



**Bow Valley
College**

Course Outline

CLCM3603

Governance for Cloud
Applications
Fall 2023 - Current

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CLCM3603 Governance for Cloud Applications**COURSE DESCRIPTION**

This course will enable learners to design and implement governance protocols and procedures for implementing and deploying Cloud applications in a secure continuous implementation and continuous deployment (CI/CD) Cloud environment. Learners will be able to document governance protocols for data and cloud services based on a design architecture document. They will document and explain protocols for designing a solution, for building an implementation plan and for implementing a Clouds application.

REQUISITES	None
EQUIVALENTS	Complete the following courses: <ul style="list-style-type: none">• CLCM3601 - Governance for Cloud Applications (3)
CREDITS	3
HOURS	45
ELIGIBLE FOR PLAR	No
ZERO TEXTBOOK COST	Yes

COURSE COMPETENCY**COMPETENCY TITLE**

Cloud Application Implementation – Governance

COMPETENCY STATEMENT

Design and implement a set of policies, procedures and processes to support all requirements for the Software Development Lifecycle (SDLC) of the deployed application.

COMPETENCY DESCRIPTION

The governance of a cloud application is a set of protocols for tracking, maintaining, and securing the functionality of the application. It involves the delegation of responsibilities as well as procedures for avoiding unforeseen problems. Creating documentation that details the Continuous Implementation and Continuous Deployment (CI/CD) of applications enables the access control, privacy, and data handling protocols that safeguard valuable information while maintaining the useability of features.

This formal documentation process is the key to good governance of applications. Competency in governance is about creating reliable channels of communication for the implementation of a secure and complete cloud application solution.

COURSE LEARNING OUTCOMES

Bow Valley College is committed to ensuring our graduates can demonstrate their abilities in key areas that will make them effective citizens and encourage their development as lifelong learners. In addition to the discipline-specific skills that learners acquire in their programs, the College has identified ten learning outcomes.

College-Wide Outcomes:

1. Communication
2. Thinking Skills
3. Numeracy and Financial Literacy
4. Working with Others
5. Digital Literacy
6. Positive Attitudes and Behaviours
7. Continuous Learning
8. Health and Wellness Awareness
9. Citizenship and Intercultural Competence
10. Environmental Sustainability

#	COURSE LEARNING OUTCOME(S)	COLLEGE WIDE OUTCOMES SUPPORTED
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1	Document Cloud SDLC requirements by exercising judgement and demonstrating thoroughness.	1, 2, 5
2	Develop SDLC protocol for implementing the stakeholder's solution by demonstrating judgement and attention to details.	1, 2, 4, 5, 6

LEARNING PATHWAY

**The time it takes learners to demonstrate competencies will vary. An example of a suggested schedule for learning and development is shown below. Learners will need to plan out their assessment attempts within their course. For additional information, please consult the Course Offering Information in Brightspace.*

WEEK/HOURS LEARNING AND DEVELOPMENT PLAN

Week 1	Complete the Performance Demonstrations; Review your personalized learning plan
Week 2	Document Cloud SDLC requirements by exercising judgement and demonstrating thoroughness
Week 5	Document Cloud SDLC requirements by exercising judgement and demonstrating thoroughness
Week 6	Document Cloud SDLC requirements by exercising judgement and demonstrating thoroughness
Week 7	Document Cloud SDLC requirements by exercising judgement and demonstrating thoroughness
Week 8	Document Cloud SDLC requirements by exercising judgement and demonstrating thoroughness
Week 9	Reading Week (modifications to this week will occur to adjust to the academic calendar)
Week 10	Develop SDLC protocol for implementing the stakeholder's solution by demonstrating judgement and attention to details
Week 11	Develop SDLC protocol for implementing the stakeholder's solution by demonstrating judgement and attention to details
Week 12	Develop SDLC protocol for implementing the stakeholder's solution by demonstrating judgement and attention to details
Week 13	Develop SDLC protocol for implementing the stakeholder's solution by demonstrating judgement and attention to details
Week 14	Develop SDLC protocol for implementing the stakeholder's solution by demonstrating judgement and attention to details
Week 15	Develop SDLC protocol for implementing the stakeholder's solution by demonstrating judgement and attention to details

COURSE MODULES AND SCHEDULE

**Course schedule subject to change, depending on delivery mode and term of study. For exact dates, please consult the Course Offering Information in Brightspace.*

WEEK/HOURS MODULES

1	Introduction to cloud computing governance
2	Cloud service models and deployment models
3	Cloud security and compliance
4	Cloud risk management
5	Cloud vendor management
6	Cloud data governance
7	Cloud incident response and business continuity
8	Cloud audit and compliance monitoring
9	Reading week
10	Cloud governance automation and tools
11	Cloud governance for DevOps
12	Cloud governance for big data and analytics
13	Cloud governance review and assessment
14	Final project and presentations
15	Final project and presentations

ASSESSMENT

This course follows an assessment-first approach, in which learners will be assessed, and receive structured feedback, and a personalized learning plan. Learners will also receive differentiated support from an instructor based on their individual needs.

Learners will have a variety of ways to demonstrate they have met the required competency through the demonstration of learning outcomes and criteria as laid out in the rubric. Learners will have multiple (but not unlimited) attempts to prove competency. It is suggested that learners plan out their assessment attempts within their course.

Learners will have flexibility in how they satisfy course learning outcomes while still adhering to the criteria found in the rubric and the Course Offering information. Please refer to the Course Offering Information and the rubric in Brightspace for additional information.

COURSE

LEARNING ASSESSMENT

OUTCOMES

1	Performance Demonstration
2	Performance Demonstration

ASSESSMENT

COURSE LEARNING OUTCOME(S)	ASSESSMENT	WEIGHT
1, 2, 3, 4	Labs (Minimum of 6)	60%
1, 2, 3	Assignments (Minimum of 2)	20%
1, 2, 3, 4	Final project	20%

Important: For details on each assignment and exam, please see the Course Offering Information.

PERFORMANCE STANDARDS

A minimum grade of D is required to pass this course. However, a program may require a higher grade in this course to progress in the program or to meet specific program completion requirements.

Please consult with the program area or contact the program chair for further details. A minimum Grade Point Average of 2.0 is required for graduation.

GRADING SCHEME

Grade	Percentage	Grade Point	Description
A+	95-100	4.0	Exceptional: superior knowledge of subject matter
A	90-94	4.0	Excellent: outstanding knowledge of subject matter
A-	85-89	3.67	
B+	80-84	3.33	
B	75-79	3.0	Very Good: knowledge of subject matter generally mastered
B-	70-74	2.67	
C+	67-69	2.33	

C	64-66	2.0	Satisfactory/Acceptable: knowledge of subject matter adequately mastered
C-	60-63	1.67	
D+	57-59	1.33	
D	50-56	1.0	Minimal Pass
F	Less than 50	0.0	Fail: an unsatisfactory performance

REQUIRED LEARNING RESOURCES

AWS Official Documentation Website.

The Security Guidance for Critical Areas of Focus in Cloud Computing v4.0 (“Guidance v4.0”) is licensed by the Cloud Security Alliance under a Creative Commons Attribution. International License (CC-BY-NC-SA 4.0).

Learners will use a Cloud platform.

Additional learning resources may be found in the Course Offering Information or in Brightspace.

ADDITIONAL INFORMATION

Additional information may be found in the Course Offering Information or in Brightspace.

ACADEMIC ACCOMMODATIONS

Learners with a disability (learning, physical, and/or mental health) may qualify for academic and exam accommodations. For more information, or to apply for accommodations, learners should make an appointment with Accessibility Services in the Learner Success Services (LSS) Department. Accessibility Services can also assist learners who may be struggling with learning but do not have a formal diagnosis. To make an appointment visit LSS on the first floor of the south campus or call 403-410-1440. It is the learner's responsibility to contact Accessibility Services and request academic accommodations. For more information, please visit our website at <http://www.bowvalleycollege.ca/accessibility>.

INSTITUTIONAL POLICIES

Bow Valley College is committed to the highest standards of academic integrity and honesty. Learners are urged to become familiar with and uphold the following policies: Academic Integrity (500-1-7), Learner Code of Conduct, Procedures and Guidelines (500-1-1), Learner Appeals (500-1-12), Attendance (500-1-10), Grading (500-1-6), Academic Continuance and Graduation (500-1-5), and Electronic Communications (300-2-13). Audio or video recording of lectures, labs, seminars, or any other teaching and learning environment by learners is allowed only with consent of the instructor as part of an approved accommodation plan. Recorded material is to be used solely for personal study and is not being used or distributed without prior written consent from the instructor.

Turnitin:

Students may be required to submit their course work to Turnitin, a third-party service provider engaged by BVC. Turnitin identifies plagiarism by checking databases of electronic books and articles, archived webpages, and previously submitted student papers. Students acknowledge that any course work or essays submitted to Turnitin will be included as source documents in the Turnitin.com reference database, where it will be used solely to detect plagiarism. The terms that apply to a student's use of Turnitin are described on Turnitin.com.

Online Exam Proctoring:

Examinations for this course may require proctoring through an online proctoring service. Online proctoring enables online exam taking within a controlled and monitored environment, thereby enhancing academic integrity. Online proctoring may occur through a variety of methods, including but not limited to:

- a. live online proctoring where a remote invigilator authenticates identity and observes completion of an exam using specialized software and recordings;
- b. automated proctoring where the exam session is recorded and AI (artificial intelligence) analyzed;
- c. browser lockdown that limits access to other applications, websites, copying, printing, screen capture and other functions; or
- d. a combination of both live/automated proctoring and browser lockdown.

Course instructors will review recordings, analyses, and data obtained through online proctoring for academic integrity infractions. It is the student's responsibility to meet the technical, software, location, and identity verification requirements necessary to enable online proctoring.

Further details of these policies are available in the Academic Calendar and on the Bow Valley College website, bowvalleycollege.ca.

Learners are encouraged to keep a copy of this course outline for future reference.

Collection of Personal Information:

This course, including your image and voice, may be recorded and made available to you and other students taking the course section. By attending the class(es) online or in person, you consent to the collection of your

personal information. If you do not wish to be recorded, please contact your instructor before starting the course/class to discuss alternative arrangements.

You may use the recordings only for educational purposes and you must not copy, share, or use the recordings for any other purpose without the instructor's express permission.

Your personal information is collected in accordance with section 33(c) of the Freedom of Information and Protection of Privacy Act (Alberta) to deliver academic programming, support learner flexibility, promote universal design for learning principles, and for purposes consistent with the course activities and outcomes. If you have any questions about the collection, disclosure, use, or protection of this information, please contact the College's Access and Privacy Officer at foip@bowvalleycollege.ca.