



Software Analysis and Design – CIST 108 Computer Information Systems Technology Program

Course Outline

COURSE IMPLEMENTATION DATE: September 2024
OUTLINE EFFECTIVE DATE: September 2024
COURSE OUTLINE REVIEW DATE: March 2029

GENERAL COURSE DESCRIPTION:

In this course students are exposed to the pillars of the Software Development Life Cycle (SDLC). Students explore and apply the concepts required to analyze, design, create, install and document a systems project through individual and team exercises. Learners will be exposed to key project management concepts and practices.

Using Object Oriented Design (OOD), students learn how to identify classes and build the domain model. Additionally, learners are introduced to an industry standard modeling graphical language: Unified Modeling Language (UML). Students learn the features of various Software Development Life Cycle (SDLC) patterns such as the Agile iterative model and the WaterFall model. Learners will learn the key players and stakeholders in a typical project and their roles. Various testing types such as unit testing, feature testing, regression testing, user acceptance testing, smoke test, and functional testing are also introduced.

Program Information: This course is required for the first year of the Computer Information Systems Technology program.

Delivery: This program is delivered hybrid (includes both face-to-face and online components).

COTR Credits: 3

Hours for this course: 60 hours

Typical Structure of Instructional Hours:

Instructional Activity	Duration
Lecture Hours	30
Seminars / Tutorials	
Laboratory / Studio Hours	30
Practicum / Field Experience	
Other Contact Hours	
Total	60

Practicum Hours (if applicable):

Type of Practicum	Duration
On-the-Job Experience	
Formal Work Experience	
Other	
Total	N/A

Course Outline Author or Contact:

Joy Brown, Department Head

Signature

APPROVAL SIGNATURES:

Department Head

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Dean of Trades and Technology

Dr. Jack Moes

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Department Head Signature

Dean Signature

EDCO

Valid from: September 2024 – March 2029

Education Council Approval Date

COURSE PREREQUISITES AND TRANSFER CREDIT:

Prerequisites: CIST 102

Corequisites: None

Flexible Assessment (FA):

Credit can be awarded for this course through FA Yes No

Learners may request formal recognition for flexible assessment at the College of the Rockies through one or more of the following processes: External Evaluation, Worksite Assessment, Demonstration, Standardized Test, Self-assessment, Interview, Products/Portfolio, Challenge Exam. Contact an Education Advisor for more information.

Transfer Credit: For transfer information within British Columbia, Alberta and other institutions, please visit <http://www.cotr.bc.ca/Transfer>.

Student should also contact an academic advisor at the institution where they want transfer credit.

Prior Course Number: N/A

Textbooks and Required Resources:

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

TBD

Please see the instructor's syllabus or check COTR's online text calculator <https://textbook.cotr.bc.ca/> for a complete list of the currently required textbooks.

LEARNING OUTCOMES:

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

- describe the software life cycle;
 - explain project management concepts;
 - identify key players and stakeholders in a typical project and describe their roles; and
 - prepare a software project for deployment by following appropriate steps for project initiation, project planning and analysis, testing, and feedback through individual and team exercises
 - design software using object-oriented best practices;
 - prepare UML models for software design;
 - Use Object Oriented Design (OOD) to identify classes and build the domain model
 - prepare project tests, such as such as unit testing, feature testing, regression testing, user acceptance testing, smoke test, and functional testing
 - analyze user feedback in order to refine a design and grow a system.
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COURSE TOPICS:

- The software life cycle
- Project management concepts (Agile iterative model and the WaterFall model)
- The methods for initiating projects
- Project analysis
- UML models for software design
- Using object-oriented to design software
- Project tests
- Software project for deployment
- Object Oriented Design (OOD)

See instructor's syllabus for the detailed outline of weekly readings, activities and assignments.

EVALUATION AND ASSESSMENT (Face-to-Face Delivery):

Assignments	% of Total Grade
Assignments (x3)	30%
Participation	10%
Midterm Exam	30%
Final Exam	<u>30%</u>
Total	100%

Please see the instructor's syllabus for specific classroom policies related to this course, such as details of evaluation, penalties for late assignments and use of electronic aids.

EXAM POLICY:

Students must attend all required scheduled exams that make up a final grade at the appointed time and place.

Individual instructors may accommodate for illness or personal crisis. Additional accommodation will not be made unless a written request is sent to and approved by the appropriate Department Head prior to the scheduled exam.

Any student who misses a scheduled exam without approval will be given a grade of "0" for the exam.

COURSE GRADE:

Course grades are assigned as follows:

Grade	A+	A	A-	B+	B	B-	C+	C	C-	D	F
Mark (Percent)	≥ 90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	< 50

A grade of "D" grants credit, but may not be sufficient as a prerequisite for sequential courses.

ACADEMIC POLICIES:

See www.cotr.bc.ca/policies for general college policies related to course activities, including grade appeals, cheating and plagiarism.

COURSE CHANGES:

Information contained in course outlines is correct at the time of publication. Content of the courses is revised on an ongoing basis to ensure relevance to changing educational, employment and marketing needs. The instructor endeavours to provide notice of changes to students as soon as possible. The instructor reserves the right to add or delete material from courses.