COURSE SYLLABUS

BOROUGH OF MANHATTAN COMMUNITY COLLEGE
The City University of New York
Department of Computer Information Systems

Title of Course: Principles of Information Technology and Computation **Class Hours:** 2
CSC 101 **Laboratory Hours per Week** 2

Semester: Spring 2024

Instructor Information (Phone#, Office#, email):

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Office Hours:	**ZOOM: MONDAY 4:30-5:30PM (flexible), you can also request a time outside of this.** **https://us05web.zoom.us/j/9273445183?pwd=VVNDZFo4b0R3aWp4UUkwQUJOL2xjUT09** **Meeting ID: 927 344 5183** **Passcode: NYYb7c**

Credits: 3

Course Description: This course introduces the student to the principles and theory of computation and information processing. The topics include hardware and software organization, data representation, algorithm development and networking principles. Special emphasis will be placed on creation of knowledge from data; the impact of computation on daily life; role of abstraction in solving problems; and implementation of algorithms on a variety of platforms including the Internet.

B**asic Skills:**

Prerequisites: ENG 088; ESL 062; ACR 094; MAT 008

Course Student Learning Outcomes (Students will be able to…)	**Measurements (means of assessment for student learning outcomes listed in first column)**
1. Identify and apply the fundamental concepts of Computer Science and Information Technology	**1.** Quizzes that cover concepts such as numbering systems, encoding, information extraction
2. Demonstrate how abstraction and algorithms can be used to analyze problems and develop solutions	**2.** Homework assignments/Term project that cover concepts such as stepwise decomposition, sequencing, selection, repetition and modularization
3. Articulate and evaluate the impact of technology and the Internet on personal privacy, security, or ethical responsibilities	**3.** A term paper/homework assignment that examines the advantages and disadvantages of using applications software in computing devices and its implications on privacy and security

Below are the college's general education learning outcomes, the outcomes that are checked in the left-hand column indicate goals that will be covered and assessed in this course. (Check at least one.)

	General Education Learning Outcomes	Measurements (means of assessment for general education goals listed in first column)
☒	**Communication Skills-** Students will be able to write, read, listen and speak critically and effectively.	Essay questions and term project/paper.
☒	**Quantitative Reasoning-** Students will be able to use quantitative skills and the concepts and methods of mathematics to solve problems.	Use of formulas and concepts of mathematics to solve problems in examinations and Homework assignments.
☐	**Scientific Reasoning-** Students will be able to apply the concepts and methods of the natural sciences.	
☐	**Social and Behavioral Sciences-** Students will be able to apply the concepts and methods of the social sciences.	
☐	**Arts & Humanities-** Students will be able to develop knowledge and understanding of the arts and literature through critiques of works of art, music, theatre or literature.	
☒	**Information & Technology Literacy-** Students will be able to collect, evaluate and interpret information and effectively use information technologies.	Term project/paper.
☐	**Values-** Students will be able to make informed choices based on an understanding of personal values, human diversity, multicultural awareness and social responsibility.	

Required Textbook:
Custom CSC101 zyBook: Principles in Information Technology and Computation - Fall 2020

- **Step 1: Sign in or create an account at learn.zybooks.com**
- **Step 2: Enter zyBook code (CUNYCSC101LamSpring2024)**
- **Step 3: Subscribe**

Use of Technology (If Applicable)

Evaluation and Requirements of Students:

Midterm 20%
Final 20%
Homework 20%
Term Project 20%
Class Participation (Classroom Lab, Participation Activity, Discussion) 20%
Total 100%

Topic Outline:
Week 1: Impact and influence of computation and information technology on daily life.
Week 2: Data, information and knowledge and their manipulation, management and creation.
Week 3: Computer systems organization and architecture
Week 4: Computational ideas and problem-solving using algorithms.
Week 5: Algorithm development techniques and use of abstraction in problem solving
Week 6: Midterm, Introduction to Programming (Python)
Week 7: Variables and Expressions (Python) (Python)
Week 8: Using Selection Control Structure (Python)
Week 9-10: Using Repetition Control Structure (Python)
Week 11: Using Functions and Control Statements (Python)
Week 12: Computer network principles and the impact of the Internet.

Week 13 – Cyber Security, Privacy and Computer Ethics
Week 14 – Case Study/Final Project/Final Exam Review
Week 15 – Final Exam

Class Participation

Participation in the academic activity of each course is a significant component of the learning process and plays a major role in determining overall student academic achievement. Academic activities may include, but are not limited to, attending class, submitting assignments, engaging in in-class or online activities, taking exams, and/or participating in group work. Each instructor has the right to establish their own class participation policy, and it is each student's responsibility to be familiar with and follow the participation policies for each course.

BMCC is committed to the health and well-being of all students. It is common for everyone to seek assistance at some point in their life, and there are free and confidential services on campus that can help.

Single Stop www.bmcc.cuny.edu/singlestop, room S230, 212-220-8195, singlestop@bmcc.cuny.edu. If you are having problems with food or housing insecurity, finances, health insurance or anything else that might get in the way of your studies at BMCC, come by the Single Stop Office for advice and assistance. Assistance is also available through the Office of Student Affairs, S350, 212-220-8130, studentaffairs@bmcc.cuny.edu.

Counseling Center www.bmcc.cuny.edu/counseling, room S343, 212-220-8140, counselingcenter@bmcc.cuny.edu. Counselors assist students in addressing psychological and adjustment issues (i.e., depression, anxiety, and relationships) and can help with stress, time management and more. Counselors are available for walk-in visits.

Office of Compliance and Diversity https://www.bmcc.cuny.edu/about-bmcc/compliance-diversity, room S701, 212-220-1236. BMCC is committed to promoting a diverse and inclusive learning environment free of unlawful discrimination/harassment, including sexual harassment, where all students are treated fairly. For information about BMCC's policies and resources, or to request additional assistance in this area, please visit or call the office, or email olevy@bmcc.cuny.edu, or twade@bmcc.cuny.edu. If you need immediate assistance, please contact BMCC Public safety at 212-220-8080.

Office of Accessibility www.bmcc.cuny.edu/accessibility, room N360 (accessible entrance: 77 Harrison Street), 212-220-8180, accessibility@bmcc.cuny.edu. This office collaborates with students who have documented disabilities, to coordinate support services, reasonable accommodations, and programs that enable equal access to education and college life. To request an accommodation due to a documented disability, please visit, call the office or email.

BMCC Policy on Plagiarism and Academic Integrity Statement

Plagiarism is the presentation of someone else's ideas, words or artistic, scientific, or technical work as one's own creation. Using the idea or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations, require citations to the original source. Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism. Students who are unsure how and when to provide documentation are advised to consult with their instructors. The library has guides designed to help students to appropriately identify a cited work. The full policy can be found on BMCC's Web site, www.bmcc.cuny.edu. For further information on integrity and behavior, please consult the college bulletin (also available online).

CUNY COMMON CORE Location **Please check below the area of the Common Core for which the course is being submitted. (Select only one.)**	
Required ☐ English Composition ☐ Mathematical and Quantitative Reasoning ☐ Life and Physical Sciences	Flexible ☐ World Cultures and Global Issues ☐ Individual and Society ☐ US Experience in its Diversity ☒ Scientific World ☐ Creative Expression
Learning Outcomes **In the left column explain the assignments and course attributes that will address the learning outcomes in the right column.**	
Scientific World A Flexible Core course must meet the three learning outcomes in the right column.	
Term paper: Students will collect information from primary and secondary sources for the issues of privacy and security on computing devices. The impact of different kinds of application software on computing devices will be examined.	• Gather, interpret, and assess information from a variety of sources and points of view.
Term paper: Students will evaluate the sources and analyze the impact of application software on privacy and security on computing devices.	• Evaluate evidence and arguments critically or analytically.
Term paper: Students will write a term paper of five to ten pages using primary and secondary resources and will present pros and cons of using application software on computing devices. A summary of privacy and security policy will be produced.	• Produce well-reasoned written or oral arguments using evidence to support conclusions.
A course in this area (II.E) must meet at least three of the additional learning outcomes in the right column. A student will:	
Students will identify and apply fundamental concepts such as numbering systems, data encoding, networking principles, algorithm development techniques, and information retrieval. Quizzes will be conducted in class, homework and a term project will be assigned.	• Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring the scientific world, including, but not limited to: computer science, history of science, life and physical sciences, linguistics, logic, mathematics, psychology, statistics, and technology-related studies.
In homework assignments and labs, students will demonstrate how concepts of stepwise decomposition, sequencing, selection, repetition and modularization can be used to solve problems.	• Demonstrate how tools of science, mathematics, technology, or formal analysis can be used to analyze problems and develop solutions.
	• Articulate and evaluate the empirical evidence supporting a scientific or formal theory.
Students will examine the advantages and disadvantages of using application software in computing devices and their impact on privacy and security. A term paper will be assigned.	• Articulate and evaluate the impact of technologies and scientific discoveries on the contemporary world, such as issues of personal privacy, security, or ethical responsibilities.
	• Understand the scientific principles underlying matters of policy or public concern in which science plays a role.