University of International Business and Economics

University of International Business and Economics
International Summer School

CS 320 Introduction to JAVA Programming

Term: May 24 – June 24, 2021
Instructor: Dr. An
Home Institution: UT Martin
Email: uibe320@hotmail.com
Class Hours: Monday through Thursday, 120 minutes each day (2,400 minutes in total)
Office Hours: TBD
Discussion session: 2 hours each week

Total Contact Hours: 64 contact hours (45 minutes each, 48 hours in total)
Credit: 4 units

Course Description:

This summer course is for international school, for undergraduate students. No prior programming experience is required. This course covers the fundamental of algorithmic problem solving. The course emphasizes general programming methodology and concepts common to object-oriented and procedural programming languages: algorithms, top-down structured programming design, modularity, efficiency, testing and debugging, and user-friendliness. The object-oriented paradigm is covered, including classes, objects, access control, abstraction, and encapsulation. Other topics include organization and hardware, input and output, subprogram units (methods), fundamental data types, reference types, control structures including conditions and iteration, and arrays.

Course Goals:

The goal of this course is to learn the fundamental problem-solving techniques using Java programming language. Throughout this course, students are able to master the programming design, coding, compiling, and debugging skills. The course covers from the basic elements of programming to high level programming methodologies.

Upon completion of this course, students will be able to complete the following learning objectives:

1. Identify the main programming features of the Java programming language.
2. Write Java applications using primitive types, input, and output statements.
3. Create interactive programs to input and process data to create acceptable output.
4. Learn what classes, objects, methods, and instance variables are and how to declare and use them.
5. Use the selection and repetition statements to execute statements in a program.
6. Use the logical operators to form complex conditional expressions in control statement.
7. Code programs to use methods call/return mechanism, method overloading and java API methods.

8. Write programs to declare and use single and multidimensional arrays to store and retrieve data from lists and table of values.
9. Use static and final variables to create class variables and methods.

Required Textbook:

Java Software Solutions (Foundations of Program Design); John Lewis, William Loftus; ISBN-13: 978-0-13-446202-8, ISBN-10: 0-13-44602-5

Grading Policy:

Your final grade will be assigned based on the following scheme:

- Programming Assignments 40%
- Quizzes 10%
- Attendance 10%
- Midterm 15%
- Final 25%

Grading Scale:

Assignments and examinations will be graded according to the following scale:

A	90-100	**C+**	72-74
A-	85-89	**C**	68-71
B+	82-84	**C-**	64-67
B	78-81	**D**	60-63
B-	75-77	**F**	below 60

Academic Integrity:

If students are found to be in violation of the academic honesty policy, the professor reserves the right to seek disciplinary action as allowable by university policy. Such actions may include, but are not limited to, giving the student a zero on the assignment and/or class.

Attendance Policy:

Students are required to attend every class. Occasionally, missing a class can be excused with university approved documentation. Any unexcused absence will affect the student's attendance score and is subject to other penalties from university policies.

Course Schedule:

Date	Topics
Day 1	Introduction to computers, programs and java
Day 2	Variables, constant variable, Primitive data type, Arithmetic operators, and escape sequences.

Day 3	Assignment Operator, Operator precedence, Reading Input (Scanner class and methods)
Day 4	Selection Structure (if and if else), Relational operators
Day 5	Selection Structure (if… elseif… else, and switch statement), Logical operators
Day 6	Introduction to repetition structure, while loop.
Day 7	for loop and do… while loop.
Day 8	Random number generation, and nested loop
Day 9	File I/O (input and output)
Day 10	Midterm Exam
Day 11	Introduction to object-oriented programming
Day 12	Creating classes and objects, set and get method
Day 13	Object references, and access modifier
Day 14	Method call/return mechanism, method overloading
Day 15	Constructor and constructor overload, abstraction, and encapsulation
Day 16	Static field and method, Java API methods
Day 17	Single dimensional array
Day 18	Two-dimensional array
Day 19	Passing array to the methods, Array list
Day 20	Final Exam

Online Possibility:

Due to the on-going pandemic, there is a possibility that in-person courses are changed to online ones. UIBE ISS will notify the students once the decision has been made.

If the in-person courses are to be changed to online courses, we will make a few adjustments:

1. **Lecture:** Each lecture will be uploaded on UIBE's online learning platform on a daily basis. Students are required to watch them according to the course schedule.
2. **Discussion:** There will be an open session on ZOOM every Tuesday. The attendance of the discussion is important as it is part of your final score.
3. **Office hours:** I will release the office hours once the course starts. You are very welcome to send me emails to book my time. We will have video or audio calls through ZOOM. Please be noted to book them at least 3 days in advance.
4. **Attendance:** Students are required to attend online class activities to earn attendance score.