

Course title	Python for Natural Language Processing (core)
Category (Mention the appropriate category (a/b/c) in the course description.)	a. Existing course without any changes
Course code	MACL 176
Semester	II
Number of credits	4
Maximum intake	30
Day/Time	Monday & Wednesday: 11.00 – 1.00 pm
Name of the teacher/s	Prof. M. Hari Prasad
Course description	<p>Introduction</p> <p>Students will learn basic Python functions to achieve simple text processing and manipulation tasks. These will involve regular expressions for normalizing and tokenizing text; word and sentence level segmentation of large unannotated corpora; Part-of-Speech (POS) tagging algorithms and implementation; supervised classification of text and evaluation of classification methods.</p> <p>The objectives of the are :</p> <ul style="list-style-type: none"> • To understand the basic concepts of programming and Python • to use core programming concepts like data types, conditionals, loops, functions and modules. • To have an overview of various tools available for writing and running Python and gets students coding quickly • To have hands-on coding experience using commonly used data structures, writing custom functions, modules and reading and writing files • To write short programs for analysing data from Indian languages • To develop a small NLP application as part of the end-semester project
Course delivery	Lecture/Seminar/Experiential learning
Evaluation scheme	Internals: Classroom Performance, Quizzes, Practical Tests 50 % Externals: Project 50 %
Reading list	Michael Hammond. 2020. Python for Linguists. Cambridge University Steven Bird, Ewan Klein, and Edward Loper. 2009. Natural Language Processing with Python. O'Reilly

Course title	Introduction to Corpus Linguistics (core)
Category (Mention the appropriate category (a/b/c) in the course description.)	a. Existing course without any changes
Course code	MACL 186
Semester	II
Number of credits	4
Maximum intake	30
Day/Time	Tuesday & Thursday: 9.00 am – 11.00 am
Name of the teacher/s	Dr. Atreyee Sharma
Course description	<p>Corpus linguistics is a method of carrying out linguistic analyses. Tentatively the following topics are to be covered (but changes based on the students' background/need shall be made after enrollment):</p> <ul style="list-style-type: none"> i. Corpora (Text, Speech & Sign): Concept & Classification ii. Encoding (Concept of Font & Encoding; ASCII, ISCII & Unicode) iii. Balanced Corpus: Concept, Development & Challenges iv. Linguistic knowledge & Corpus: Annotation & Extraction v. Corpus Utilities & Corpus analysis tools (Transliteration, Frequency, N-gram, KWIC-KWOC, Concordances, etc) <p>Articles will be assigned from various textbooks, journals, and research surveys</p>
Course delivery	Lecture/Seminar/Experiential learning
Evaluation scheme	Mid-term: Final::40:60
Reading list	<p>Biber, Douglas, Susan Conrad and Randi Reppen (1998). <i>Corpus Linguistics: investigating language structure and use</i>. Cambridge: Cambridge University Press.</p> <p>Dash, N.S. 2005. <i>Corpus linguistics and language technology: With reference to Indian languages</i>. New Delhi: Mittal Publications.</p> <p>Kennedy, Graeme (1998). <i>An Introduction to Corpus Linguistics</i>. London: Longman.</p> <p>Kyto, Merja, Matti Rissanen and Susan Wright (eds.) (1994). <i>Corpora Across the Centuries</i>. Amsterdam: Rodopi</p> <p>McEnery, Tony and Andrew Wilson (2001). <i>Corpus Linguistics</i>. 2nd edn. Edinburgh: Edinburgh University Press.</p> <p>McEnery, Tony and Andrew Hardie (2012). <i>Corpus linguistics</i>.</p>

	<p>Cambridge: CUP.</p> <p>Meyer, Charles F. (2002). English Corpus Linguistics: an introduction. Cambridge: CUP.</p> <p>N. S. Dash and S. Arulmozi (2018.). History, Features, and Typology of Language Corpora, © Springer Nature Singapore Pte Ltd.</p> <p>N. S. Dash and L. Ramamoorthy (2019). Utility and Application of Language Corpora, © Springer Nature Singapore Pte Ltd.</p> <p>O’Keefe, Anne and Michael McCarthy (eds.) (2012). The Routledge handbook of corpus linguistics. Abingdon: Routledge.</p> <p>Sinclair, John (1991). Corpus, Concordance, Collocation. Oxford: OUP.</p> <p>Teubert, Wolfgang and Anna Čermáková (2007). Corpus Linguistics: A Short Introduction. London: Continuum.</p> <p>Wallis, Sean (2020). Grammar and Corpus Methodology. In: Bas Aarts, Gergana Popova and Jill Bowie (eds.) The Oxford Handbook of English Grammar. Oxford: OUP.</p>
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Course title	SPEECH PROCESSING
Category (Mention the appropriate category (a/b/c) in the course description.)	New course
Course code	MACL282
Semester	IV
Number of credits	4
Maximum intake	20
Day/Time	Tuesday and Thursday:9.00–11.00am
Name of the teacher/s	Prof. M. Hari Prasad
Course description	<p>After completing this course the students should be able to:</p> <ul style="list-style-type: none"> • Understand the speech production and perception process. • Analyze speech signals in time and frequency domain. • Design and implement algorithms for processing speech signals. • Build a simple speech recognition/TTS system <p>Main areas that will be covered are: Speech fundamentals, Speech analysis, Speech compression and Speech modelling</p>
Course delivery	Lecture cum Seminar
Evaluation scheme	<p>Internal Assignment/test – 40 %</p> <p>End-semester (mode of evaluation): Term paper 60%</p>
Reading list	<p>Daniel Jurafsky and James Martin. 2001. Speech and Language Processing. Prentice-Hall</p> <p>Xuedong Huang, Alex Acerd, Hsiao-Wuen Hon. 2001. Spoken Language Processing. Prentice-Hall</p> <p>Lawrence. R. Rabiner and Ronald W. Schafer. 2001. Introduction to Digital Speech Processing. NOW</p>
