COMPUTER SCIENCE (CPSC) | MELVILLE SCHOOL OF BUSINESS

Visit the BC Transfer Guide - bctransferguide.ca (https://www.bctransferguide.ca/) - for information about course transfer in B.C.

CPSC 1100 3 credits
Introduction to Computer Literacy
Students will learn concepts and trends in computer science. Students will gain an understanding of the terminology, current issues and changes in the technology of computing. Students will learn to use major application packages, such as word processing, spreadsheet, relational database and presentation software. Students will learn fundamental programming concepts and develop structured programs using a high-level language. Students will also examine social and ethical issues in computing.
Level: UG
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext), PW_2 (https://calendar.kpu.ca/courses-az/#pathwaytext)

CPSC 1103 3 credits
Principles of Program Structure and Design I
Students will learn fundamental programming concepts using the C++ programming language. Principles of problem solving, and algorithm design will be introduced as well as basic techniques for data representation and manipulation. Students will learn how to design, develop, test and document well-structured programs. This course is equivalent with INFO 1112. Students may earn credit for only one of these courses.
Level: UG
Prerequisite(s): Level B1 as defined in the Math Alternatives Table (https://calendar.kpu.ca/course-information/mathematics-alternatives-table/)
Cross-listing: INFO 1112
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext), QUAN (https://calendar.kpu.ca/courses-az/#quantext)

CPSC 1204 3 credits
Principles of Program Structure and Design II
Students will learn fundamental programming design and implementation concepts in the context of object-oriented programming. Students will review elementary concepts and learn more advanced concepts such as: data structures, objects, object interaction, inheritance, polymorphism, interface, abstract classes, and exception handling. Students will also be introduced to concepts and design principles of event-driven programming and graphical user interfaces. Students will learn methods for good analysis, design and style. This course is equivalent with INFO 2313. Students may earn credit for only one of these courses.
Level: UG
Prerequisite(s): CPSC 1103 or INFO 1112
Cross-listing: INFO 2313
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext), QUAN (https://calendar.kpu.ca/courses-az/#quantext)

CPSC 2302 3 credits
Data Structures and Algorithms
Students will learn fundamental tools of data and program organization including object-oriented programming, algorithm analysis, data abstraction and data structures. Students will learn to implement and use data structures such as Lists, Stacks, Queues, Trees, Hash Tables, and Graphs. Students will learn different algorithms for sorting and searching as well as analyzing and comparing the efficiencies of these algorithms. This course is equivalent with INFO 2315. Students may earn credit for only one of these courses.
Level: UG
Prerequisite(s): CPSC 1204 or INFO 2313
Cross-listing: INFO 2315
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext), QUAN (https://calendar.kpu.ca/courses-az/#quantext)

CPSC 3110 3 credits
Simulation
Students will learn computer simulation and modeling techniques. They will learn simulation methodologies and techniques for random number and stochastic variate generation. They will also learn simulation design, analysis and estimation based on endogenously created data, simulation model validation and variance reduction. Students will implement simulation models for real-life applications using a computer programming language.
Level: UG
Prerequisite(s): All of (a) CPSC 2302 or INFO 2315, and (b) STAT 2315
Attributes: ASTR (https://calendar.kpu.ca/courses-az/#astrtext), BUSI (https://calendar.kpu.ca/courses-az/#courseattributestext)