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CSTP 1303: Introduction to Client-Server Computing

EFFECTIVE DATE

September 2019

DEPARTMENT

Computer Systems Tech Diploma

DESCRIPTION

In this course students are introduced to the fundamentals of developing a distributed computer system based on the client/server paradigm. The challenges, the tools and techniques, and various characteristics of mobile vs desktop environments with respect to the Client-Server application model are analysed. Students will develop distributed applications using sockets, datagrams, pipes and FIFO buffers, using low-level tools such as C++ or windows API(Application Programming Interface) such as COM (Common Object Model), RPC (Remote Procedure Call), and various web technologies, based on the experience and preferences of the instructor. The goal for this course is to make students aware, through hands-on work, of the challenges of a networked application, such as performance, delays, reliability, scalability, and security issues.

CREDITS

3.0

YEAR OF STUDY

1st Year Post-secondary

PREREQUISITES

CSTP 1204 Software Analysis and Design CSTP 1205 Programming in C++ CSTP 1302 Windows Programming (or concurrently)

COREQUISITES

None

COURSE LEARNING OUTCOMES

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

- Analyze requirements and design goals for client server and distributed system
- Analyze, debug, and identify bottlenecks in a distributed system
- Use common tools for developing distributed systems in web, mobile and desktop environments
- Explain key concepts in networking and client/server software systems

- Perform maintenance, optimization, and restructuring of an existing basic networked system

PRIOR LEARNING ASSESSMENT & RECOGNITION (PLAR)

None

HOURS

Lecture: 20

Lab: 40

INSTRUCTIONAL STRATEGIES

Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

GRADING SYSTEM

Letter Grade (A-F)

PASSING GRADE

C

EVALUATION PLAN

Type	Percentage	Assessment activity
Assignments	40	
Participation	5	In group assignments and lab-work
Lab Work	25	
Final Exam	30	

COURSE TOPICS

- Client/Server architecture
- Network programming
- Networking protocols
- Network lag, packet analysis
- Distributed system
- Performance analysis and debugging

LEARNING RESOURCES

None

Notes:

- Course contents and descriptions, offerings and schedules are subject to change without notice.
- Students are required to follow all College policies including ones that govern their educational experience at VCC. Policies are available on the VCC website at:

<https://www.vcc.ca/about/governance--policies/policies/>.

- To find out how this course transfers, visit the BC Transfer Guide at <https://www.bctransferguide.ca>.

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Downtown campus

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