

# LT3232: COMPUTER PROGRAMMING FOR LANGUAGE STUDIES

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## Effective Term

Semester B 2022/23

## Part I Course Overview

### Course Title

Computer Programming for Language Studies

### Subject Code

LT - Linguistics and Translation

### Course Number

3232

### Academic Unit

Linguistics and Translation (LT)

### College/School

College of Liberal Arts and Social Sciences (CH)

### Course Duration

One Semester

### Credit Units

3

### Level

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

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

LT2231 Introduction to Language Technology

### Precursors

Nil

### Equivalent Courses

CTL2232 Language Technology II, LT2232 Language Technology II, CTL3232 Computer Programming for Language Studies

### Exclusive Courses

Nil

## Part II Course Details

### Abstract

This course aims to develop students' understanding of the hardware and software resources of a computer system, and to develop students' use of these resources to solve linguistic computing problems.

### Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Analyze linguistic computing tasks.		x	x	
2	Draw up specifications for computer programs for doing linguistic computing tasks competently and creatively.		x	x	x
3	Apply essential computer programming concepts in the design and implementation of computer programs.			x	x
4	Use basic data structure in the design and implementation of simple computer programs that work with text data.			x	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	Lectures  Present, explain and discuss basic computer architecture, program design and specification, basic concepts of object-oriented programming for language processing, including data types and statements, variables and operators, control flow, input and output, error handling and debugging skills, character and string processing, structured data and subroutines, object and class. Note We have been using Java as our programming language.	1, 2, 3, 4	3 hours
2	Readings  Lecture notes and selected materials from textbooks programming and language processing.	1, 2, 3, 4	
3	Assignments  Classwork activities and homework assignments to help students better understand key concepts and master programming techniques	3, 4	

**Assessment Tasks / Activities (ATs)**

ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1 Demos and homework assignments Attendance, participation, diligence and, where possible, willingness and ability to analyze and explore.	1, 2, 3, 4	10	

2	<p>Quizzes</p> <p>Mastery of concepts and techniques, ability to analyze and explore, ability to solve problems. Questions will be set to test basic factual knowledge and skills. Questions will also be set to test students' understanding of key concepts, ability to critically analyze and explore, and ability to solve problems.</p>	1, 2, 3, 4	40	
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**Continuous Assessment (%)**

50

**Examination (%)**

50

**Examination Duration (Hours)**

2

**Additional Information for ATs****Examination**

Mastery of concepts and techniques, ability to analyze and explore, ability to solve problems. Questions will be set to test basic factual knowledge and skills. Questions will also be set to test students' understanding of key concepts, ability to critically analyze and explore, and ability to solve problems. (CILO No. 1-4)

**Assessment Rubrics (AR)****Assessment Task**

1. Demos and homework assignments

**Criterion**

Knowledge, attitude, ability, creativity, accomplishment and performance in completing and/or presenting demos and/or assignments

**Excellent (A+, A, A-)**

Excellent knowledge of major issues, concepts, principles, techniques and skills in computer programming for language studies. Excellent, creative application of programming knowledge to basic tasks of language studies. Very active participation and high marks/ performance.

**Good (B+, B, B-)**

Good knowledge of major issues, concepts, principles, techniques and skills in computer programming for language studies. Good application of computing and programming knowledge to basic tasks of language studies. Active participation and good marks/ performance.

**Fair (C+, C, C-)**

Adequate knowledge of major issues, concepts, principles, techniques and skills in computer programming for language studies. Fair application of computing and programming knowledge to basic tasks of language studies. Adequate participation and fair marks/ performance.

**Marginal (D)**

Basic familiarity with the subject matter. Marginal ability to apply basic computing and programming knowledge to basic tasks of language studies. Marginal participation and marginal marks/ performance.

**Failure (F)**

Poor familiarity with the subject matter. Poor ability or fail to apply computing and programming knowledge to basic tasks of language studies. Poor participation and poor marks/ performance.

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**Assessment Task**

2. Quizzes

**Criterion**

Marks

**Excellent (A+, A, A-)**

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**Failure (F)**

Poor familiarity with the subject matter. Poor ability or fail to apply computing and programming knowledge to basic tasks of language studies. Poor participation and poor marks/ performance.

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**Assessment Task**

3. Examination

**Criterion**

Marks

**Excellent (A+, A, A-)**

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## Part III Other Information

**Keyword Syllabus**

Basic concepts: literals, variables and basic data types  
 Control flow: conditional statement and loops  
 Structured data types and useful data structure  
 Basic object-oriented programming (OOP) concepts; subroutines  
 File processing, input and output  
 Text processing and string manipulation  
 Handling character encoding

**Reading List****Compulsory Readings**

Title	
1	Lecture notes/slides for the course
2	Selected topics of Java programming from the Java Tutorials Online provided by Oracle at <a href="https://docs.oracle.com/javase/tutorial/">https://docs.oracle.com/javase/tutorial/</a>
3	Online API (Application Programming Interface) specification for selected Java classes needed in the programing for this course

**Additional Readings**

Title	
1	Advanced and/or related topics of Java programming from the Java Tutorials Online provided by Oracle at <a href="https://docs.oracle.com/javase/tutorial/">https://docs.oracle.com/javase/tutorial/</a>
2	Selected chapters from recommended reading