

City University of Hong Kong

**Information on a Course
offered by Department of Linguistics and Translation
with effect from Semester A in 2014 / 2015**

Part I

Course Title: History of Machine Translation

Course Code: LT5632

Course Duration: 1 Semester

Credit Units: 3

Level: P5

Medium of Instruction and Assessment: English

Prerequisites: Nil

Precursors: LT5603 Theory of Translation
CTL5603 Theory of Translation

LT5411 Computational Linguistics
CTL5411 Computational Linguistics

Equivalent Courses: CTL5632 History of Machine Translation

Exclusive Courses: Nil

Part II

Course Aims

This course aims to enable students to grasp the history of machine translation from a computational linguistic point of view as well as from the translation perspective. The different approaches adopted for machine translation show how research efforts have been spent to solve translation problems using the computer. The historical development will lay a solid foundation for students to understand how the technology has evolved due to the deepening understanding of computational linguistics and translation studies, and the advent of new tools, both material and conceptual ones. Upon completing the course, students should be able to approach machine translation with a more comprehensive outlook.

Course Intended Learning Outcomes (CILOs)

Upon successful completion of this course, students should be able to:

No.	CILOs	Weighting (if applicable)
1.	Analyze and evaluate the different theoretical orientations adopted by different approaches to machine translation;	
2.	Criticize in a linguistically informed manner what they have learnt in this course in the evaluation of MT systems of different generations;	
3.	Discover and reflect on problem areas in MT approaches from a translation perspective.	

Teaching and Learning Activities (TLAs)

(Indicative of likely activities and tasks designed to facilitate students' achievement of the CILOs. Final details will be provided to students in their first week of attendance in this course)

CILO No.	TLAs	Hours/week (if applicable)
CILO 1-3	Lectures: Lectures will be used to motivate students to learn the subject matter, explain the key concepts and provide ample examples from the reference materials and MT systems.	2 hours
CILO 1-3	Reading on their own: Students should read reference materials and supplementary materials on the topics so as to enable the concepts to sink into their mind.	2.5 hours
CILO 1-3	Tutorial discussion and hands-on exercises: These will be used to identify theoretical points of interest or concepts students do not fully master, and to allow students hands-on experience with MT systems.	1 hour
CILO 1-3	Blackboard: Blackboard and email will be used as a forum to encourage students to carry on their study a bit further and help them communicate with the teacher and classmates concerning the course.	0.5 hour

Assessment Tasks/Activities

(Indicative of likely activities and tasks designed to assess how well the students achieve the CILOs. Final details will be provided to students in their first week of attendance in this course)

CILO No.	Type of Assessment Tasks/Activities	Weighting (if applicable)	Remarks
CILO 1, 2	A term paper on the history of MT with focus on one of the approaches and how that approach resolves a particular problem in human translation.	40%	A term paper that requires the students to do literature review as well as argue logically how a particular translation problem can be handled within one of the MT approaches.
CILO 1,3	A presentation about the evaluation of an MT system in the treatment of a certain linguistic aspect.	40%	A short presentation that requires the students to evaluate an MT system professionally
CILO 1-3	Classroom participation.	20%	Students have to discuss critically and participate actively in the tutorial activities

Grading of Student Achievement:

Refer to Grading of Courses in the Academic Regulations for Taught Postgraduate Degrees.

Standard (A+, A, A-.....F)

Letter Grade	Grading is based on student performance in the assessment tasks/activities.
A+ A A-	Tutorial/Participation: Strong evidence of original thinking; excellent ability to analyze; superior grasp of subject matter; zealous participation. Term Paper and presentation: Evidence of extensive knowledge in the field; excellent literature review and presentation of an MT approach in solving translation problems.
B+ B B-	Tutorial/Participation: Evidence of critical and analytical ability; good grasp of the subject; active participation Term Paper and presentation: Evidence of adequate knowledge in the field; good literature review and presentation of an MT approach in solving translation problems.
C+ C C-	Tutorial/Participation: Evidence of satisfactory grasp of the subject; satisfactory participation. Term Paper and presentation: Evidence of satisfactory knowledge in the field; satisfactory literature review and presentation of an MT approach in solving translation problems.
D	Tutorial/Participation: Ability to follow the subject in spite of some difficulty; satisfactory participation. Term Paper and presentation: Ability to apply knowledge in the field in spite of difficulty; barely adequate in handling literature review and presentation of an MT approach in solving translation problems.
F	Tutorial/Participation: Little or no evidence of familiarity with the subject matter; insufficient participation. Term Paper and presentation: Very limited knowledge of subject matter and insufficient ability to handle literature review and presentation of an MT approach in solving translation problems.

Part III

Keyword Syllabus

The ALPAC report, information theory, HAMT, MAHT, FAMT, transfer-based MT, interlingual MT, dictionary-based MT, statistical MT, example-based MT, hybrid MT, the SYSTRAN system, the LOGOS system, the METAL system, the METEO system, the TRADOS system, evaluation.

Recommended Reading

Reading List / materials:

Carl, M. & Way, A. (eds.) (2003) *Recent Advances in Example-based Machine Translation*, Dordrecht : Kluwer Academic Publishers.

Goutte, C. et al. (eds.) (2009) *Learning Machine Translation*, Cambridge, Mass. : MIT Press.

Hauenschild, C., Heizmann, S. (eds.) (1997) *Machine Translation and Translation Theory*, Berlin : Mouton de Gruyter.

Hutchins, W. J. (2000) *Early Years in Machine Translation: Memoirs and Biographies of Pioneers*, Amsterdam : J. Benjamins.

Hutchins, W. J. & Somers, L. (1992) *An Introduction to Machine Translation*, London : Academic Press.

Lehrberger, J. & Bourbeau, L. (1988) *Machine Translation : Linguistic Characteristics of MT Systems and General Methodology of Evaluation*, Amsterdam : J. Benjamins.

Nirenburg, S. (1986) *Machine Translation: Past, Present, Future*, Chichester : Ellis Horwood ; New York : Halsted Press.

Nirenburg, S. et al. (eds.) (1992) *Machine Translation: A Knowledge-based Approach*, San Mateo, Calif. : Morgan Kaufmann.

Nirenburg, S., Somers, H. & Wilks, Y. (eds.) (2003) *Readings in Machine Translation*, Cambridge, Mass. : MIT Press.

Slocum, J. Machine (1988) *Translation Systems*, Cambridge : Cambridge University Press.

Supplementary Reading

Journals:

1. *Machine Translation*, Springer, Netherlands.
2. *Computational Linguistics*, ACL
3. *Language Resource and Evaluation*.
4. *Translation Studies* (Routledge)

Online Resources

<http://www.chinesecomputing.com/nlp/mt.html>