

LT5629: TRANSLATION TOOLS DEVELOPMENT

Effective Term

Semester B 2024/25

Part I Course Overview

Course Title

Translation Tools Development

Subject Code

LT - Linguistics and Translation

Course Number

5629

Academic Unit

Linguistics and Translation (LT)

College/School

College of Liberal Arts and Social Sciences (CH)

Course Duration

One Semester

Credit Units

3

Level

P5, P6 - Postgraduate Degree

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

Nil

Precursors

LT5411 Computational Linguistics

Equivalent Courses

CTL5629 Translation Tools Development

Exclusive Courses

Nil

Part II Course Details

Abstract

This course aims at introducing students to some commonly used computer-aided translation tools and technology (e.g. term banks, translation memory, concordance, corpus processing tools, etc.), with special focus on the practical aspects of their

design and development. Students will acquire hands-on experience for/via developing prototype systems or self-contained modules of one or more of such tools. Basic programming concepts and techniques will be covered to enable students to write simple programs, and to implement simple systems through a series of guided exercises.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Discuss and explore the typical design and implementation issues from a practical perspective for commonly used computer-aided translation tools.		x	x	
2	Develop and apply basic programming concepts and techniques to write simple programs as translation aids.		x	x	x
3	Implement a prototype system or self-contained module of some translation tools.		x	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.

Learning and Teaching Activities (LTAs)

LTAs		Brief Description	CILO No.	Hours/week (if applicable)
1	1	Lectures to introduce various computer-aided translation tools, explain their design, and discuss the issues to consider for their implementation.	1	2 hours
2	2	Tutorial and practical sessions to cover basic programming concepts and techniques, with exercises on writing computer programs.	2	1 hour
3	3	Guided exercises for students to reinforce their programming skills and to gain hands-on experience for developing simple translation tools.	3	

Assessment Tasks / Activities (ATs)

ATs		CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Class participation tutorial exercises and demos on various translation tools, and the practical aspects of their design and development.	1	30	
2	Assignments to practise and reinforce programming skills.	2	30	
3	Mini-project on translation tool development with written progress reports.	3	40	

Continuous Assessment (%)

100

Assessment Rubrics (AR)**Assessment Task**

Class participation tutorial exercises and demos (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

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

Excellent

(A+, A, A-) 1. Excellent knowledge of major issues, concepts, ideas, principles and techniques in machine translation and various approaches to developing translation tools. 2. Excellent, creative application of linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Very active participation and high performance.

Good

(B+, B, B-) 1. Good knowledge of major issues, concepts, ideas, principles and techniques in machine translation and various approaches to developing translation tools. 2. Good application of linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Active participation and good performance.

Fair

(C+, C, C-) 1. Adequate knowledge of major issues concepts, ideas, principles and techniques in machine translation and various approaches to their solutions. 2. Fair application of linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Adequate participation and fair performance.

Marginal

(D) 1. Basic familiarity with the subject matter. 2. Marginal ability to apply basic linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Marginal participation and marginal performance.

Failure

(F) 1. Poor familiarity with the subject matter. 2. Poor ability or fail to apply linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Poor participation and poor performance.

Assessment Task

Assignments (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

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

Excellent

(A+, A, A-) 1. Excellent knowledge of major issues, concepts, ideas, principles and techniques in machine translation and various approaches to developing translation tools. 2. Excellent, creative application of linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Very active participation and high performance.

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Fair

(C+, C, C-) 1. Adequate knowledge of major issues concepts, ideas, principles and techniques in machine translation and various approaches to their solutions. 2. Fair application of linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Adequate participation and fair performance.

Marginal

(D) 1. Basic familiarity with the subject matter. 2. Marginal ability to apply basic linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Marginal participation and marginal performance.

Failure

(F) 1. Poor familiarity with the subject matter. 2. Poor ability or fail to apply linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Poor participation and poor performance.

Assessment Task

Mini-project. (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

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

Excellent

(A+, A, A-) 1. Excellent knowledge of major issues, concepts, ideas, principles and techniques in machine translation and various approaches to developing translation tools. 2. Excellent, creative application of linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Very active participation and high performance.

Good

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(D) 1. Basic familiarity with the subject matter. 2. Marginal ability to apply basic linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Marginal participation and marginal performance.

Failure

(F) 1. Poor familiarity with the subject matter. 2. Poor ability or fail to apply linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Poor participation and poor performance.

Assessment Task

Class participation tutorial exercises and demos (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

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

Excellent

(A+, A, A-) 1. Excellent knowledge of major issues, concepts, ideas, principles and techniques in machine translation and various approaches to developing translation tools. 2. Excellent, creative application of linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Very active participation and high performance.

Good

(B+, B) 1. Good knowledge of major issues, concepts, ideas, principles and techniques in machine translation and various approaches to developing translation tools. 2. Good application of linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Active participation and good performance.

Marginal

(B-, C+, C) 1. Adequate basic knowledge of major issues concepts, ideas, principles and techniques in machine translation and various approaches to their solutions. 2. Fair or marginal application of linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Adequate or marginal participation and fair performance. 4. Basic or marginal familiarity with the subject matter as a whole.

Failure

(F) 1. Poor familiarity with the subject matter. 2. Poor ability or fail to apply linguistic, computing and programming knowledge to basic language processing subtasks in machine translation. 3. Poor participation and poor performance.

Assessment Task

Assignments (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

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

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Assessment Task

Mini-project. (for students admitted from Semester A 2022/23 to Summer Term 2024)

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

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Part III Other Information

Keyword Syllabus

Computer-aided translation tools, software design and development

Term bank, terminology management

Linguistic corpora, corpus processing tools, corpus annotation, text markup, parallel text alignment, concordance

Translation memory, Translation Memory eXchange XML

Information technology, language technology, database design and management, computational lexicography

Reading List

Compulsory Readings

Title	
1	Lecture notes/slides for the course
2	Selected papers/chapters on topics of machine translation
3	Selected tutorials on programming tasks for implementation of machine translation system
4	Selected tutorials from online resources

Additional Readings

Title	
1	Relevant chapters in the recommended reading list or from online tutorials
2	Advanced and/or related topics on programming for system implementation
3	Recommended Reading Text(s) 1. Eric S. Roberts. 2017. Programming Abstractions in Java. Boston: Pearson. 2. Sin-wai Chan. 2015. The Routledge Encyclopedia of Translation Technology. London: Routledge. 3. Pushpak Bhattacharyya. 2015. Machine Translation. Boca Raton: Taylor & Francis. 4. Herbert Schildt and Dale Skrien. 2013. Java programming: A comprehensive introduction. New York: McGraw-Hill. 5. Joseph Olive, Caitlin Christianson & John McCary (eds.). 2011. Handbook of Natural Language Processing and Machine Translation. New York: Springer. 6. Michael Hammond 2002. Programming for Linguists: Java Technology for Language Researchers. Oxford: Blackwell Publishers. 7. Oliver Mason. 2000. Programming for Corpus Linguistics: How to do text analysis with Java. Edinburgh: Edinburgh University Press. Online Resources https://docs.oracle.com/javase/tutorial/ https://docs.oracle.com/javase/8/docs/api/