COQUITLAM COLLEGE
Established 1982

COURSE OUTLINE

Last Revised: June 2020

COURSE INFORMATION

Course Title: Software Packages and Programming   **Course Number:** CSCI 100   **Credits:** 3

Total Weeks: 14 (Fall, Spring)   **Total Hours:** 39   **Course Level:** ☒ First Year   ☐ Second Year
12 (Summer)   ☐ 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 recommended

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

Precluded Courses: N/A

COURSE DESCRIPTION

This is an introductory course in computer science. The course provides students with an overview of the fundamentals of computers, computer applications, the Internet and the World Wide Web. The use of software packages is emphasized, focusing on word processing, spreadsheet applications, database management and graphical presentation. Students will be introduced to computer programming using a high-level programming language such as Python 3 or Visual Basic, and the icon-based Lego Mindstorms EV3 software for Lego robots.

LEARNING OUTCOMES

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

- Describe some key points in computer history.
- Describe how digital technology plays a critical role in modern life.
- List the major types of computers and their principal uses.
- Discuss the social and ethical impact of information technology.
- Describe the basic structure and organization of a computer.
- Distinguish between different types of memory and storage devices.
- Identify various input and output devices and their uses.
- Explain how computers store and manipulate information.
- Describe numbering systems and the computer's internal data representation.
- Describe the fundamental categories of software and their relationships
  Describe the role of the operating system in a modern computer system.
- List some of the current operating systems.
- Apply key features of word processing software.
- Apply key features of spreadsheet software for "What-if" type analysis.
- Explain what a relational database is and describe its basic structure.
- Describe and use database operations for storing, sorting, updating, querying, and summarizing information.
- Describe the technology at the heart of the Internet.
- Demonstrate the ability to use web applications and cloud storage.
- Demonstrate the ability to effectively use web browsers, search engines and email.
- Discuss the tools people use to build websites.
- Construct a website using HTML5 and style sheets.
- Develop a simple algorithm to solve a problem.

- List some of the current high-level programming languages.
- Describe the process of designing, programming, and debugging a software system.
- Demonstrate the ability to write a simple computer program in a high-level programming language.

INSTRUCTION AND GRADING

Instructional (Contact) Hours:

Type	Duration
Lecture	39
Seminars/Tutorials	
Laboratory	
Field Experience	
Other (s*pecify):*	
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: 10% *Specify number of, variety, and nature of assignments:*	Lab Work: %	Participation: % *Specify nature of participation:*	Project: % *Specify nature of project:*
Quizzes/Test: 20%	Midterm Exam: 35%	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.

Technology In Action Complete, **16/E**

Alan Evans, Kendall Martin, Mary Anne Poatsy

ISBN:978-0135435199, 0135435196
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COURSE TOPICS

List topics and sequence covered.

Week	Topic
Week 1	Using Technology and Communicating on the Web
Week 2	Hardware Basics
Week 3	System Software

Week 4	Application Software (MS Word)
Week 5	Application Software (MS PowerPoint)
Week 6	Application Software (MS Excel)
	Midterm
Week 7	Database Systems (MS Access)
Week 8	The Internet and the WWW
Week 9	Web Development (HTML5 and CSS)
Week 10	Introduction to Software Development (SDLC)
Week 11	Introduction to Programming (Python 3, VB, Lego EV3)
Week 12	Introduction to Programming (Python 3, VB, Lego EV3)
Week 13	Introduction to Programming (Python 3, VB, Lego EV3)
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