





Course Number: CSTP1303

Course Title: INTRO TO CLIENT-SERVER COMPUTING IN JAVA

Course Description: In this course students are introduced to the fundamentals of developing a distributed application

system based on the client/server paradigm. Students learn how to design and implement client-server applications based on TCP/IP network protocol suite, and to use sockets in Java programming environment to set up reliable (TCP) or unreliable (UDP) communication between two hosts.

environment to set up reliable (TCP) or unreliable (UDP) communication between two hosts. Students learn by developing sample console, windows, or browser applications such as Chat applications, File Transfer applications. Security of the application is enforced by learning to use

Secure Socket layer (SSL) or HTTPS API as secure communication protocol.

The goal in this course is to make students aware, through hands-on work, of the challenges of a networked/distributed application, such as performance, delays, reliability, synchronization,

scalability, and security issues.

Class Meetings: Room 145, Monday 12:30pm-3pm, Wednesday 2pm-4pm.

Instructor: Tatyana Mozgacheva Email Address: tmozgacheva@vcc.ca

Instructor Availability: Checking above email weekdays

Course Length: 15 weeks
Teaching Hours: 60 hours
Credit Value: 3 credits

Course Competencies:

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

- Explain the key concepts in networked client-server software systems;
- Describe how sockets are created, setup, and managed during communication;
- Explain the concept of thread of execution and its difference from a process in a computer application;
- Use basic tools such as sockets, datagrams, multi-casting, multi-threading, and multi-processing to develop distributed systems in web, mobile and desktop platforms;
- Explain how SSL works to secure the communication between hosts or server and endpoints;
- Test, debug, and deploy client-server software systems;
- Deploy a client-server application on physically separate hosts, debug and test its performance

Course Prerequisites: CSTP 1202

Instructional Strategies: PowerPoint, audio and video presentations, computer lab and hands-on practical work, discussion,

group work, questioning, presentations, quizzes, and exams.

Material and Supplies: PowerPoint, pdf, a textbook;

Est. Homework Hrs: 2-4 hours per week

Technology Needed: A computer with installed Windows, Linux, macOS

Software: Java JDK 8 or later

Java IDE tool. Recommended: Eclipse

Internet network access

Required Textbook(s): Java Network Programming, 4th Edition, by Elliotte Rusty Harold, Released October 2013,

Publisher(s): O'Reilly Media, Inc., ISBN: 9781449365950

Suggested Reading: 1) Effective Java, 3rd Edition by Joshua Bloch, Released December 2017, Publisher(s): Addison-

Wesley Professional, ISBN: 9780134686097

2) Clean Code: A Handbook of Agile Software Craftsmanship by Robert C. Martin, Released August

2008, Publisher(s): Pearson, ISBN: 9780136083238

Evaluation and Grading:

Assignments 30 %



Total Mark	100%	
Final	25%	
Midterm	15 %	
Lab Work (Attendance + Quizzes)	15 %	
Project	15 %	

Grading System: Letter Grade (A-F)

Passing Grade: C (61%)

Course Completion: In order to successfully complete the course, a student must earn a passing grade for the course. A

student who does not pass the course may be required to take the course again to meet the

requirements for their program of study.

LAB WORK	MARK
Attendance	5%
Quizzes	10%

Weekly Outline

DATE	TOPIC	ASSIGNMENTS	DUE DATE	MARK
Week 1	Basic Java Programming	Java Collections, Abstract classes, interfaces, and inheritance.	Before the next class	3 %
Week 2	The best practice, Time and Space Complexity, Chat GPT	Big O and Unit test	Before the next class	3 %
Week 3	Main concept of networking, Stream	Streams	Before the next class	3 %
Week 4	NIO classes, InetAddress, URI, URL, HTTP, Thread, Socket	Thread safe class	Before the next class	5 %
Week 5	Secure Socket (TLS/SSL)	Logging, factory pattern and secure connection	Before the next class	4 %
Week 6	NIO, GUI	Memory Game Split	Week 10	12 %
Week 7	TCP/UDP protocols			
Week 8	Midterm			15%
Week 9	FTP protocol, Spring Boot, ORM, JPA			
Week 10	HTTP protocol			
Week 11	REST API			
Week 12	Project	Project proposal		
Week 13	Project			
Week 14	Project	Project/Presentation		15 %

Course Syllabus

Summer 2024

Week 15	Review and Final Exam		25%
WOOK 10	TOVIOW and I mai Exam		2070
1			



POLICIES

Grading Standard

According to the Program Content Guide CSTP, effective September 2022

Grade	Percentage	Description	Grade Point Equivalency
A+	96-100		4.33
A	91-95		4.00
A-	86-90		3.67
B+	81-85		3.33
В	76-80		3.00
B-	71-75		2.67
C+	66-70		2.33
C	61-65	Minimum Pass	2.00
C-	56-60		1.67
D	50-55		1.00
F	0-49	Failing Grade	0.00
S	70 or greater	Satisfactory – student has met and mastered a clearly defined body of skills and performances to required standards	N/A
U		Unsatisfactory – student has not met and mastered a clearly defined body of skills and performances to required standards	N/A
I		Incomplete	N/A
IP		Course In Progress	N/A
W		Withdrawal	N/A
Course Standings			
R		Audit. No Credit	N/A
EX		Exempt. Credit granted.	N/A
TC		Transfer Credit	N/A

Late assignment Policy

No late submission is allowed.

Attendance Policy

Vancouver Community College is committed to learning-centered, hands-on instruction, which can only be accomplished when students attend class. **There are no excused absences.** The satisfactory explanation of an absence does not relieve the student from responsibility for the course work assigned and/or due during his/her absences. A student who does not attend class during the first week of school or starts late is still held responsible for his/her absences. Students who are marked absent from all scheduled classes for more than two consecutive weeks may be withdrawn from the College. Students should contact their academic advisor for appeal procedures following an attendance withdrawal.

Students are encouraged to make all schedule changes early in the first week of the quarter to minimize absences. Failure to sit in all classes during the first two weeks of school will result in termination from school for the quarter. Detailed information about scheduled adjustment periods can be found on the back of your official schedule or in the Academic Calendar.

Student Responsibilities

This course is part of a demanding applied post-secondary education program and requires a significant commitment of time and effort. In addition to studying for examinations and preparing for class, students are required, on average, to dedicate between one to two hours to course-related work for every hour of instruction.

Classroom Policies

• There is absolutely no use of cell phones and mobile devices during instructional time. Cell phones and mobile devices must be turned off as students enter a class. Web-surfing and game playing during instructional time are not allowed.



- Downloading and installing games onto school computers are not allowed. Do not unplug classroom computers from the network at any time as this may cause the network to become unreliable.
- If students wish to work in a classroom that is already in session, they must ask the instructor teaching the class for permission to enter. They may or may not be admitted depending on the instructor's discretion.
- Students are not to utilize lewd, indecent or obscene desktop screensavers in classrooms.
- Profanity, racial slurs, sexual comments, and vulgar language in class will not be tolerated. The instructor may remove students who do not behave in a professional and respectful manner. Students are required to actively contribute to their class environment in a positive fashion.
- Academic dishonesty is not tolerated at Vancouver Community College. Academic dishonesty or plagiarism is defined
 as any attempt to take the work of someone else and submit it, in part or in whole, as one's own. Plagiarism includes
 the unattributed use of material from any source including books, periodicals, streaming media, and the World Wide
 Web. All quotations, paraphrases or other adaptations of others' work must be properly cited and documented. Any
 student who uses images, texts, or other media without proper attribution will be subject to the same penalties as students
 guilty of other types of academic dishonesty. For examples of academic dishonesty, please refer to the Academic
 Honesty Policy and Procedures in this syllabus.

Food and Drink Policy

Vancouver Community College provides students, faculty and staff with cafeteria areas at each of its campuses. Food and drink should be enjoyed exclusively in these areas of the school. From time to time, food may be served at school events that take place in lecture rooms, art rooms or other public areas such as the atrium or the art galleries. These events are always sponsored and supervised by school officials.

Students, faculty and staff are not allowed to bring food into classrooms at any time. Drinks are allowed in lecture classrooms, drafting rooms and art rooms if they are in screw-top bottles or sealed-top travel mugs. Aluminum cans, open-top containers and other easily spilled vessels are not allowed. Due to the sensitive nature of the technology used in the computer labs, fashion labs and audio production studios, no food or drink is allowed in these rooms at any time. Shelves have been provided near the entrances of computer labs for students to store drink containers while in class. In consideration of other students, students should remove their drink containers from the shelves when they leave the classroom. As instructors often have to speak for long periods and may find it difficult to leave the classroom, instructors may bring a drink in an approved, sealed-top container into the classroom where they are teaching. Students are not allowed to bring food or drinks into computer labs, fashion labs or audio production studios. Students violating the food and drink policy may be asked to leave the classroom.

Breaks are provided at regular intervals in all classes so that students may leave the classroom to get refreshment. Drink containers should not be left outside of classrooms or in the hallways. Drink containers left outside of classrooms will be thrown out.

Academic Honesty Policy and Procedures

Definition of Academic Dishonesty

Vancouver Community College defines an act of academic dishonesty as any attempt to:

- Take the work of someone else and submit it as one's own
- Commit or assist another student in committing an act of academic misconduct

This includes the unattributed use of written words, visual images, moving images, or sounds from any source including the internet.

Examples of academic dishonesty include, but are not limited to:

- Plagiarism or self-plagiarism:
 - o Submitting another person's work, in part or whole, as your own for an examination or assignment;
 - Using a paper writing "service" or having another person write one's paper;
 - o Borrowing all or part of another student's paper or using someone else's outline to write one's own paper;
 - Using sources of information without identifying them;
 - Directly quoting the words of others without using quotation marks, indented format, or an appropriate citation style to identify the author.
 - Paraphrasing materials or ideas of others without identifying the sources.
- Cheating or helping another person cheat:
 - o Copying a student's examination or permitting a student to copy your examination.



- o Communicating with any person during an examination, other than the examination invigilator or faculty.
- o Violating procedures established to protect the integrity of an assignment, test or other evaluation.
- Working with another person or persons on an assignment without the faculty member's consent or allowing anyone
 to use your work without attribution.
- o Using electronic devices without permission.

General Procedure

In the event a student is alleged to have committed an act of academic dishonesty:

- a) The instructor will contact their Academic Director or Program Coordinator and submit details of the incident.
- In consultation with the instructor, the Academic Director or Program Coordinator will determine the facts and recommend a course of action.
- The incident will be reported to the Associate Dean of Academic Affairs, who will keep it on file.

Disciplinary Guidelines

Upon confirming the offense, the Academic Director or Program Coordinator and instructor will determine an appropriate action from the following options:

- In the case of a light infraction:
 - Warning or reprimand
 - Reduced grade on an assignment or examination
- In the case of a serious infraction or repeat offence:
 - Failed or reduced grade on an assignment or examination
 - A new assignment or additional course work
 - Failed or reduced grade for a course
 - Suspension or expulsion

Academic Appeals

A student may appeal a penalty imposed under this policy within fourteen (14) business days of being informed of the action/decision. Findings of fact are not subject to appeal. See Academic Calendar for more details.

VCC downtown Library

With hundreds of books, databases, DVD's, the library has many resources to help you achieve success and is an excellent resource to foster learning and inspire your creativity. The library is the place to study, conduct research, get research help, and much more. Visit the library website at http://aii.campusguides.com/aivlibrary for access to E-books, the library catalogue, subject guides, electronic databases, and for more information. Please visit the library website at https://library.vcc.ca/ (or phone (604) 443-8339), if you have any questions about the library or its services.

Technical Issues

Please refer all technical issues to your instructor or contact vcc student help desk available on student my vcc website. Please be as specific as possible in describing the issue; listing the room number and if possible the number of the machine affected.