IS3230: JAVA PROGRAMMING FOR BUSINESS

Effective Term
Semester A 2023/24

Part I Course Overview

Course Title
Java Programming for Business

Subject Code
IS - Information Systems
Course Number
3230

Academic Unit
Information Systems (IS)

College/School
College of Business (CB)

Course Duration
One Semester

Credit Units
3

Level
B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract
This course aims to introduce essential concepts in the design and implementation of solutions and applications for today’s business environment using modern programming languages. Students will develop skills in the construction and

implementation of business solutions and applications. They will apply the best practices of computing and programming for information systems from a business perspective.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Able to creatively develop business information systems for organizations by using the techniques of analysis, design and problem solving.	15	x	x	
2	Able to innovatively develop information systems using programming methods.	25	x	x	x
3	Write windows-based and web-based applications using Java.	20		x	x
4	Apply the techniques of testing, documentation and implementation to information systems development projects.	20		x	x
5	Apply programming techniques to retrieve information from local and remote databases.	20		x	

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Teaching and Learning Activities (TLAs)

	TLAs	Brief Description	CILO No.	Hours/week (if applicable)
1	TLA1: Lecture	Concepts and general knowledge of information systems construction techniques and problem solving with information systems are explained.	1, 2, 3, 4, 5	Seminar: 3 Hours/Week

2	TLA2: Laboratory Exercise	Hands-on computer exercises of major aspects of information systems are constructed by applying what has been learned in lecture. Major assignment involves teamwork by a group of students in same laboratory group to construct a major portion of a small business information system.	3, 4, 5	Seminar: 3 Hours/Week
3	TLA3: Tutorial	Concepts, techniques, and good practices of information systems construction are discussed.	1, 2, 3, 4, 5	Seminar: 3 Hours/Week
4	TLA4: Class Discussion and Presentation	Perform online quizzes in lecture, tutorial/ laboratory to get immediate feedback from students. This is followed by discussion of the quizzes afterwards to reinforce the learning of the materials tested. Presentation of laboratory results and assignment.	1, 2, 3, 4, 5	Seminar: 3 Hours/Week

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	AT1: Participation and Laboratory ExercisesEach laboratory has in-class exercises to assess students' hands-on programming skills of the topics covered.	2, 3, 4, 5	15	
2	AT2: Team Project or Individual AssignmentThe project, including programme codes, results, written report and presentation, is required to assess the technical analysis and implementation skill sets of the students.	1, 2, 3, 4, 5	25	

3	AT3: QuizzesThe quizzes serve the purpose of continuous assessment of students' understanding of the key domain areas and as an indicator of how well the students have performed.	1, 2, 3, 4, 5	10	

Continuous Assessment (%)

50

Examination (%)

50

Examination Duration (Hours)

2

Assessment Rubrics (AR)

Assessment Task

AT1: Participation and Laboratory Exercises

Criterion

Ability to accurately perform standard design and programming methods expected of contemporary information system development; select and apply appropriate programming methods to solve business problems in all areas

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)

Moderate

Marginal (D)

Basic

Failure (F)

Not even reaching marginal levels

Assessment Task

AT1: Participation and Laboratory Exercises

Criterion

Ability to creatively, effectively and efficiently utilize the selected programming language in writing window-based, standalone applications

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT1: Participation and Laboratory Exercises

Criterion
Capability to effectively and efficiently utilize all implementation techniques to perform efficient, testing, documentation and implementation

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT1: Participation and Laboratory Exercises

Criterion
Capability to creatively and effectively develop applications that access local and remote databases efficiently

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT2:Team Project or Individual Assignment

Criterion
Ability to accurately apply all analysis, design and problem solving techniques in developing information systems

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT2:Team Project or Individual Assignment

Criterion
Ability to accurately perform standard design and programming methods expected of contemporary information system development; select and apply appropriate programming methods to solve business problems in all areas

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT2:Team Project or Individual Assignment

Criterion
Ability to creatively, effectively and efficiently utilize the selected programming language in writing window-based, standalone applications

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT2:Team Project or Individual Assignment

Criterion
Capability to effectively and efficiently utilize all implementation techniques to perform efficient, testing, documentation and implementation

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT2:Team Project or Individual Assignment

Criterion
Capability to creatively and effectively develop applications that access local and remote databases efficiently

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT3: Quizzes

Criterion
Ability to accurately apply all analysis, design and problem solving techniques in developing information systems

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT3: Quizzes

Criterion
Ability to accurately perform standard design and programming methods expected of contemporary information system development; select and apply appropriate programming methods to solve business problems in all areas

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT3: Quizzes

Criterion
Ability to creatively, effectively and efficiently utilize the selected programming language in writing window-based, standalone applications

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT3: Quizzes

Criterion
Capability to effectively and efficiently utilize all implementation techniques to perform efficient, testing, documentation and implementation

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT3: Quizzes

Criterion
Capability to creatively and effectively develop applications that access local and remote databases efficiently

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT4:Final Examination

Criterion
Ability to accurately apply all analysis, design and problem solving techniques in developing information systems

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT4:Final Examination

Criterion
Ability to accurately perform standard design and programming methods expected of contemporary information system development; select and apply appropriate programming methods to solve business problems in all areas

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT4:Final Examination

Criterion
Ability to creatively, effectively and efficiently utilize the selected programming language in writing window-based, standalone applications

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT4:Final Examination

Criterion
Capability to effectively and efficiently utilize all implementation techniques to perform efficient, testing, documentation and implementation

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
AT4:Final Examination

Criterion
Capability to creatively and effectively develop applications that access local and remote databases efficiently

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Part III Other Information

Keyword Syllabus
Programming concepts; Data types, decision making, repetition, method, objects and classes concepts in programming; Information system development; System architecture; Programming objects, Windows applications; Programming testing and documentation; Database access.

Reading List

Compulsory Readings

	Title
1	Tony Gaddis, Starting Out with Java: From Control Structures through Objects, 7th Edition, Pearson, 2018.
2	Course materials prepared by instructors.

Additional Readings

	Title
1	Julia Case Bradley, Programming in VB, 2010, McGraw Hill.
2	Herbert Schildt, Java: The Complete Reference, 11th Edition, McGraw-Hill Education, December 2018.
3	Tony Gaddis, Starting Out with C++, From Control Structures Through Objects, 9th edition, Pearson, February 2017.