COQUITLAM COLLEGE
Established 1982

COURSE OUTLINE

Last Revised: September 2022 **Last Reviewed:** September 2022

COURSE INFORMATION

Course Title: Introduction to Computer Science & Programming I **Course Number:** CSCI 120 **Credits:** 3

Total Weeks: 14 (Fall, Spring)
12 (Summer)

Total Hours: 39

Course Level: ☒ First Year ☐ Second Year
☐ New ☐ Revised Course
☐ Replacement Course

Department: Computer Science **Department Head:** M. O'Connor **Former Course Code(s) and Number(s) (if applicable):** N/A

Pre-requisites (If there are no prerequisites, type NONE):

- PREC 12 or MATH 100 or MATH 120 and CSCI 100 or equivalent

Co-requisite Statement (List if applicable or type NONE): NONE

Precluded Courses: N/A

COURSE DESCRIPTION

This course is an introduction to computer science and computer programming. Students will learn the basic concepts and terminology of computer science and acquire fundamental programming skills in the Python 3 programming language. No prior programming experience is required.

LEARNING OUTCOMES

Upon successful completion of the course, students will be able to:

- Describe fundamental concepts behind computer science.
- Analyze problem specifications.
- Define simple algorithms using pseudocode and flowcharts.
- Construct Python programs from algorithms.
- Describe and apply techniques to debug and test programs.
- Trace the execution of Python programs.
- Define functions.
- Use functions that are built-in or defined in modules.
- Use elementary data structures such as strings and lists.
- Understand and use basic file handling.
- Implement fundamental algorithms such as the linear and binary search.
- Analyze the running time of simple iterative algorithms.
- Document a project.

INSTRUCTION AND GRADING

Instructional (Contact) Hours:

Type	Duration
Lecture	39
Seminars/Tutorials	
Laboratory	
Field Experience	
Other (*specify):*	
Total	39

Grading System: Letter Grades ☒ Percentage ☐ Pass/Fail ☐ Satisfactory/Unsatisfactory ☐ Other ☐

Specify passing grade: 50%

Evaluation Activities and Weighting (total must equal 100%)

Assignments: % *Specify number of, variety, and nature of assignments:*	Lab Work: 15%	Participation: % *Specify nature of participation:*	Project: % *Specify nature of project:*
Quizzes/Test: 20%	Midterm Exam: 30%	Final Exam: 35%	Other: %

TEXT(S) AND RESOURCE MATERIALS

Provide a full reference for each text and/or resource material and include whether required/not required.

Free online book: http://greenteapress.com/thinkpython2/html/index.html

COURSE TOPICS

List topics and sequence covered.

Week	Topic
Week 1	Introduction to Computer Science and Programming, Create and Run a Python Program
Week 2	Algorithms, Variables, Expressions and Statements, Datatypes
Week 3	Boolean Expressions, Conditional Execution
Week 4	Conditional Execution, Repetition, Quiz 1
Week 5	Repetition
Week 6	Functions
Week 7	Functions
	Midterm Exam
Week 8	Functions
Week 9	Strings, Lists
Week 10	Lists, Quiz 2
Week 11	Files
Week 12	Program Development, Searching
Week 13	Algorithm Analysis
Week 14	**Final Exam**

NOTES

1. Students are required to follow all College policies. Policies are available on the website at: Coquitlam College Policies
2. To find out how this course transfers, visit the BC Transfer Guide at: bctransferguide.ca