pass the exam your grade for the course will be recorded as an 'A'. However, if you do not sit for the exam or if you do not pass the exam your grade for the course will be calculated in the above "Standards and Methods for Evaluation."

GRADING SCALE

180-200 points	90 - 100%	A
160-179 points	80 - 89%	B
140-159 points	70 – 79%	C
120-139 points	60 – 69%	D
119 and below	0 – 59%	E

SPECIAL COURSE REQUIREMENTS

You will need an AWS Educate account and an AWS Retail account. Preparation for the exam requires that you register for a number of websites from varying third-party company that handle select aspects of the training for AWS. You must register for all required sites—and registration is free for all.

Important: You are expected to register and sit for the AWS Cloud Practitioner Exam at the end of the semester (during finals week).

ATTENDANCE POLICY Your success in this class is impacted by your attendance; as such, you are expected to attend every class and stay for the duration of each class. Attendance impacts your final grade in two ways. First, lectures contain material not found in the textbooks. Poor classroom attendance places you at a disadvantage relative to your ability to prepare for the work assigned. Second, your attendance, or lack thereof, will directly impact 10% of your overall

grade. As part of your attendance you are expected to complete assignments by applicable due dates and contribute to the course in meaningful and thoughtful ways.

All students begin the course with 10 points for attendance. You can miss a total of two classes without penalty. If you miss three classes, you lose 5 of the 10 points. Miss four classes and your attendance points are zeroed out. If you miss more than four classes without any type of official documentation validating those absences will automatically receive an E for the class. Said student should stop attending class as well as turning in assignments since it will not change their semester grade.

If you are going to be absent, it is your responsibility to ensure that you arrange with another student, or students, to get the materials you missed. It isn't a bad thing to start making connections and networking with others. You may find that in providing help to others, you might in turn receive help when you need it.

COUNSELING AND ADVISING SERVICES As a tuition-paying CSCC student, you are entitled to counseling services. Topics include, but are not limited to, career advising, including assistance with choosing a major, redirecting your educational plans or planning for a new career direction, personal counseling for stress/time management, college adjustment issues, family concerns, alcohol and substance abuse, and other personal or mental health concerns. Counseling services are provided on an individual, short-term basis (up to six sessions). All personal counseling is free and confidential. Information and referral to community resources are available.

Counseling and Advising Services also provides self-development groups and educational workshops and programs each quarter on a variety of important and relevant topics such as overcoming test anxiety, college study skills, stress management, juggling family/school/job roles, choosing a major, anger management, self-esteem, and others. Individual consultation on these topics is also available. Please stop by the office located in Aquinas Hall, room #116 or call 614-287-2668 to schedule an appointment. Office hours are Monday-Thursday, 8 AM to 7:30 PM, Friday, 9:30 AM - 4:30 PM and Saturday, 9 AM – 1 PM. For more information, visit the Counseling and Advising Services website at: http://cscc.edu/counselingservices/index.htm. Please see the following page for additional resources:

- The Columbus Coalition for the Homeless 614-228-1342. Many resources available online. (http://www.columbushomeless.org/)
- Hands on Central Ohio (2-1-1 or 614-221-6766) has operators with access to a database of community organizations who can connect callers to agencies that can help with a variety of situations. (https://handsoncentralohio.org/)
- The Ohio Benefit Bank, under the direction of the Ohio Association of Foodbanks, located at 101 E. Town Street, #540, Columbus, OH 43215, 1-800-648-1176. (http://www.ohiobenefits.org/)

COLLEGE SYLLABUS STATEMENTS Columbus State Community College required College Syllabus Statements on College Policies and Student Support Services can be found at

- Standard Syllabus Statement: Student Resources, Rights, and Responsibilities

IMPORTANT: COLLEGE CLOSING DATES:

- Updated each semester with that semester's closing dates.

Syllabus Disclaimer: I do not anticipate any changes to the syllabus. This syllabus acts as a set of principles and guidelines to the direction of the course, but I may change it if I deem it necessary to do so to ensure an effective learning experience for all.

Any changes will be announced in class, and subsequent revisions of the syllabus will be posted to Blackboard accompanied by a Blackboard announcement and email to all students.

Columbus State Community College
Information Systems Technology

COURSE NUMBER: CSCI-1320
COURSE TITLE: Database Fundamentals
INSTRUCTOR: **John Crider** **CONTACT:** jcrider4@cscc.edu
Credits / Class Hours per Week: 3/5 **PREREQUISITES:** None.

DESCRIPTION OF COURSE: CSCI 1320 serves as the foundational course for database. It introduces the student to the fundamental concepts and techniques of relational database management, database technology, structured query language, database design, database management, web database applications and the topic of Big Data. Students perform hands-on labs with commercial software and databases provided by real-world scenarios.

CSCI 1320 is taught using relational database services.

COURSE STUDENT LEARNING OUTCOMES:

- Explain the purpose, components, and function of a database system
- Be able to distinguish differences between relational and NoSQL databases.
- Explain the conceptual foundation of the relational model
- Explain the meaning and importance of keys, foreign keys and related terminology
- Create SQL statements for adding, modifying, deleting and reading data from a database
- Define the purpose and role of a data model
- Construct E-R Diagrams
- Explain and apply the normalization process to database design
- Create and represent 1:1, 1:N, and N:N relationships
- Describe basic administrative and managerial DBA functions
- Explain the importance of concurrency control, security, backup and recovery
- Define the basic concepts of Big Data, unstructured storage, and the MapReduce process

OUTCOMES BASED ASSESSMENT OF STUDENT LEARNING: For this course, students are expected to demonstrate the skills associated with the Institutional Learning Goals (ILG) identified below:

- Critical Thinking
- Effective Communication
- Scientific and Technological Effectiveness
- Information Literacy

TEXTBOOK(S), MANUALS, REFERENCES, AND OTHER READINGS

The following list of books is in the order in which you will encounter them:

1. *Relational Database Design and Implementation*, fourth edition, by Jan L. Harrington. ISBN: 9780128499023.

2. *T-SQL Fundamentals*, third edition, by Itzik Ben-Gan. ISBN: 9788120352964.

Important Note: The books for this class are provided to you through the Columbus State library's Safari Online database. There are no books for you to purchase; your books will be available to you online.

You are, of course, welcome to purchase the book on your own, but it is not necessary to do so for this class.

COURSE MATERIALS REQUIRED

- Windows Operating System
- SQL Server Management Studio (SSMS)
- Access to Draw.io
- Internet Access
- USB Flash drive for porting programs between the classroom and home computers

GENERAL INSTRUCTIONAL METHODS

- Demonstrations from Textbook
- Assigned Reading
- Lecture/Discussions
- In-class Demonstrations
- In-class Group Exercises

GRADING SCALE

90 - 100%	A
80 - 89%	B
70 – 79%	C
60 – 69%	D
0 – 59%	E

STANDARDS AND METHODS FOR EVALUATION

Item	Points	Percentage
Projects (1 through 6). These projects all build from each other as you design and implement a database for National Education Associates, a fictitious company. Each project is worth 100 points.	600	33%
Grilled Cheese Analysis	100	5.5%
Grilled Cheese Design	100	5.5%
Quizzes—total of 6 (including two pre-units quizzes) worth 50 points each.	300	16%
In Class Exercises – total of 7 worth 5 points each	35	2%
PreClass Quiz – Total of 13 worth 4 points each	52	3%
Discussion Board Posts—total of 7 worth 50 points each.	350	19%
Final Exam: Part I (knowledge test).	300	16%
(*Note: Percentages in last column are not exact due to remainder after division*.)		
Total Points	**1837**	**100%**

SPECIAL COURSE REQUIREMENTS

None.

Late Policy

No work will be graded after the deadline. If you missed an assignment and you would like feedback from me, I am happy to do that.

The exception to this policy is when you talk to me in advance of the deadline. If you cannot get an assignment turned in, let me know a few days before the due date and we can make other arrangements. If you talk to me after the due date, it is unlikely that I will extend a deadline.

VIRTUAL ATTENDANCE POLICY If your course is online, I must still record attendance for purpose of financial aid reporting. The way that I handle this is by examining your participation in Blackboard and your on-time submission of your work.

NON-VIRTUAL ATTENDANCE POLICY You are expected to attend every class session that you can. As this is a blended class, there will be a few weeks that we don't meet, but you will have materials available to you online and will be expected to study, read, and code even during these weeks off.

I do keep attendance as part of student financial aid reporting requirements, but I do not grade attendance. It is up to you to determine your participation in this class. However, please know that I will discuss, demonstrate, and help you to concretize concepts in class that otherwise will be very difficult without a great amount of effort on your part reading through websites, blogs,

and other materials to find what you missed. Also, I do not provide notes of my lectures and I won't hold a one-on-one session with you to repeat the material that I covered in class.

If you are going to be absent, it is your responsibility to ensure that you arrange with another student, or students, to get the materials you missed. It isn't a bad thing to start making connections and networking with others. You may find that in providing help to others, you might in turn receive help when you need it.

COUNSELING AND ADVISING SERVICES As a tuition-paying CSCC student, you are entitled to counseling services. Topics include, but are not limited to, career advising, including assistance with choosing a major, redirecting your educational plans or planning for a new career direction, personal counseling for stress/time management, college adjustment issues, family concerns, alcohol and substance abuse, and other personal or mental health concerns. Counseling services are provided on an individual, short-term basis (up to six sessions). All personal counseling is free and confidential. Information and referral to community resources are available.

Counseling and Advising Services also provides self-development groups and educational workshops and programs each quarter on a variety of important and relevant topics such as overcoming test anxiety, college study skills, stress management, juggling family/school/job roles, choosing a major, anger management, self-esteem, and others. Individual consultation on these topics is also available. Please stop by the office located in Aquinas Hall, room #116 or call 614-287-2668 to schedule an appointment. Office hours are Monday-Thursday, 8 AM to 7:30 PM, Friday, 9:30 AM - 4:30 PM and Saturday, 9 AM – 1 PM. For more information, visit the Counseling and Advising Services website at: http://cscc.edu/counselingservices/index.htm. Please see the following page for additional resources:

- The Columbus Coalition for the Homeless 614-228-1342. Many resources available online. (http://www.columbushomeless.org/)
- Hands on Central Ohio (2-1-1 or 614-221-6766) has operators with access to a database of community organizations who can connect callers to agencies that can help with a variety of situations. (https://handsoncentralohio.org/)
- The Ohio Benefit Bank, under the direction of the Ohio Association of Foodbanks, located at 101 E. Town Street, #540, Columbus, OH 43215, 1-800-648-1176. (http://www.ohiobenefits.org/)

RULES AND NORMS: There are several rules for my classes, about the following things: Questions & Stupidity, Meetings, Formalities, Email, Plagiarism and Academic Dishonesty.

Questions: It often feels awkward or embarrassing to ask questions. It did for me, and it is normal for you to feel that way also. When learning, we all should remember that before you learn, you don't know a thing. Often times, even after we feel we have "learned" something there are still more things to know. Give yourself and your fellow students the permission to ask questions. This is one of the main ways we learn. All of us sometimes pose questions in clunky ways. When there is a sincere attempt to learn or to clarify I hope that we all will find respectful ways to interact. I expect there to be room for disagreements and discussion in our classroom.

Meetings with faculty: I want to stress this as emphatically as I know how: your faculty are a resource to you during office hours. In this case, if you can't make my regular office hours, email me to make an appointment to meet sometime when you can. If it is onerous to you to make it to campus outside of class time, I will arrange phone or Teams meetings.

Formalities: Please call me John. If it makes you more comfortable, you may address me as Mr. Crider. Please also write emails to me in polite form, with a salutation, complete English sentences, etc. These do not have to be especially formal, but they do have to meet basic professional standards.

Email: As a general rule, I try to respond to emails within 24 hours; you have the right to one within 48 hours. I occasionally take off some weekends, so if you email me on Friday afternoon, you may not get a response until Monday. Also, you must send emails from your CSCC email address to be in compliance with federal privacy regulations. I will not respond to any student emails that originate from other than CSCC. Always provide a clear subject line. Always include your first and last name in the email message along with the class that you are taking from me.

Plagiarism and academic dishonesty: I do not tolerate plagiarism or academic dishonesty of any kind, not even a little bit. I should not have to say this, and you should not have to hear me say this, but no matter how seemingly insignificant, any plagiarism (or other academic dishonesty) of any kind at any point in the course can result in the following: (a) a failing grade for the course, and (b) report of such to the department.

No student shall engage in behavior which, in my judgment may be construed as academic dishonesty. This may include, but is not limited to, plagiarism, presenting another individual's ideas, data, words, images, or other products without giving credit to the originator, or other forms of academic dishonesty, such as the acquisition (without permission) of tests or other academic materials and/or distribution of the same, or acts of collusion. This includes students who aid and abet, as well as those who attempt such behavior.

This is serious business, even given that most of our writing will be in code. The rules may seem a bit different as many don't consider coding to be writing, although I assure you the principle is the same (and I do consider coding as writing): do not represent somebody else's thought or writing as your own, under any circumstances. Links often take the place of proper citations. Please email me if you have any questions at all about any of this.

Meanwhile, as far as coding goes, you will be able to google solutions to your problems. A lot of the time, if you're stuck, Googling around is the way you're going to hack it through. Still, you must provide attribution for the code that you find and do not write yourself. Simply provide attribution in the form of comments in your code.

COLLEGE SYLLABUS STATEMENTS Columbus State Community College required College Syllabus Statements on College Policies and Student Support Services can be found at

- Standard Syllabus Statement: Student Resources, Rights, and Responsibilities

Syllabus Disclaimer: I do not anticipate any changes to the syllabus. This syllabus acts as a set of principles and guidelines to the direction of the course, but I may change it if I deem it necessary to do so to ensure an effective learning experience for all.

Any changes will be announced in class, and subsequent revisions of the syllabus will be posted to Blackboard accompanied by a Blackboard announcement and email to all students.

UNITS OF INSTRUCTION

See the BLackbaord Course Caledar in the Course Information for assignment due dates.

*** Important Note**: Generally, assignments are due one week after they have been assigned. There is, however, one exception:

- Project 6 is assigned in week 13 and will be due two weeks later.

Columbus State Community College
Information Systems Technology Department
COURSE: ITST 2258, Web Application Security
CREDITS: 3 CLASS HOURS/WEEK: Web
PREREQUISITES: https://catalog.cscc.edu/courses/ITST2258

DESCRIPTION OF COURSE

The web application security course provides a structured approach to understanding the threats and vulnerabilities present in today's web sites based on code, configuration, and the underlying infrastructure architecture. Students are exposed to the Common Vulnerability Scoring System (CVSS) along with current vulnerabilities and exploit examples. STRIDE Threat modeling is presented and interactively applied to several scenarios.

The course covers the Open Web Application Security Project (OWASP) top 10, including practical lab exercises for each vulnerability, including research of exploits related to each vulnerability. Risk and compliance topics are reviewed as they apply to each vulnerability type. Class labs cover both Microsoft Internet Information Server (IIS) and Apache web server platforms. Defensive controls and Center for Internet Security (CIS) benchmarks are introduced and demonstrated along with basic Web Application Firewall (WAF) capabilities.

STUDENT LEARNING OUTCOMES

- Apply web site investigation and reconnaissance concepts using industry-standard tools, including Burp Suite and OWASP ZAP proxy.
- Describe the Common Vulnerability Scoring System
- Research known vulnerabilities for a given application using resources that include the National Vulnerability Database (NVD) and Common Vulnerabilities and Exposures (CVE) websites.
- Identify and apply remediation controls against select vulnerabilities with known exploits.
- Identify and describe each of the OWASP Top 10 vulnerabilities and prevention methods.
- Apply methods to attack lab resources for each of the OWASP Top 10 vulnerabilities
- Demonstrate proficiency in Kali Linux specific to web application tools and browser plug-in tools
- Demonstrate a working knowledge of attacking web authentication, session management, access controls, and application logic.
- Demonstrate a working knowledge of data encryption in flight and at rest, based on data classification.
- Describe the evolution and differences between Secure Sockets Layer (SSL) and Transport Layer Security (TLS).
- Describe relevant legal and compliance regulations, including HIPAA, GDPR, and PCI-DSS, as they relate to web applications.
- Apply the threat modeling process to a real-world scenario.
- Demonstrate a working knowledge of implementing defensive controls related to the web application, web server, and underlying operating system, including CIS Benchmarks.
- Describe the role of a Web Application Firewall (WAF) and its implementation using Amazon Web Services (AWS).

PROGRAM GOALS

Critical Thinking	Time Management	Professional & Life Skills
Effective Communication	Technical Competence	Accountability and Ethics

COURSE MATERIALS/EQUIPMENT REQUIRED

- You will need **regular access to a Windows computer [desktop or laptop]** for this course. The course cannot be successfully completed on a smartphone or tablet. You will need the ability to add apps and programs to your system.
- The Windows system will need a Remote Desktop Protocol (RDP) client to connect to your virtual Windows Server 2019 EC2 virtual machine hosted in AWS.

TEXTBOOK, MANUALS, REFERENCES, AND OTHER READINGS - Textbook material is provided by the Department, Safari books access is required and can be obtained at https://library.cscc.edu

Required Technology Skills:

- Competent in using a mouse, keyboard, and modern web browser to navigate and explore a web site.
- You should be able to check, write, and send email with attachments using Columbus State's Student Mail system (Office 365)
- Competent in navigating a Blackboard course, including reviewing content and submitting assignments.
- You should be comfortable with participating in a discussion board from a student perspective (see: Student Blackboard Orientation for a refresher).

GENERAL INSTRUCTIONAL METHODS

Labs + Demonstrations	Discussions Boards	Projects
Recorded Lectures	Q + A Sessions	Quizzes

ASSESSMENT

Columbus State Community College is committed to assessment (measurement) of student achievement of academic outcomes. This process addresses the issues of what you need to learn in your program of study, and if you are learning what you need to learn. The assessment program at Columbus State has four specific and interrelated purposes: (1) to improve student academic achievements; (2) to improve teaching strategies; (3) to document successes and identify opportunities for program improvement; (4) to provide evidence for institutional effectiveness. In class, you are assessed and graded on your achievement of the outcomes for this course. You may also be required to participate in broader assessment activities.

STANDARDS AND METHODS FOR EVALUATION

Quizzes—Students will complete quizzes for each unit we cover. All quizzes will be completed through Blackboard at your convenience during the week they are assigned. Students have one attempt for each quiz, and all quizzes are open book. Each quiz has a 20-minute time limit, and once you start the quiz, you must finish it. You will be able to see your feedback after the quiz deadline has passed. **No late quizzes are accepted**. Do not attempt to complete any assessments on a smart phone or tablet.

Discussion Board – See Blackboard for expectations, rubric, and requirements. **As with all other assignments, no late submissions accepted.**

Labs — Students will complete a hands-on lab during most units. Labs and other assignments will not be accepted via email. Labs must be submitted in the manner and format requested to receive credit. No late labs will be accepted unless arrangements have been made with the Instructor, ***prior*** to the due date.

An important part of the course is learning about file and directory structure. Be sure to have the correct location of the file(s) being submitted BEFORE you attempt the submission. The assignments only accept one submission per assignment. *What is uploaded is what is assessed*. Therefore, it is very important that you are submitting your file(s) to the correct assignment link in Blackboard. Also, make sure the file is legible and in the requested format. Assignments uploaded in the incorrect format or are not legible will not be accepted. If you do not completely submit the assignment in Blackboard, i.e., neglect to click the submit button, you will not receive credit. **Assignments are not accepted via email; they are only accepted through Blackboard.**

Midterm + Final— The Midterm and Final are timed and do not allow backtracking. You will find the due dates in the Calendar and in the *Course Weekly Breakdown* of the Course. No late Midterms or Finals will be accepted.

GRADING SCALE [*refer to Blackboard Gradebook for individual Point Value data*]

Major Categories	Point Value
Discussion Boards	25 Points
Quizzes	75 Points
Labs	200 Points
Assignments	200 Points
Individual Project	200 Points
Mid-term Exam	100 Points
Final Exam	200 Points

Points	Percentage	Grade
900 – 1000 points	90 - 100%	A
800 – 899 points	80 - 89%	B
700 – 799 points	70 – 79%	C
600 – 699 points	60 – 69%	D
0 – 599 points	0 – 59%	E

ATTENDANCE POLICY

Attendance is required for this course and is reported to the college for financial aid reporting throughout the semester. Students are expected to attend and prepare for each class by reading and studying the course assignments in advance of scheduled classes. There are **no make-up assignments, quizzes, assessments, or labs**. Many assignments build upon previous work. If you miss an assignment, it can seriously impact your ability to complete future assignments.

Technology Disruption Policy:
Technology isn't perfect: hardware fails, servers go down, internet access is lost, software crashes. Inevitably everyone experiences some sort of technology failure. **These are not considered emergencies. Technology issues are not a normal excuse for late work.** Here are ways you can protect yourself from technology failures:

- Plan ahead - avoid waiting to the last minute
- Frequently save your work and regularly back up your files
- Practice "safe" computing (keep virus software up-to-date and work on a secure network)

If you do experience a technology failure and need help, you can contact the IT Support Center.

Student Responsibilities

General

- Read and understand this syllabus. Special circumstances may require that this Syllabus be changed. If this happens, you will be notified through an Announcement and/or email and the changes will becomes a part of the Syllabus.
- Log in regularly and participate in the activities. Success in this course requires that everyone participates to not only learn the material but share your experience and ideas with everyone in the class.
- Complete the work on time. Late assessments and activities will NOT be accepted.

Respect for Others
Please use common courtesy in communicating. This means avoiding the use of inappropriate language and not expressing hostility toward others. Violation of this policy may mean removal from the course in accordance with the Academic Conduct Policy 7-11 and the Student Code of Conduct Policy No 7-12.

Web Site [Blackboard]
You are participating in a WEB section of ITST. IT IS CRUCIAL FOR YOU TO USE OUR BLACKBOARD SITE FOR THE CLASS. Information for the course is available through our Blackboard web site. This site will contain class announcements, the course syllabus, handouts, quizzes, quiz due dates, assignments, discussion boards, and supplemental materials. This information will be updated as new information becomes available, and the announcement section will alert you to any changes or additions to the schedule. You are responsible for checking this site and your email regularly to stay informed about the class.

Email
All students are given a CSCC student email account. Time-sensitive communication and information about the class will be sent out by the Instructor via email to the student's CSCC account, as necessary. Use your CSCC student account when communicating with the Instructor and include the course name in the subject line.

This is a formal communication between yourself and your Instructor. It is considered formal business communication. E*mails will contain proper grammar, punctuation, salutation, and a subject line*. Emails received from non-CSCC accounts without a subject line, *referencing the class section*, proper grammar and punctuation, and a salutation will not be responded too.

Review this syllabus before emailing your Instructor with questions about this course. Emailed questions about the course that are covered in this syllabus will not receive a response.

Columbus State Community College required College Syllabus Statements on College Policies and Student Support Services can be found at www.cscc.edu/syllabus or on the College website Quick Links "Syllabus Statements".

COLUMBUS STATE
COMMUNITY COLLEGE

Columbus State Community College
Computer Science Department

COURSE: CSCI 2999 CSCI Capstone

Faculty Information

Instructor Name: John Crider **Email: jcrider4@cscc.edu**
Office: Virtual only for Spring 2022
Office Hours: By Appointment

Class Meets:

CREDITS: 3 CLASS HOURS PER WEEK: Lecture 2 hours; Lab 3 hours
PREREQUISITES: NONE

Expect to spend about 14 hours per week on this class.

Restrictions: Instructor Permission - CSCI Major & completed 12 semester hours with instructor permission is required.

STUDENT LEARNING OUTCOMES

1. Students will design a project aligned to their major and relevant to current job openings
2. Students will implement a project of their design
3. Students will present their projects to faculty, staff, and business representatives
4. Students will build networks with professionals in their field
5. Students will use communication skills prevalent in IT enterprises
6. Students will use critical thinking skills to solve problems
7. Students will relate their plan of study to current job openings

INSTITUTIONAL LEARNING GOALS
Columbus State Community College's Institutional Learning Goals are an integral part of the curriculum and central to the mission of the college. The faculty at Columbus State has identified the following institutional learning goals:

- Critical Thinking

- Ethical Reasoning
- Quantitative Skills
- Scientific Literacy
- Technological Competence
- Communication Competence
- Cultural and Social Awareness
- Professional & Life Skills

COURSE MATERIALS REQUIRED

TEXTBOOK, MANUALS, REFERENCES, AND OTHER READINGS

There is no textbook for this course.

GENERAL INSTRUCTIONAL METHODS

- **Meetings with Instructor**
- **The faculty/Instructor is a facilitator in this class and does not teach any programming language, network skills, etc. Students are encouraged to complete all related classes before enrolling in this class**

ASSESSMENT

Columbus State Community College is committed to assessment (measurement) of student achievement of academic outcomes. This process addresses the issues of what you need to learn in your program of study and if you are learning what you need to learn. The assessment program at Columbus State has four specific and interrelated purposes: (1) to improve student academic achievements; (2) to improve teaching strategies; (3) to document successes and identify opportunities for program improvement; (4) to provide evidence for institutional effectiveness. In class, you are assessed and graded on your achievement of the outcomes for this course. You may also be required to participate in broader assessment activities.

STANDARDS AND METHODS FOR EVALUATION

ACTIVITY	Points
Say Hello	10
Course Summary	25
Ready for Success Draft	25
Ready for Success Critique	25
Ready for Success Final	100
Attend a Professional Gathering Prep	25
Attend a Professional Gathering Final	100
Interview a Professional Prep	25
Interview a Professional Final	100
Design a Multiphase Project	50
Preproject Reflection	50
Complete Phase 1 of Project	75
Update Scope and Plan Phase 2	100
Complete Phase 2 and Plan Phase 3	150
Complete Phase 3	100
3 Minute Rundown	25
Multiphase Project Presentation	200

Total Points Available in Class: 1185

GRADING SCALE

PERCENT	FINAL GRADE
90-100	A
80-89	B
70-79	C
60-69	D
59 and below	E

Late Policy

No work will be graded after the deadline. If you missed an assignment and you would like feedback from me, I am happy to do that.

The exception to this policy is when you talk to me in advance of the deadline. If you cannot get an assignment turned in, let me know a few days before the due date and we can make other arrangements. If you talk to me after the due date, it is unlikely that I will extend a deadline.

SPECIAL COURSE REQUIREMENTS

ATTENDANCE POLICY

Students are expected to attend every class session and all presentations their team is a part of.

These statements are part of the standard syllabus for all Columbus State courses.
https://www.cscc.edu/academics/syllabus.shtml

STUDENT CODE OF CONDUCT

As an enrolled student at Columbus State Community College, you have agreed to abide by the Student Code of Conduct as outlined in the Student Handbook. You should familiarize yourself with the student code. The Columbus State Community College expects you to exhibit high standards of academic integrity, respect, and responsibility. Any confirmed incidence of misconduct, including plagiarism and other forms of cheating, will be treated seriously and in accordance with College Policy and Procedure 7-10.

AMERICANS WITH DISABILITIES ACT (ADA) POLICY

It is Columbus State policy to provide reasonable accommodations to students with documented disabilities. If you would like to request such accommodations because of physical, mental or learning disability, please contact the Department of Disability Services, 101 Eibling Hall, 614.287.2570 (V/TTY). Delaware Campus students may also contact an advisor in the Student Services Center, first floor Moeller Hall, 740.203.8000. Ask for Delaware Campus advising, or www.cscc.edu/delaware, for assistance.

RULES AND NORMS: There are several rules for my classes, about the following things: Questions & Stupidity, Meetings, Formalities, Email, Plagiarism and Academic Dishonesty.

Questions: It often feels awkward or embarrassing to ask questions. It did for me, and it is normal for you to feel that way also. When learning, we all should remember that before you learn, you don't know a thing. Often times, even after we feel we have "learned" something there are still more things to know. Give yourself and your fellow students the permission to ask questions. This is one of the main ways we learn. All of us sometimes pose questions in clunky ways. When there is a sincere attempt to learn or to clarify I hope that we all will find respectful ways to interact. I expect there to be room for disagreements and discussion in our classroom.

Meetings with faculty: I want to stress this as emphatically as I know how: your faculty are a resource to you during office hours. In this case, if you can't make my regular office hours, email 5 me to make an appointment to meet sometime when you can. If it is onerous to you to make it to campus outside of class time, I will arrange phone or Teams meetings.

Formalities: Please call me John. If it makes you more comfortable, you may address me as Mr. Crider. Please also write emails to me in polite form, with a salutation, complete English sentences, etc. These do not have to be especially formal, but they do have to meet basic professional standards.

Email: As a general rule, I try to respond to emails within 24 hours; you have the right to one within 48 hours. I occasionally take off some weekends, so if you email me on Friday afternoon, you may not get a response until Monday. Also, you must send emails from your CSCC email address to be in compliance with federal privacy regulations. I will not respond to any student emails that originate from other than CSCC. Always provide a clear subject line. Always include your first and last name in the email message along with the class that you are taking from me.

Plagiarism and academic dishonesty: I do not tolerate plagiarism or academic dishonesty of any kind, not even a little bit. I should not have to say this, and you should not have to hear me say this, but no matter how seemingly insignificant, any plagiarism (or other academic dishonesty) of any kind at any point in the course can result in the following: (a) a failing grade for the course, and (b) report of such to the department.

No student shall engage in behavior which, in my judgment may be construed as academic dishonesty. This may include, but is not limited to, plagiarism, presenting another individual's ideas, data, words, images, or other products without giving credit to the originator, or other forms of academic dishonesty, such as the acquisition (without permission) of tests or other academic materials and/or distribution of the same, or acts of collusion. This includes students who aid and abet, as well as those who attempt such behavior.

This is serious business, even given that most of our writing will be in code. The rules may seem a bit different as many don't consider coding to be writing, although I assure you the principle is the same (and I do consider coding as writing): do not represent somebody else's thought or writing as your own, under any circumstances. Links often take the place of proper citations. Please email me if you have any questions at all about any of this.

Meanwhile, as far as coding goes, you will be able to google solutions to your problems. A lot of the

time, if you’re stuck, Googling around is the way you’re going to hack it through. Still, you must provide attribution for the code that you find and do not write yourself. Simply provide attribution in the form of comments in your code.

Columbus State Community College
Computer Science Department

COURSE NUMBER: CSCI-1103
COURSE TITLE: Introduction to Programming Logic
INSTRUCTOR: **Instructor Name** **CONTACT:** Instructor@cscc.edu
Credits/Class Hours per Week: 3/4 **PREREQUISITES:** Math 1050

DESCRIPTION OF COURSE: CSCI 1103 introduces basic concepts in programming logic including sequences, selections, and loops. Students are introduced to programming via an interactive visual programming application. Having mastered fundamental programming paradigms, students will then learn the basics of the Python programming language.

CSCI 1103 is an introduction to the field of Computer Science as well as to programming logic via the Python programming language. Through this course, students will begin to think algorithmically as they develop computational problem-solving skills, and then apply those skills to problems presented from several disciplines both within, as well as outside, computer science. Further, this class also introduces students to cloud computing with AWS.

COURSE STUDENT LEARNING OUTCOMES:

- Describe the main components of a computer system in terms of hardware and software
- Describe the general steps for implementing a program (conception, design, coding, testing, deployment, maintenance)
- Create and use variables for input and output purposes
- Utilize the sequence, selection and loop control structures to design structured algorithms
- Create methods (with and without parameters)
- Perform cloud computing-related tasks including the creation of Windows and Linux virtual workstations, and the publishing of a static website all using AWS.

OUTCOMES BASED ASSESSMENT OF STUDENT LEARNING: For this course, students are expected to demonstrate the skills associated with the Institutional Learning Goals (ILG) identified below:

- Critical Thinking
- Effective Communication
- Scientific and Technological Effectiveness
- Information Literacy

Topics:

Topics to be covered in this class include:

- History and ethics of computing
- Introduction to computer architecture
- Introduction to file systems (Windows and Linux)

- The Internet as a tool and developing software for the Internet
- Introduction to cloud computing via Amazon Web Services (AWS)
- Defining and developing algorithms
- Designing programs as solutions to questions and problems
- Introduction to development environments and language principles
- Types and variables
- Operators and expressions
- Control structures – making decisions
- Procedures and functions
- Arrays
- Strings and records
- Basic I/O
- Career awareness and introduction to career professionalization

TEXTBOOK(S), MANUALS, REFERENCES, AND OTHER READINGS

The following list of books is in the order in which you will encounter them:

1. *Computer Programming for Absolute Beginners,* by Joakim Wassberg. ISBN: 9781839216862.
2. *Blown to Bits: Your Life, Liberty, and Happiness After the Digital Explosion,* by Hal Abelson, Ken Ledeen, and Harry Lewis. ISBN: 9780136071433.
3. *AWS Certified Cloud Practitioner,* by Anthony Sequeira. ISBN: 9780135266960.
4. *Amazon Web Services: AWS LiveLessons,* by Richard Jones
5. *Head First: Learn to Code,* by Jan Eric. Freeman. ISBN: 9781491958865.

Important Note: The books for this class are provided to you through the Columbus State library's Safari Online database. There are no books for you to purchase; your books will be available to you online.

You are, of course, welcome to purchase the book on your own, but it is not necessary to do so for this class.

COURSE MATERIALS REQUIRED

- Windows or Mac Operating System
- AWSEducate.com account
- Python version 3.X installed (where 'X' is any number). At the time of the publication of this semester's syllabus, the current version of Python is 3.8.5
- Internet Access
- USB Flash drive or cloud storage for porting programs between the classroom and home computers

GENERAL INSTRUCTIONAL METHODS

- Demonstrations from Textbook
- Assigned Reading
- Lecture/Discussions
- In-class Demonstrations
- In-class Group Exercises

STANDARDS AND METHODS FOR EVALUATION

Item	Points	Percentage
Pre-Units Quiz.	20	**4%**
Knowledge Check Quizzes—total of 9 worth 10 points each. Lowest single grade will automatically be dropped.	80	**16%**
Lab Exercises—total of 6 worth 20 points each.	120	**24%**
Discussion Board Posts—total of 5 worth 10 points each	50	**10%**
Focus on Technology Meetup and Presentation	30	**6%**
Earn certificate of completion from an AWS Cloud Career Pathway.	50	**10%**
Professionalization Assignment with digital footprint.	50	**10%**
Final Exam: Part I (knowledge test)	50	**10%**
Final Exam: Part II (project)	50	**10%**
Total Points	**500**	**100%**

GRADING SCALE

450 - 500 points	90 - 100%	A
400 - 449 points	80 - 89%	B
350 - 399 points	70 – 79%	C
300 - 349 points	60 – 69%	D
299 and below	0 – 59%	E

SPECIAL COURSE REQUIREMENTS

None.

VIRTUAL ATTENDANCE POLICY If your course is online, I must still record attendance for purpose of financial aid reporting. The way that I handle this is by examining your participation in Blackboard and your on-time submission of your work.

NON-VIRTUAL ATTENDANCE POLICY You are expected to attend every class session that you can. As this is a blended class, there is material that you must complete on your own and not in class. These materials will be available to you online and will be expected to study, read, and code on your own.

I do keep attendance as part of student financial aid reporting requirements, but I do not grade attendance. It is up to you to determine your participation in this class. However, please know that I will discuss, demonstrate, and help you to concretize concepts in class that otherwise will be very difficult without a great amount of effort on your part reading through websites, blogs, and other materials to find what you missed. Also, I do not provide notes of my lectures and I won't hold a one-on-one session with you to repeat the material that I covered in class.

If you are going to be absent, it is your responsibility to ensure that you arrange with another student, or students, to get the materials you missed. It isn't a bad thing to start making connections and networking with others. You may find that in providing help to others, you might in turn receive help when you need it.

COUNSELING AND ADVISING SERVICES As a tuition-paying CSCC student, you are entitled to counseling services. Topics include, but are not limited to, career advising, including assistance with choosing a major, redirecting your educational plans or planning for a new career direction, personal counseling for stress/time management, college adjustment issues, family concerns, alcohol and substance abuse, and other personal or mental health concerns. Counseling services are provided on an individual, short-term basis (up to six sessions). All personal counseling is free and confidential. Information and referral to community resources are available.

Counseling and Advising Services also provides self-development groups and educational workshops and programs each quarter on a variety of important and relevant topics such as overcoming test anxiety, college study skills, stress management, juggling family/school/job roles, choosing a major, anger management, self-esteem, and others. Individual consultation on these topics is also available. Please stop by the office located in Aquinas Hall, room #116 or call 614-287-2668 to schedule an appointment. Office hours are Monday-Thursday, 8 AM to 7:30 PM, Friday, 9:30 AM - 4:30 PM and Saturday, 9 AM – 1 PM. For more information, visit the Counseling and Advising Services website at: http://cscc.edu/counselingservices/index.htm. Please see the following page for additional resources:

- The Columbus Coalition for the Homeless 614-228-1342. Many resources available online. (http://www.columbushomeless.org/)
- Hands on Central Ohio (2-1-1 or 614-221-6766) has operators with access to a database of community organizations who can connect callers to agencies that can help with a variety of situations. (https://handsoncentralohio.org/)
- The Ohio Benefit Bank, under the direction of the Ohio Association of Foodbanks, located at 101 E. Town Street, #540, Columbus, OH 43215, 1-800-648-1176. (http://www.ohiobenefits.org/)

RULES AND NORMS: There are several rules for my classes, about the following things: Questions & Stupidity, Meetings, Formalities, Email, Plagiarism and Academic Dishonesty.

Questions (and stupidity): Contrary to popular cliché, there are such things as stupid questions. But we all do ask them, sometimes. And that's OK! I aim for an atmosphere where even stupid questions—and stupid statements—are treated with respect, and where everybody feels licensed to say anything. If somebody (including me!) says something obviously wrong, or airheaded, or clumsy, or whatever—it is right and appropriate to say something non-judgmentally corrective. That's actually the hard thing: correcting or disagreeing with somebody in a manner that is both intellectually rigorous and not judgmental. It's difficult, but necessary, and expected, and generalizable.

Meetings with faculty: I want to stress this as emphatically as I know how: your faculty are a resource to you during office hours. In this case, if you can't make my regular office hours, email me to make an appointment to meet sometime when you can. If it is onerous to you to make it to campus outside of class time, I will arrange phone or Skype meetings.

Formalities: Please call me PREFERRED NAME. If it makes you more comfortable, you may address me as PREFERRED ADDRESSED NAME. Please also write emails to me in polite form, with a salutation, complete English sentences, etc. These do not have to be especially formal, but they do have to meet basic professional standards.

Email: As a general rule, I try to respond to emails within 24 hours; you have the right to one within 48 hours. I occasionally take off some weekends, so if you email me on Friday afternoon, you may not get a response until Monday. Also, you must send emails from your CSCC email address to be in compliance with federal privacy regulations. I will not respond to any student emails that originate from other than CSCC. Always provide a clear subject line. Always include your first and last name in the email message along with the class that you are taking from me.

Plagiarism and academic dishonesty: I do not tolerate plagiarism or academic dishonesty of any kind, not even a little bit. I should not have to say this, and you should not have to hear me say this, but no matter how seemingly insignificant, any plagiarism (or other academic dishonesty) of any kind at any point in the course can result in the following: (a) a failing grade for the course, and (b) report of such to the department.

No student shall engage in behavior which, in my judgment may be construed as academic dishonesty. This may include, but is not limited to, plagiarism, presenting another individual's ideas, data, words, images, or other products without giving credit to the originator, or other forms of academic dishonesty, such as the acquisition (without permission) of tests or other academic materials and/or distribution of the same, or acts of collusion. This includes students who aid and abet, as well as those who attempt such behavior.

This is serious business, even given that most of our writing will be in code. The rules may seem a bit different as many don't consider coding to be writing, although I assure you the principle is the same (and I do consider coding as writing): do not represent somebody else's thought or writing as your own, under any circumstances. Links often take the place of proper citations. Please email me if you have any questions at all about any of this.

Meanwhile, as far as coding goes, you will be able to google solutions to your problems. A lot of the time, if you're stuck, Googling around is the way you're going to hack it through. Still, you must provide attribution for the code that you find and do not write yourself. Simply provide attribution in the form of comments in your code.

COLLEGE SYLLABUS STATEMENTS Columbus State Community College required College Syllabus Statements on College Policies and Student Support Services can be found at

- Standard Syllabus Statement: Student Resources, Rights, and Responsibilities

IMPORTANT: COLLEGE CLOSING DATES:

- Monday, January 18, Dr. Martin Luther King, Jr. Day Observed
- Friday, February 12, Presidents' Day Observed
- Monday through Saturday, March 15-20, Spring Break (No classes, but college offices open).

A complete semester schedule can be found below:

- Spring Semester | Columbus State Community College (cscc.edu)

The above link provides a complete calendar of all important semester dates: withdrawal dates, graduation application date, fee payment dates, etc.

Syllabus Disclaimer: I do not anticipate any changes to the syllabus. This syllabus acts as a set of principles and guidelines to the direction of the course, but I may change it if I deem it necessary to do so to ensure an effective learning experience for all.

Any changes will be announced in class, and subsequent revisions of the syllabus will be posted to Blackboard accompanied by a Blackboard announcement and email to all students.

UNITS OF INSTRUCTION

Our class is split into two sections: I and II. The first section is focused on logic and emphasizes a great amount of reading. The second section is focused on programming in Python with an emphasis on coding.

Section I:

Week	Units	Learning Objectives/Goals	Assignments	Assignments Due *
Week 1 (01/17)	Pre-Units	Course knowledge materials and course tools materials.	· Pre-Units Quiz	
	Important: You will not be able to see the units below in Blackboard until you complete the Pre-Units Quiz in the Pre-Units above. You must score 100% this quiz. Once you have achieved this, then the following units will appear in Blackboard.			
	Unit #1	An overview of computers and logic.	· DB 1 · KCQ 1	
Week 2 (01/24)	Unit #2	Understanding structure.	· DB 2 · KCQ 2 · Focus on Technology Meetup & Presentations.	· Pre-Units Quiz · DB 1 · KCQ 1
Week 3 (01/31)	Unit #3	Looping.	· KCQ 3 · Lab 1	· DB 2 · KCQ 2
Week 4 (02/07)	Unit #4	Making decisions.	· DB 3 · KCQ 4 · Lab 2	· KCQ 3 · Lab 1
Week 5 (02/14)				· DB 3 · KCQ 4
Week 6 (02/21)	Unit #5	Introduction to AWS.	· DB 4 · KCQ 5 · AWS Career Pathways Project.	· Lab 2
Week 7 (02/28)	Unit #6	Professionalization	· DB 5 · Professionalization Assignment.	· DB 4 · KCQ 5

*** Important Note**: Generally, assignments are due one week after they have been assigned. There are, however, some exceptions:

- The "Focus on Technology Meetup and Presentations" is assigned in Week 2, but it is due toward the end of the semester during Week 14 and Week 15.
- The Professionalization assignment is assigned in Week 7, but it is due at the end of the semester in Week 15.
- The Focus on Technology Assignment Presentations would have been given in class had we been on campus during weeks 14 and 15. Your professor will let you know how the presentation portion of this assignment will be handled in your class.
- Several labs, Lab #2, and Lab #6—because of the amount of work that will go into these labs—are due two weeks from the date they are assigned. Don't procrastinate, however.

Section II:

Week	Units	Learning Objectives/Goals	Assignments	Assignments Due *
Week 8 (03/07)	Unit #7	Introduction to Python.	· None	· DB 5
03/15 – 03/20		**Spring Break—No Classes**		
Week 9 (03/21)	Unit #8	Variables.	· KCQ 6 · Lab 3	
Week 10 (03/28)	Unit #9	Operators and Expressions.	· KCQ 7 · Lab 4	· KCQ 6 · Lab 3
Week 11 (04/04)	Unit #10	Control Structures.	· KCQ 8 · Lab 5	· KCQ 7 · Lab 4
Week 12 (04/11)	Unit #11	Arrays/List and Tuples.	· KCQ 9 · Lab 6	· KCQ 8 · Lab 5
Week 13 (04/18)	Unit #12	Procedures and Functions.	· None	· KCQ 9
Week 14 (04/25)		Focus on Technology Assignment Presentations.	· None	· Lab 6 · Meetup Presentations Group I
Week 15 (05/02)	Final Review	Focus on Technology Assignment Presentations. Final Review.	· None	· Meetup Presentations Group II · Professionalization Assignment
Finals (05/09)	**Finals Week**	Final Exam · Part I (knowledge test) · Part II (project in Python)	· Final Exam (Part I and II)	· Your professor will give you the deadline for finals materials to be turned in.

Legend:

- **DB – Discussion Board Assignment**
- **KCQ – Knowledge Check Quiz**
- **Lab – Lab Exercise**

Columbus State Community College
Computer Science Department

COURSE: CSCCI 1145 HTML

CREDITS: 3 **CLASS HOURS PER WEEK:** 5 (2-lecture, 3-lab) **PREREQUISITES:** CSCI1103

DESCRIPTION OF COURSE:
CSCI1145 will teach students the dynamics of the Web environment while pursuing an in-depth study of the most recent version of both Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS). Throughout the course, students will create a real website using HTML and CSS on a live server environment. Students will learn other important topics as FTP, TCP/IP and HTTP.

STUDENT LEARNING OUTCOMES
- Analyze and critique basic design elements
- Employ cascading style sheets to style and organize content
- Integrate images and other stylistic elements into pages
- Troubleshoot issues related to HTML and CSS code
- Connect to a real web server and manipulate file upload/downloads
- Design content optimized for mobile delivery

INSTITUTIONAL LEARNING GOALS
Columbus State Community College's Institutional Learning Goals are an integral part of the curriculum and central to the mission of the college. The faculty at Columbus State has identified the following institutional learning goals:
- Critical Thinking
- Ethical Reasoning
- Quantitative Skills
- Scientific Literacy
- Technological Competence
- Communication Competence
- Cultural and Social Awareness
- Professional & Life Skills

COURSE MATERIALS REQUIRED
Supplementary Websites

TEXTBOOK, MANUALS, REFERENCES, AND OTHER READINGS
This course uses Open Educational Resources, so there isn't a textbook to buy. The required readings are linked in the Unit folders for each Unit in Blackboard. There are also lecture slides that reflect the main points from the readings in each Unit folder. In addition to the readings, practice examples and a study guide will be in each Unit folder to help reinforce the readings.

Main OER Sources:

- Web Development - Floyd, Kevin and Kwak, Myungjae, "Web Development" (2016). Computer Science and Information Technology Grants Collections. 7. https://oer.galileo.usg.edu/compsci-collections/7 Licensed by CC-BY

- Learning HTML: Guides and Tutorials" by Mozilla Developers Network is licensed under CC BY-SA 2.5

- Intro to HTML/CSS: Making Webpages by Kahn Academy is licensed under CC BY 4.0

Supplementary Website: http://citwebdev.cscc.edu and https://w3schools.com

GENERAL INSTRUCTIONAL METHODS
Demonstrations from Textbook
Assigned Reading
Video Screencasts
In-class Demonstrations
Supplemental Discussion/Notes from *citWebDev and W3Schools*

ASSESSMENT
Columbus State Community College is committed to assessment (measurement) of student achievement of academic outcomes. This process addresses the issues of what you need to learn in your program of study and if you are learning what you need to learn. The assessment program at Columbus State has four specific and interrelated purposes: (1) to improve student academic achievements; (2) to improve teaching strategies; (3) to document successes and identify opportunities for program improvement; (4) to provide evidence for institutional effectiveness. In class you are assessed and graded on your achievement of the outcomes for this course. You may also be required to participate in broader assessment activities.

STANDARDS AND METHODS FOR EVALUATION

Projects	380 points
Exercises	200 points
AWS Quiz	20 points
Quiz 1	100 points
Quiz 2	100 points
Final Exam	200 points
Total	**1000 points**

GRADING SCALE

900 – 1000 points	**A**
800 – 899 points	**B**
700 – 799 points	**C**
600 – 699 points	**D**
0 – 599 points	**E**

SPECIAL COURSE REQUIREMENTS
None

ATTENDANCE POLICY
Students must complete all assignments on time. Since this is a hybrid course, lack of submitting assignments is equivalent to not attending class.

COLLEGE SYLLABUS STATEMENTS*:* Columbus State Community College required College Syllabus Statements on College Policies and Student Support Services can be found at www.cscc.edu/syllabus*,* or on the college website Quick Links "Syllabus Statements."

UNITS OF INSTRUCTION

Unit	UNIT OF INSTRUCTION	LEARNING OBJECTIVES/GOALS	ASSESSMENT METHODS	ASSIGNMENTS	ASSIGNMENT DUE DATE
Unit 1	Internet basics, Account requests, How to use Filezilla and FTP to publish a website	Test account on *citWebDev* server. Manipulate file upload and downloads	10 points	Project 0	
Unit 2	Basics of HTML	Review HTML basics. Create first basic HTML page.	20 points 20 points	Exercise 1 Exercise 2	
Unit 3	Basics of CSS	Visually create a single HTML file.	20 points	Exercise 3	
Unit 4	Website planning	Review all aspects of web development. Complete a web planning document for course-long website.	50 points	Project 1	
Unit 5	Working with HTML images	Embed images in HTML. Create home page for project website.	40 points 20 points	Project 2 Exercise 4	
Unit 6	Page Layout	Learn basics of webpage layouts. Create remaining pages for project website.	50 points 20 points	Project 3 Exercise 5 Study for Quiz 1	
Unit 7	More on links and layouts	Practice creating well-formed hyperlinks.	20 points 100 points	Exercise 6 Take Quiz 1	
Unit 8	Tables	Practice html table techniques	50 points 20 points	Project 4 Exercise 7	
Unit 9	Forms	Practice html form techniques	20 points 40 points	Exercise 8 Project 5 Study for Quiz 2	
Unit 10	AWS	Learn how to use AWS to host static websites	30 points 20 points 100 points	Project 6 AWS Quiz Take Quiz 2	
Unit 11	Optimizing for mobile delivery	Develop a mobile version of project website.	50 points	Project 7	

Unit 12	Web Multimedia and Interactivity	HTML 5 audio and video elements	20 points	Exercise 9	
Unit 13	Web promotion - SEO	SEO best practices and techniques	30 points 20 points	Project 8 Exercise 10	
Unit 14	Introduction to Javascript and jQuery	Preview use of Javascript on project website using jQuery.	30 points 20 points	Project 9 Extra Credit Presentation	
Unit 15	Finals Review and Site presentations	Review for final and students who wish present their term projects	Extra Credit		
Unit 16	**Finals Week**		200 points	Final Exam (available on Blackboard)	