CIST-205 – Introduction to Cloud Computing

Technology

Effective Term & Year: Fall 2024
Course Outline Review Date: 2029-03-01

Program Area: Information Technology

Description:

In this course, learners gain a wider knowledge and deeper understanding of installing, configuring, and managing cloud infrastructure for an organization. Students are introduced to the cloud as a platform to acquire and use various resources which are traditionally used on a local hardware. This includes: cloud deployment models, cloud platform architectures, cloud computing platforms and comparative analysis Cloud computing is comprised of virtual machine instances, load balancers, auto scaling groups, snapshots, and cloud networking. Students gain experience working with virtual private clouds (VPC), cloud storage and content delivery through cloud-hosted databases. Cloud security models are also covered including user identity, access management, and resource security. This course is a mixture of lecture and hands-on, with students practicing in the lab using services from various cloud providers such as Microsoft, VMWare, Google, and Amazon.

Program Information:

This course is required for the second year of the Computer Information Systems Technology program.

Delivery Methods: Hybrid – On-campus (Face-to-Face) and Online

Credit Type: College of the Rockies Credits

Credits: 3

Instructional Activity and Hours:

Activity	Hours
Classroom, Directed Studies or Online Instruction	30
Seminar/Tutorials	
Laboratory/Studio	30
Practicum/Field Experience	
Co-op/Work Experience	
Other	
Total	60

Course Requisites:

- Completed the following:
  - CIST107 – Introduction to Internet Programming and Web Applications (3)

Flexible Assessment: Yes

Students are able to request formal recognition of their prior learning or experience outside the classroom. Challenge examination, portfolio-assisted assessment, or work-based assessment are used to identify, assess, and recognize prior skills, competencies, and knowledge to achieve course credit. Tuition fees apply, refer to Policy 2.5.5 Prior Learning Assessment and Recognition (PLAR) or contact an education advisor for more information.

Course Transfer Credit:

For information about receiving transfer credit for courses taken at either British Columbia or Alberta institutions, please see https://www.bctransferguide.ca/ or https://transferalberta.alberta.ca . For more transfer credit information, please visit https://www.cotr.bc.ca/Transfer

All requests for course transfer credit from institutions in British Columba or elsewhere should go to the College of the Rockies Enrolment Services office.

Textbook 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 Resources available digitally through the online platform

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

- explain the components of a cloud infrastructure and their functions;
- describe various cloud platforms, their architectures, and their characteristics;
- recognize and describe various types of cloud services and deployment models;
- discuss and evaluate risks associated with Cloud computing and describe mitigation strategies;
- configure conventional cloud services on commercially available cloud service providers;
- design and deploy cloud-based websites; and
- design and implement cloud-based database systems.

Course Topics:

- Cloud services, Cloud Service Models: SaaS, PaaS, IaaS
- Azure services and APIs and how they relate to Cloud computing
- Various Cloud deployment models and their differences
- Available Cloud Service Platforms and each one's features
- Amazon Cloud Services, AWS APIs
- Google Cloud Services, APIs

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

Evaluation and Assessments

Assessment Type: On-Campus (face-to-face)

Assessment Type	% of Total Grade
Assignments	55%
Project	20%
Final Exam	25%
Total	100%

Grade Scheme

A+	A	A-	B+	B	B-	C+	C	C-	D	F
>=90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	<50

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

Evaluation Notes Comments:

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 Attendance:

Students must attend all scheduled exams at the appointed time and place. Instructors may approve an alternate exam to accommodate an illness or personal crisis. Department heads will consider other written requests. Any student who misses a scheduled exam without prior approval will receive a "0" on the exam.

Academic Policies:

College of the Rockies policies related to courses can be found at https://cotr.bc.ca/about-us/college-policies/ and include the following:

- Policy 2.1.4 Course Audit
- Policy 2.4.1 Credential Framework
- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Rights, Responsibilities and Conduct
- Policy 2.4.8 Academic Performance
- Policy 2.4.9 Student Feedback and Concerns
- Policy 2.4.11 Storage of Academic Works
- Policy 2.5.3 Student Appeal
- Policy 2.5.5 Prior Learning Assessment and Recognition (PLAR)

Course Changes:

The College of the Rockies updates course outlines regularly to meet changing educational, employment and marketing needs. The instructor will notify students in writing of any updates to this outline during the semester. The instructor reserves the right to revise, add or delete material while meeting the learning outcomes of this course outlin