UNION COUNTY COLLEGE MASTER COURSE SYLLABUS

COURSE NUMBER & NAME:	CST 161 – Computer Programming Fundamentals
LECTURE/LAB HOURS	4 lecture hours per week
CREDITS	4 credits
PREREQUISITES:	ENG 097, MAT 019/MAT 021 or MAT 022

COURSE DESCRIPTION: This course introduces students to the logic used to develop solutions to common problems in the computer science field using a contemporary high-level programming language, such as Python. These step-by-step detail solutions are called algorithms and serve as the basic solution to most computer science problems. Topics include number systems, computer instructions, program logic, secure coding techniques, file management, and foundational concepts in computer science. Problem solving, critical thinking, and programming techniques are emphasized throughout the course.

COURSE LEARNING OUTCOMES:

Upon completion of this course, students should be able to:

1) Describe the basic components of a computing system.
2) Explain how the computer executes instructions in the Central Processing Unit (CPU).
3) Use file management techniques to create, edit, delete and backup files.
4) Demonstrate the basics of objects, properties, methods, and classes.
5) Apply the concepts of program design and development.
6) Create algorithms to solve simple problems.
7) Implement common programming techniques, such as assignments, control structures, and loops.

REQUIRED COURSE MATERIALS:

1) *MindTap Computer Science, 1 term (6 months) Printed Access Card for Lambert's Fundamentals of Python*

REQUIRED COMPUTING MATERIALS:

- ✓ Union County College email address required for zyBook subscription
- ✓ IDLE Python programming language environment (available in UCC computing labs)
- ✓ TextPad Editor (available in UCC computing labs and from textpad.com)
- ✓ Internet access to login to the Canvas LMS (available in UCC computing labs, libraries, and WiFi network)
- ✓ USB drive or cloud storage, such as Microsoft OneDrive or Google Drive, to save all assignments. It is important to save all work until your final grade has been received.

LOCATION, MEETING DAYS & TIMES:

- ✓ **To be determined (based on professor)**

COURSE REQUIREMENTS:

- Consistent class attendance and participation.
- Successful completion of all homework and programming assignments.
- Successful completion of all quizzes, semester and final examinations.

An essential element of this course includes information literacy. "Information Literacy" is the evaluation and assessment of integrated information. An understanding of its ramifications and implications through the critical use of information literacy will be included. Students must be able to locate, discern, and effectively use information to solve issues and/or problems.

Union County College does not discriminate and prohibits discrimination, as required by state and/or federal law, in all programs and activities, including employment and access to its career and technical programs.

Experiential Learning:
Students must complete an experiential learning activity that connects course content to career applications. This activity may be a content specific assignment or practical skill that is applied within a course assignment. This assignment supports the general education learning outcomes of scientific/critical thinking and quantitative reasoning; oral and written communication; and information literacy/technological competency.

Americans with Disabilities Act (ADA):
Union County College offers reasonable accommodations and/or services to persons with disabilities. Any student who has a documented disability and wishes to self-identify should contact the Coordinator of Disability Support Services at (908) 709-7164, or email disabilitysvc@ucc.edu. Accommodations are individualized and in accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1992. In order to receive accommodations, students must be registered with Disability Support Services. Students should register with the office as soon as possible. Accommodations are not official until the Faculty Accommodations Alert Form(s) are issued from the student to his/her instructor(s).

Family Educational Rights and Privacy Act (FERPA):
The FERPA Statement can be found at https://www.ucc.edu/admissions/the-family-education-rights-and-privacy-act/

"This course includes an experiential learning assignment that supports the general education learning outcomes of active and collaborative learning, critical thinking, diversity and written and oral communication."

EVALUATION METHODS:

Quizzes *	15%

Semester Exam I *	15%
Semester Exam II *	15%
Final Exam *	20%
Weekly homework & programming assignments **	25%
Class attendance & participation	10%

* Proctored quizzes and exams will be given on campus and no make-up tests will be offered. A grade of zero will be given for any missed quiz or exam.

** Assignments are due on the assigned date. Assignments submitted after the due date will be accepted at the discretion of the professor and will incur a lateness penalty. No assignments will be accepted more than one week after the due date.

COLLEGE GRADING SCALE:

A	90 or above	C	70-76
B+	87-89	D+	67-69
B	80-86	D	60-66
C+	77-79	F	below 60

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Karen Cimorelli, at (908) 709-7164, or email **disabilitysvc@ucc.edu**. Accommodations are individualized and in accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1992. In order to receive accommodations, students must be registered with the Disability Services Office. Students should register with the office as soon as possible. Accommodations are not official until the Faculty Accommodations Alert Form(s) are issued from the student to his/her instructor(s).

LAST DATE TO WITHDRAWAL:

ATTENDANCE POLICY:
Your participation in this course is very important to your success. In fact, 10% of your final semester grade is based on your attendance and class participation.

INCOMPLETE POLICY:
Students will not be given an incomplete grade in the course without sound reason and documented evidence as described in the Student Handbook. In any case, for a student to receive an incomplete, he or she must be passing and must have completed a significant portion of the course.

ACADEMIC INTEGRITY POLICY:
Students are expected to uphold the College's standard of conduct relating to academic honesty. Students assume full responsibility for the content and integrity of the academic work they submit. The

guiding principle of academic integrity shall be that a student's submitted work, quizzes, examinations, reports, and projects must be that of the student's own work. Any student violating the College's policy on academic integrity is subject to receive a failing grade for the course and may be subject to disciplinary action as described in the Student Handbook.

For this programming class, it is permissible to assist classmates in general discussions of computing techniques. General advice and interaction are encouraged. Each person, however, must develop his or her own solutions to the assigned homework and laboratory exercises. A student may NOT use or copy (by any means) another's work (or portions of it) and represent it as his or her own. If you need help ask me, your professor.

UNION COUNTY COLLEGE MISSION STATEMENT:
Transforming Our Community…One Student at a Time

UNION COUNTY COLLEGE MASTER COURSE SYLLABUS

Instructor Information:

Email:

Office Phone:

Office Location:

Office Hours:

COURSE SCHEDULE: (check Canvas course throughout the semester for possible adjustments)

Unit/Content	**Estimated Week**	**Readings & Assignments**
Course Introduction Review Canvas Learning Management System (LMS)	1	Review course syllabus. Purchase required zyBooks subscription. Logon to Canvas and complete student survey for course.
Introduction to Python Programming; Cybersecurity and Ethics	1 & 2	Read Chapter 1 in zyBooks, **Introduction to Python**, and complete all homework and programming assignments described on Canvas LMS for this chapter. Review the ACM Code of Ethics and Professional Conduct - www.acm.org/about-acm/acm-code-of-ethics-and-professional-conduct **Complete quiz**.
Variables and Expressions in Python	2 & 3	Read Chapter 2 in zyBooks, **Variables and Expressions**, and complete all homework and programming assignments described on Canvas LMS for this chapter. **Complete quiz**.
Data Types in the Python Language	3 & 4	Read Chapter 3 in zyBooks, **Types**, and complete all homework and programming assignments described on Canvas LMS for this chapter. **Complete quiz**.
Semester Examination I	5	The first semester exam covers chapter 1, 2 and 3 in zyBooks.
Branching Techniques in Computer Programming	5 & 6	Read Chapter 4 in zyBooks, **Branching**, and complete all homework and programming assignments described on Canvas LMS for this chapter. **Complete quiz**.

Various Loops in the Python Programming, such as while, do-while, and for.	6 & 7	Read Chapter 5 in zyBooks, **Loops**, and complete all homework and programming assignments described on Canvas LMS for this chapter. **Complete quiz**.
Data structures in the Python Programming Language, such as arrays, lists, and dictionaries.	7 & 8	Read Chapter 6 in zyBooks, **List and Dictionaries**, and complete all homework and programming assignments described on Canvas LMS for this chapter. **Complete quiz**.
Numbering Systems (binary, octal, decimal and hexadecimal)	8 & 9	View videos and other instructional material posted on Canvas LMS for numbering systems. **Complete** quiz.
Semester Examination II	10	The second semester exam covers chapters 4, 5 and 6 in zyBooks, as well as numbering systems.
Computer Architecture and Digital Logic Gates	10 & 11	View videos and other instructional material posted on Canvas LMS for computer architecture and digital logic gates - ww.neuroproductions.be/logic-lab **Complete quiz**.
Processing File I/O in Python	11 & 12	Read Chapter 7 in zyBooks, **Files**, and complete all homework and programming assignments described on Canvas LMS for this chapter. **Complete quiz**.
Functions and Methods in Python	12 & 13	Read Chapter 8 in zyBooks, **Functions**, and complete all homework and programming assignments described on Canvas LMS for this chapter. **Complete quiz**.
Classes in Python	13 & 14	Read Chapter 9 in zyBooks, **Classes**, and complete all homework and programming assignments described on Canvas LMS for this chapter. **Complete quiz**.
Exceptions in Python	14	Read Chapter 10 in zyBooks, **Exceptions**, and complete all homework and programming assignments described on Canvas LMS for this chapter. **Complete quiz**.
Final Examination	15	**The final examination covers chapters 1 through 10 in zyBooks, as well as other material covered during class, such as numbering systems, computer architecture, and digital logic gates.**

NOTE: The instructor reserves the right to modify the course requirements, assignments, grading procedures and other related policies as circumstances may dictate during the semester.