MA Computational Linguistics Semester II - Course Descriptions (2 January – 11 April 2026)

Course Title	**Basic Issues in Phonology**
Category (Mention the appropriate category (a/b/c) in the course description	a. Existing course with more focus on Indian languages
Course Code	MACLINGC 421
Semester	II
No. of Credits	4
Maximum intake	30 (on first-come-first-served-basis)
Day/ Time	Wednesday & Friday: 11.00 am – 1.00 pm
Name of the teacher/s	Prof. Hemalatha Nagarajan
Course Description:	i. The course presents an overview of the difference between phonetics and phonology, the development of phonological theory within a Generative framework, especially the use of distinctive features (binary vs monovalent representations), phonological processes, and the notion of underlying representation and surface representation. ii. Learning outcomes— **By the end of the programme, the students will have:** **PO1**: obtained a sound knowledge of various branches of language sciences: theoretical and applied **PO2:** acquired skills to analyse various aspects of a language/ languages **PO3:** applied theories to analyse data from Indian and other languages **PO4:** understood how theories are built with evidence/data from languages **PO5:** obtained theoretical and functional understanding of phonetics with special reference to English **PO6**: carried out empirical studies in languages **PO7:** learnt to apply knowledge of linguistics to other disciplines such as Artificial Intelligence, Cognitive Psychology, Forensic and Clinical Sciences **PO8:** learnt to address language-related societal needs and issues: language planning, language maintenance, language standardization, language variation and language and gender **PO9:** learned to describe and document lesser studied and endangered languages **PO10**: learned to use relevant tools to analyse phonetic and linguistic data

	a) **domain-specific outcomes:** Upon successful completion, students will have the knowledge and skills to **CO1:** identify phonemic inventories of different languages, phonological processes and natural classes, the nature of phonological explanations, the structure of phonological theory, the shape of phonological representations(features vs. elements), and a comparison between different theories of phonological processes. **CO2:**identify theoretical approaches to phonological analysis, produce evidence of analytical ability and determine phonological processes evident in a wide-range of the World's languages, with special reference to Indian languages; understand how phonological rules apply and are ordered **CO3:** observe and identify phonological variations in new linguistic contexts **CO4:** apply the principles of phonological variation to the structures of their languages **CO5:** plan fieldwork for collection of data pertaining to speech sounds- segmental and supra-segmental. b) value addition: The course 'Basic Issues in Phonology' develops an awareness of the phonology or sound systems of languages belonging to different language families, with special emphasis on Indian languages. It makes them aware of the linguistic diversity of the world. c) skill-enhancement: Student-centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences (a.) d) employability quotient: During the last 3 years, inputs from latest research are fed into curriculum renewal and revision (a.)
Course Delivery	Lecture and Experiential learning for all modules
Evaluation Scheme	Internal (modes of evaluation): assignment (10%), written tests (30%) End-semester (mode of evaluation): written exam (60%)
Reading List	Essential reading: Handouts will be provided on all topics. These handouts would be based primarily on content from the following texts: Gussenhoven, C., & Jacobs, H. (2017). *Understanding phonology*. Routledge. Hayes, B. (2008). *Introductory phonology* (Vol. 7). John Wiley & Sons. Odden, D. (2005). *Introducing phonology*. Cambridge university press. Carr, P. (2019). *English phonetics and phonology: An introduction*. John Wiley & Sons. Cowan, W. (Ed.). (1998). *Source book for linguistics*. John Benjamins Publishing. Nagarajan, H. (2022). *The Routledge Companion to Linguistics in India*. Taylor & Francis.

Course Title	**Basic Issues in Semantics**
Category (Mention the appropriate category (a/b/c) in the course description	Existing course without changes
Course Code	MACLINGC 451
Semester	II
No. of Credits	4
Maximum intake	30 (on first-come-first-served-basis)
Day/ Time	Monday & Friday: 4.00 pm – 6.00 pm
Name of the teacher/s	Dr. Utpal Lahiri
Course Description:	This course is an introduction to basic semantics. At least one introductory syntax class, though not required, will be very useful. Some knowledge of basic mathematical notions from set theory and logic will be assumed, but much of it will be introduced as we move along in the class, so students without the background should not have problems. We attempt to answer questions like: what is meaning? How do meanings combine? We approach semantic theory in the context of modern generative grammar. Topics include reference and truth, proper names, predication, quantification, logical form in philosophy and linguistics, rules of semantic composition. i. Learning outcomes— By the end of the programme, the students will have: **PO1**: obtained a sound knowledge of various branches of language sciences: theoretical and applied **PO2:** acquired skills to analyse various aspects of a language/ languages **PO3:** applied theories to analyse data from Indian and other languages **PO4**: understood how theories are built with evidence/data from languages **PO5**: obtained theoretical and functional understanding of phonetics with special reference to English **PO6**: carried out empirical studies in languages **PO7:** learnt to apply knowledge of linguistics to other disciplines such as Artificial Intelligence, Cognitive Psychology, Forensic and Clinical Sciences **PO8:** learnt to address language-related societal needs and issues: language planning, language maintenance, language standardization, language variation and language and gender **PO9:** learned to describe and document lesser studied and endangered languages **PO10**: learned to use relevant tools to analyse phonetic and linguistic data

	a) domain-specific outcomes: Upon successful completion, students will have the knowledge and skills to **CO1:** understand the basic notions of Syntax and Semantics, Semantic rules and Grammar, Truth Conditions, Entailment and Synonymy, Set theory, Lexicons. (Chapter 1 of the Altshuler et al.). **CO2:** explain meaning relations like Entailment, Implicature, Presuppositions, Synonymy, Appropriateness, Anaphoric Relations. (Chapter 1 of Chierchia and McConnell-Ginet) **CO3:** apply symbolic logic to understand Atomic Sentences and their parts, Connectives, Quantifiers, Predicate Conjunction, Rules of SL. Truth values, truth Conditions, Extensions, Languages, Grammars. (Chapter 2 of Altshuler et al.) **CO4:** apply the principles to analyse and understand Sentences and Determiner Phrases. Syntax, Direct and Indirect Interpretation, Quantificational DPs. (Chapter 3 of Altshuler et al.), a very basic introduction to Generalized Quantifier Theory. b) value addition: The course 'Basic Issues in Semantics'links logic to language and makes them aware of the elements of language that convey meaning. c) skill-enhancement: Student-centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences (a.) d) employability quotient: During the last 3 years, inputs from latest research and industry are fed into curriculum renewal and revision (a.)
Course Delivery	Lecture and Experiential learning for all modules
Evaluation Scheme	Internal (modes of evaluation): assignment (10%), quizzes and written exam (30%) End-semester (mode of evaluation): written exam (60%)
Reading List	Essential reading: Primary: *A Course in Semantics*, by Altshuler, D., Terence Parsons and R. Schwarzschild. Forthcoming from MIT Press in 2019 Occasionally we will also look at material from: *Meaning and Grammar: An Introduction to Semantics*, by Chierchia, G. and S. McConnell-Ginet (2nd Edition). 2000. MIT Press. *Semantics in Generative Grammar*, by Heim, Irene and Angelika Kratzer. 1998. Blackwell Publishers.

Course title	**Python for Natural Language Processing**
Category (Mention the appropriate category (a/b/c) in the course description.)	a. Existing course without any changes
Course code	MACLINGC 476
Semester	II
Number of credits	4
Maximum intake	30
Day/Time	Monday & Wednesday: 11.00 am – 1.00 pm
Name of the teacher/s	Ms. Iram Ali Ahmad
Course description	**Introduction** 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. The objectives of the are : • 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 analysingdata from Indian languages • To develop asmall NLP application as part of the end-semester project CO1 have an understanding of the basic concepts of programming and Python CO2 be able to use core programming concepts like data types, conditionals, loops, functions and modules. CO3 hav an overview of various tools available for writing and running Python and gets students coding quickly CO4 have hands-on coding experience using commonly used data

	structures, writing custom functions, modules and reading and writing files CO5 write short programs for analysing data from Indian languages CO6 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**
Category (Mention the appropriate category (a/b/c) in the course description.)	a. Existing course without any changes
Course code	MACLINGC 486
Semester	II
Number of credits	4
Maximum intake	30
Day/Time	Tuesday & Thursday: 2.00 pm – 4.00 pm
Name of the teacher/s	Dr. Atreyee Sharma
Course description	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): 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) Articles will be assigned from various textbooks, journals, and research surveys CO1 gain knowledge of the basics of Corpus Linguistics and Corpus Collection methods CO2 obtain knowledge of the applications of Corpus Linguistics in ELT, MT, Lexicography, Machine learning, and Machine Translation studies CO3 have hands-on experience in some of the open-source corpus tools like concordances (SCP, Wordsmith, AntConc and the like.), N-gram, KWIC- KWOC, Frequency counter, and many others CO4 understand and will be able to apply (in small texts) the idea of annotation, abstraction and analysis CO5 understand the different kinds of Corpora (Speech data, Text data, Sign Language data), their collection methods, category list, rules of Standardisation, annotation techniques.
Course delivery	Lecture/Seminar/Experiential learning

Evaluation scheme	Mid-term: Final::40:60
Reading list	Biber, Douglas, Susan Conrad and Randi Reppen (1998). Corpus Linguistics: investigating language structure and use. Cambridge: Cambridge University Press. Dash, N.S. 2005. Corpus linguistics and language technology: With reference to Indian languages. New Delhi: Mittal Publications. Kennedy, Graeme (1998). An Introduction to Corpus Linguistics. London: Longman. Kyto, Merja, Matti Rissanen and Susan Wright (eds.) (1994). Corpora Across the Centuries. Amsterdam: Rodopi McEnery, Tony and Andrew Wilson (2001). Corpus Linguistics. 2nd edn. Edinburgh: Edinburgh University Press. McEnery, Tony and Andrew Hardie (2012). Corpus linguistics. Cambridge: CUP. Meyer, Charles F. (2002). English Corpus Linguistics: an introduction. Cambridge: CUP. N. S. Dash and S. Arulmozi (2018.). History, Features, and Typology of Language Corpora, © Springer Nature Singapore Pte Ltd. N. S. Dash and L. Ramamoorthy (2019). Utility and Application of Language Corpora, © Springer Nature Singapore Pte Ltd. O'Keefe, Anne and Michael McCarthy (eds.) (2012). The Routledge handbook of corpus linguistics. Abingdon: Routledge. Sinclair, John (1991). Corpus, Concordance, Collocation. Oxford: OUP. Teubert, Wolfgang and Anna Čermáková (2007). Corpus Linguistics: A Short Introduction. London: Continuum. Wallis, Sean (2020). Grammar and Corpus Methodology. In: Bas Aarts, Gergana Popova and Jill Bowie (eds.) The Oxford Handbook of English Grammar. Oxford: OUP.

Course title	**Computational Syntax**
Category (Mention the appropriate category (a/b/c) in the course description.)	a. Existing course without changes
Course code	MACLINGE 587
Semester	II
Number of credits	4
Maximum intake	30
Day/Time	Monday & Friday: 2.00 – 4.00 pm
Name of the teacher/s	Prof. M. Hari Prasad
Course description	This course introduces students to the computational modelling of syntactic structure in natural language. It examines how formal syntactic theories are represented and implemented in computational systems, with emphasis on grammar formalisms, parsing techniques, constraint-based syntax, and annotated corpora. The course bridges theoretical syntax and natural language processing, enabling students to understand how syntactic knowledge is operationalized in language technologies.
Course delivery	Lectures and tutorials
Evaluation scheme	• Internal Assessment: 40% • End-Semester Examination: 60%
Reading list	Jurafsky, D. & Martin, J. *Speech and Language Processing*. Sag, I., Wasow, T. & Bender, E. *Syntactic Theory*. Pollard, C. & Sag, I. *Head-Driven Phrase Structure Grammar*. Allen (1995). *Natural Language Understanding*, Ch. 2 Carpenter (1992). *The Logic of Typed Feature Structures*, Ch. 1–2 Allen, J. *Natural Language Understanding*; Copestake, A. *Implementing Typed Feature Structure Grammars*; Kübler et al. *Dependency Parsing*; Bender &Lascarides. *Linguistic Fundamentals for NLP*.