Portage College

COMP 105 Introduction to Computing and Information Systems

Course Outcome Summary

Course Information

Description	COMP 105 is a three-credit course that covers the fundamentals of information systems. The course covers basic hardware concepts; the structure (or architecture) of computers; the software hierarchy, from systems software to application programs; as well as concepts and development of the field. The course is the pre-requisite to higher level computer science courses. Students in this course will be expected to use a combination of locally installed and external electronic materials to develop skills needed for further study in the field. These skills include downloading, installing, and using specialized software tools, and setting the paths to allow programs to access their components and files. Because in COMP 105 is a preparatory course for further study in computer science, the level and difficulty of technical content is fairly high.
Career Cluster	University Programming
Total Credits	3
Total Hours	45
Prior Learning Assessment	This course is NOT eligible for any Prior Learning Assessments

Pre/Corequisites

Prerequisite Math 30-2

Textbooks

The resources listed in this section are required.

Schneider, G. Michael & Gersting, Judith L. (2018). Invitation to Computer Science (8th Ed.). Boston, MA: Nelson Education.

All other readings are found on the Moodle companion site for this course.

Course Learning Outcomes

1. **Identify the features of the essential units in computer organization, including peripheral or auxiliary devices.**
2. **Explain the roles and functional structure of the operating systems, virtual machines, and network computing.**
3. **Design the computational operations process of the algorithms in pseudocode.**
4. **Measure and analyze the efficiency of the algorithms.**
5. **Install a programming toolkit and debug software packages.**
6. **Explain the typical social issues and emerging technologies in computing.**
7. **Write the algorithms in Python.**
8. **Analyze a data-modeling problem and create a simple relational database.**
9. **Carry out a simple comparison analysis of the basic computer applications in computational modeling, artificial intelligence, or e-commerce.**

Grading Information

STUDENT ASSESSMENT OVERVIEW

TYPE OF ASSESSMENT	VALUE
Assignments	50%
Quizzes	20%
Exams	30%
TOTAL	**100%**

PASSING LEVEL AND GRADING SCALE

DESCRIPTOR	ALPHA GRADE	4.0 POINT SCALE	% EQUIVALENCY
	A+	4.0	95-100
Excellent	A	4.0	90-94
	A-	3.7 (*1)	85-89
	B+	3.3 (*2)	80-84
Good	B	3.0	75-79
	B-	2.7	70-74
	C+	2.3	67-69
	C	2.0	64-66
Satisfactory	C- (*3)	1.7	60-63
	D+	1.3	55-59
Pass (*4)	D	1.0	50-54
Failure	F	0.00	0-49

(*1) With Distinction (see C.3.5 Certification and Graduation requirements for more information)
(*2) Deans List
(*3) Transfer within Alberta College of Admissions and Transfer minimum (varies by program and institution)
(*4) Unless otherwise noted by the program area

Academic Year

2022-2023

Course Topics

Foundations of Computer Science
- An Introduction to Computer Science
- Algorithm Discovery and Design
- The Efficiency of Algorithms

Hardware
- Binary Numbers, Boolean Logic, and Gates
- Computer Systems Organization

The Virtual Machine System
- Software and Virtual Machines
- Computer Networks, the Internet, and the World Wide Web
- Information Security

Software
- Introduction to High Level Programming
- The Tower of Babel
- Compilers and Language Translation
- Models of Computation

Applications
- Simulation and Modeling
- Electronic Commerce and Databases
- Artificial Intelligence

Social Issues in Computing
- Making Decisions about Computers, Information, and Society

Instructor Credentials

Master's Degree

Transfer of Credit Information

Transfer credit listed on the ACAT (Alberta Council on Admissions and Transfer) website will be approved for transfer credit to Portage College. Specific credit awards to a program are subject to the requirements and regulations of the admitting program, and may vary from the total credit awarded by Portage College. To determine if this course transfers to other institutions refer to the ACAT website.