

CLCS MPhil Programmes Module Descriptions 2024-25

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LI 7856 Describing Grammar [AL-only] (Conor Pyle)

Michaelmas term

Aims:

This module has four principal aims:

- To come to an understanding of the structural underpinnings of how words come together to form sentences.
- To introduce the student to the ways in which linguists approach the observable structural aspects of language.
- To being able to recognise and investigate the combinatory system that forms sentences from phrases and phrases from their subparts.
- To learn how to analyse languages formally, i.e., analytically investigate phrase and sentence structure.

Working methods:

The topics of the module are introduced in lectures and explored and developed in workshops and seminars. Exercises and discussion will focus on a range of languages in addition to English. The module assumes no previous knowledge of morphology and syntax.

Syllabus:

This course is an introduction to the formal study of syntax in natural language from a cognitive perspective. By 'syntax', we mean linguistic structure at the phrase and sentence level. That is, the combination of words into phrases and phrases into sentences. Detailed investigation into sentence structure reveals that sentences are not formed merely by stringing together words. Instead, sentences have properties that imply a complex hierarchical organization that is rule-governed and systematic within and across languages. By 'formal', we mean analytically precise investigation that focuses on the form of a linguistic object -here, phrase and sentence structure. We will study syntax from a 'cognitive perspective', meaning that the overarching goal of our investigation is to explore and model the human cognitive faculty responsible for building and manipulating complex syntactic structures in the mind.

Learning outcomes:

On successful completion of this module students should be able to:

- Demonstrate a knowledge of the basic features of sentence structure: syntactic categories, constituency, and dependency

- Apply the tools of a functional and lexicalist view of grammar to the description of simple sentences in English and one or more other languages
- Explain how cross-linguistic syntactic variation may be described
- Analyse how syntactic rules and processes interface with other levels of linguistic knowledge, in particular with the semantics of verbal argument structure.

Assessment:

In previous years, the module was assessed through two assignments, each worth 50%:

- Assessment 1. In-class test on the topics introduced in the module.
- Assessment 2. 2000 words essay on the syntactic description of one or more languages.

Suggested readings:

Sportiche, Dominique, Koopman, Hilda, Stabler, Edward. 2014. *An Introduction to Syntactic Analysis and Theory*. London: Wiley Blackwell.

Carnie, Andrew. 2021. *Syntax. A Generative Introduction*. 4th edition. London: Wiley Blackwell.

Larson, Richard. 2010. *Grammar as science*. Cambridge, MA: The MIT Press.

LI 7857 Language Acquisition (Colin Flynn)

Hilary Term

Aims:

The general aim of this module is to introduce students to the known facts, the principal theoretical issues and the current areas of debate relative to language acquisition. The module will include within its purview child language development involving a single language, the acquisition in childhood of two or more languages, and the learning of additional languages later in life. As well as examining the above acquisitional phenomena themselves, the module will outline the research methodologies deployed in their investigation.

Working methods:

The topics of the module will be presented in lecture form and will be further explored in group discussion. Students will be pointed towards readings dealing with aspects of material covered in class and will be encouraged to link such material to their own experience as language learners and teachers.

Syllabus:

Specific themes addressed in the module will include:

- The major milestones of child language development
- Behaviourist and Nativist perspectives
- Language Acquisition and age
- Input modification and its effects
- The Critical Period Hypothesis
- Bi-/Multilingualism
- Cross-linguistic and developmental aspects of multiple language learning
- Multimodal language

Learning outcomes:

On successful completion of this module students will be able to:

- Discuss language acquisition on the basis of the agreed central facts of monolingual child language development, simultaneous bi-/multilingual acquisition and additional language learning.
- Engage in informed debate about the controversial questions associated with the above and of a range of theoretical perspectives attempting to address such question.

- Provide evidence of a critical awareness of the range of research methodologies used by language acquisition researchers.

Assessment:

In previous years, students wrote an assignment of 3-4,000 words on one of the syllabus themes. A precise title will need to be agreed with the course convener by the last week of term.

Suggested readings:

- Aronin, Larissa and David Singleton. 2012. *Multilingualism*. Amsterdam: John Benjamins.
- Baker, Colin. 2006. *Foundations of Bilingual Education and Bilingualism*. 4th ed. Clevedon: Multilingual Matters Ltd.
- Clark, Eve V. 2003. *First Language Acquisition*. Cambridge: Cambridge University Press.
- Cook, V., and D. Singleton (2014). *Key topics in second language acquisition*. Bristol: Multilingual Matters.
- Cook, Vivian. (ed.) 2002. *Portraits of the L2 User*. Clevedon: Multilingual Matters.
- De Angelis, G. 2007. *Third or Additional Language Acquisition*. Clevedon: Multilingual Matters
- Ellis, R., and N. Shintani (2014). *Exploring language pedagogy through second language acquisition research*. London: Routledge.
- Larsen-Freeman, Diane and Michael H. Long. 1991. *An Introduction to Second Language Acquisition Research*. London: Longman.
- Mackey, A. and Gass. S. M (2005) *Second Language Research. Methodology and Design*. London: Routledge.
- Mitchell, R., Myles, F. Marsden, E. (2013) *Second Language Learning Theories*. Third Edition. Abingdon: Routledge.
- Ringbom, Håkan. 2007. *Cross-linguistic Similarity in Foreign Language Learning*. Clevedon: Multilingual Matters.
- Saville-Troike, M. & Barto, K. (2017) *Introducing Second Language Acquisition*. Third Edition. Cambridge: Cambridge University Press.
- Singleton, David. 1999. *Exploring the Second Language Mental Lexicon*. Cambridge: Cambridge University Press.
- Singleton, David and Lisa Ryan. 2004. *Language Acquisition: the Age Factor*. 2nd ed. Clevedon: Multilingual Matters.

LI 7858 Second Language Curriculum Planning and Implementation [AL-only] (Rowland Imperial)

Michaelmas term

Aims:

This module has three aims: (i) to explore in theory and practice the key pedagogical concepts of learner-centredness and learner autonomy; (ii) to give students a thorough knowledge of learner-centred principles of second language curriculum design and their pedagogical implementation; and (iii) to familiarize students with the Common European Framework of Reference for Languages (CEFR). The module is designed to challenge students to reflect critically on their own experience as language learners and their practice as language teachers.

Syllabus:

Specific themes addressed in the module include: the theoretical underpinnings of learner-centredness and learner autonomy; the theory and practice of needs analysis in language curriculum design and implementation; the CEFR's action-oriented approach to the description of language use and language learning; how to use the CEFR to design second language curricula; target language use in language teaching and learning; key concepts in sociocultural approaches to language learning; and the development of inclusive language curricula for diverse, multilingual learning contexts.

Learning outcomes:

On successful completion of this module students will be able to:

- Explain the concepts of learner-centredness and learner autonomy
- Analyse the descriptive categories of the Common European Framework of Reference for Languages (CEFR)
- Apply the descriptive categories of the CEFR to the analysis of learners' needs
- Employ the descriptive categories of the CEFR to design and generate a scaled second language curriculum
- Employ the European Language Portfolio (ELP) to mediate and implement a scaled second language curriculum
- Apply techniques and theories learned in class in order to develop language learners' capacity to plan, monitor and evaluate their own learning
- Develop and apply practical techniques for developing language learner autonomy

Working methods:

The successive topics of the module are presented in lectures and explored in small-group discussion and workshops. Students are expected to contribute to collaborative and reflective activities both in-class and outside class, and to engage fully in the module's project work.

Assessment:

In previous years, the module was assessed through two assignments:

1. A group project presentation on curriculum development for a specific target learner group (40%).
2. An essay assignment (2,500-3,000 words) involving theoretical engagement and reflection on the practical implementation of a particular aspect of curriculum design (60%).

Suggested readings

- Council of Europe 2020. *Common European Framework of Reference for Languages: learning, teaching, assessment: Companion volume*. Strasbourg: Council of Europe.
- Council of Europe 2001. *Common European Framework of Reference for Languages: learning, teaching, assessment*. Cambridge: Cambridge University Press.
- Nation, I. S. P. & Macalister, J. 2020. *Language Curriculum Design. 2nd Edition*. London: Routledge.
- Richards, J.C. 2017. *Curriculum Development in Language Teaching. 2nd Edition*. Cambridge: Cambridge University Press.
- Little, D.G., Dam, L. & Legenhausen, L. 2017. *Language learner autonomy: theory, practice and research*. Bristol: Multilingual Matters.

Further reading:

- Mikan, P. & Wallace, I. 2020. *The Routledge handbook of language education curriculum design*. New York: Routledge.
- Macalister, J. & Nation, I. S. P. (eds.) 2011. *Case Studies in Language Curriculum Design: Concepts and Approaches in Action Around the World*. New York: Routledge.

- Little, D & Figueras, N. 2022. *Reflecting on the Common European Framework of Reference for Language and its Companion Volume*. Bristol: Multilingual Matters.
- Little, D. 1991. *Learner Autonomy 1: Definitions, Issues and Problems*. Dublin: Authentik.
- Dam, L. 1995. *Learner Autonomy 3: From Theory to Classroom Practice*. Dublin: Authentik.
- Long, M. H. (ed.) 2005. *Second Language Needs Analysis*. Cambridge: Cambridge University Press.

LI 7859 Language Testing [AL-only] (Bronagh Óatibušić)

Hilary term

Aims:

This module has two aims: (i) to familiarize students with fundamental principles in language testing, and (ii) to apply those principles to the design of language tests, scoring/rating schemes, and validation procedures. Particular importance is attached to the development of students' practical ability to design valid and reliable tests and other forms of assessment

Syllabus:

Specific themes addressed in the module include: types of language assessments and their purpose; the concept of the criterion in language testing; the testing cycle; the design of test items and test tasks – discrete point vs. integrative tests; the design of scoring and rating procedures; establishing the validity and reliability of language tests; relating tests and assessments to the CEFR's proficiency levels.

Learning outcomes:

On successful completion of this module students should be able to:

- describe in detail fundamental principles in language testing
- apply those principles to the successive stages of language test design, implementation and validation
- devise and design test items and test tasks
- create a scoring scheme for tests of receptive competence
- design and implement a rating scheme for tests of productive competence
- discuss the measures that are used to explore the stability of individual test items and the reliability of raters
- critically evaluate and appraise the literature in the field

Working methods:

The class is divided into groups of students and each group is assigned a different language-testing project. Week by week, key topics in language testing and assessment are introduced with close reference to the literature. The topics are then explored by the student groups as they gradually develop their projects. In the final week of the module the groups present their completed projects, explaining how they have taken account of the theoretical issues raised in the course of the module. Students are expected to relate their projects to the

proficiency levels of the Common European Framework of Reference for Languages (CEFR).

Assessment:

In previous years, students prepared and delivered a group presentation as described above. The final presentation contributed towards 30% of students' final score in the module. The remaining 70% was based on an individual written assignment of 2,500 words. The student designed a language test or assessment tool to measure the proficiency or learning achievement of a particular group of language learners. This test/assessment tool, which could not replicate any of the group projects developed during the module, could focus on one particular skill or on a combination of skills. It was presented in a discursive assignment that briefly described the chosen group of learners and their learning goal, explained the choice of test, justified the test design, described the rating and scoring procedures, and outlined appropriate validation procedures.

Suggested readings:

- McNamara, T. 2000. *Language Testing*. Oxford: Oxford University Press.
- Green, A. 2021. *Exploring Language Assessment and Testing* (2nd Ed.). Routledge.
- Council of Europe 2020. *Common European Framework of Reference for Languages: learning, teaching, assessment: Companion volume*. Strasbourg: Council of Europe.
- Council of Europe 2001. *Common European Framework of Reference for Languages: learning, teaching, assessment*. Cambridge: Cambridge University Press.

Further reading:

- Bachman, L. F. 1990. *Fundamental Considerations in Language Testing*. Oxford: Oxford University Press.
- Bachman, L.F. & Palmer, A.S. 2010. *Language Assessment in Practice: Developing Language Assessments and Justifying their Use in the Real World*. Oxford University Press.
- Brown, H.D. & Abeywickrama, P. 2010. *Language Assessment. Principles and Classroom Practices*. London: Longman.

- De Angelis, G. 2021. *Multilingual Testing and Assessment*. Bristol: Multilingual Matters.
- Shohamy, E. 2001. *The Power of Tests. A Critical Perspective on the Use of Language Tests*. Harlow: Pearson Education.

LI 7860 Technology, Language, and Communication (Breffni O'Rourke)

Hilary term

Aims:

Participants in this module will explore how language and communication are mediated by various technologies, including that of writing. Students will be encouraged to reflect on the relationship between language, communication and technologies on one hand and individual language processing, interactional processes, and the nature of discourse on the other. Lectures, readings and discussions will range over historical, socio-cultural and individual-cognitive levels of analysis as appropriate.

Working methods:

The module will be taught through a combination of lectures and workshop activities.

Syllabus:

Specific themes addressed in the module are likely to include:

- The historical development of writing; the properties of writing systems
- Enhanced text in computer-mediated communication
- Video-mediated communication
- Multimodality
- Digital literacies
- Social psychology of online communication

Learning outcomes:

On successful completion of the module, a student should be able to

- Explain the key steps in the historical emergence of writing
- Explain, with examples, how each of the major writing systems represents language structure
- Discuss the social, cognitive and linguistic significance of writing itself and of the printing press
- Explain the linguistic differences between spoken and written language
- Discuss the nature of written language as used in several communication technologies

- Analyse the linguistic and discourse structure of linguistic interaction in a number of different communication technologies

Assessment:

- Mid-term: 30%
- Final assignment: 70%

Suggested Readings:

- Joinson, A. N. (2003). *Understanding the psychology of Internet behaviour*. Basingstoke: Palgrave Macmillan
- Rogers, H. (2005). *Writing systems: A linguistic approach*. London: Blackwell.
- Schmandt-Besserat, D., & Erard, M. (2008). Origins and forms of writing. In C. Bazerman (Ed.), *Handbook of research on writing* (pp. 7-26). New York: Lawrence Erlbaum
- Scott, K. (2015). The pragmatics of hashtags: Inference and conversational style on Twitter. *Journal of Pragmatics*, 81, 8-20
- Sproat, R., 2010. *Language, Technology, and Society*. Oxford: Oxford University Press.
- Tagg, C., 2015. *Exploring Digital Communication: Language in Action*, 1. Abingdon: Routledge.
- Walther, J. B., Van Der Heide, B., Ramirez Jr., A., Burgoon, J. K., and Peña, J. (2015). Interpersonal and hyperpersonal dimensions of computer-mediated communication. *The handbook of the psychology of communication technology*, pp. 4-22. New York: Wiley.
- Yus, F. (2011). *Cyberpragmatics: Internet-mediated communication in context*. Amsterdam: John Benjamins

LI 7862 Linguistic Pragmatics (Conor Pyle)

Hilary term

Aims:

The module's main aims are (i) to introduce students to inferential theories of pragmatics; (ii) to familiarize students with Relevance Theory in particular; and (iii) to give students experience of the practical description of conversational data.

Working methods:

The topics of the module are introduced in lectures and explored and developed in workshops and seminars. Practical description will focus on English but student speakers of other languages will be encouraged to apply their analyses to their first languages.

Syllabus:

Specific topics included in this module include:

- Grice and conversational maxims
- the principle of Relevance
- conceptual and procedural meaning
- the under-specification of meaning and processes of contextual enrichment
- lexical pragmatics
- coherence relations in discourse
- metaphor, irony and humour
- the functions of discourse connectives

Learning outcomes:

On successful completion of the module, students will be able to:

- demonstrate a theoretically informed awareness of the importance of inference and context to linguistic communication
- demonstrate an understanding of attempts to classify communication types
- explain Relevance Theory
- apply Relevance Theoretical analyses to conversational data

Assessment:

In previous years, students wrote an assignment of 3,000-4,000 words.

Suggested readings:

Clark, Billy. 2013. *Relevance Theory*. Cambridge: Cambridge University Press. (*Textbook*)

- Huang, Yan. 2014. *Pragmatics*. 2nd Ed. Oxford: Oxford University Press.
- Blakemore, Diane. 1992. *Understanding Utterances: An Introduction to Pragmatics*. Oxford: Blackwell.
- Carston, Robyn. 2002. *Thoughts and Utterances: The Pragmatics of Explicit Communication*. Oxford: Blackwell.
- Wilson, Deirdre, and Dan Sperber, 2012. *Meaning and Relevance*. Cambridge: Cambridge University Press.
- Grice, H. P. 1989. *Studies in the Way of Words*. Cambridge, MA: Harvard University Press.
- Levinson, Stephen C. 2000. *Presumptive Meanings: The Theory of Generalized Conversational Implicature*. Cambridge, MA: MIT Press.
- Levinson, Stephen C. 1983. *Pragmatics*. Cambridge: Cambridge University Press.

LI 7864 Corpus Linguistics (Elaine Uí Dhonnchadha)

Michaelmas term

Aims:

Corpora (large bodies of language samples which are held electronically as text, audio and/or video form) can be used to provide evidence for linguistic research (in syntax, morphology, stylistics, pragmatics etc.) They can be used in historical and sociolinguistic studies, and can be used to generate authentic language teaching materials and language testing materials, and they are used in the generation and testing of speech and language processing tools.

This module will introduce students to the principles of corpus creation (i.e. design, collection, and annotation), and students will gain experience of using various types of corpora, corpus query tools, and corpus annotation tools.

Syllabus:

Topics covered in this module may include:

- Corpus design, and collection and preparation of corpus materials
- Various levels of linguistic annotation, e.g. part-of-speech, phrase structure, phonetic, prosodic, gesture etc.
- Manual and automatic annotation, and evaluation/verification methods
- Use of corpora in Theoretical and Applied Linguistic Research, and in Language Teaching/Learning
- In the Lab, various types of corpora and corpus query tools

Learning Outcomes:

On successful completion of the module, students will be able to:

- Identify the benefits and limitations of using corpora in various linguistic domains.
- Analyse the requirements and formulate a corpus creation plan
- Examine the current annotation standards and tools and select/develop appropriate standards and annotation tools for the particular research task
- Use of various types of corpora and corpus query tools.

Assessment:

- Assignment 1 (proposal): 20%
- Assignment 2 (final): 80%

Suggested Readings:

Relevant papers are handed out each week.

Developing Linguistic Corpora: a Guide to Good Practice.
<http://www.ahds.ac.uk/creating/guides/linguistic-corpora/index.htm>

Adolphs, A. 2006. *Introducing electronic text analysis: a practical guide for language and literary studies*. London : Routledge.

Biber, D. and Gray, B. 2016. *Grammatical Complexity in Academic English*. Cambridge University Press.

Brezina, V. 2018. *Statistics in Corpus Linguistics*. Cambridge University Press.

Crawford, W. and Csomay, E. 2015. *Doing Corpus Linguistics*. Available Online via TCD Library.

Granger, S., Gilquin, G and Meunier, F. (Eds.) 2015. *The Cambridge Handbook of Learner Corpus Research*. Cambridge University Press.

Hoffmann, Sebastian et al. 2008. *Corpus linguistics with BNCweb - a practical guide*. Oxford: Peter Lang.

Hunston, S. 2002 & 2022. *Corpora in Applied Linguistics*. Cambridge University Press.

Ide, N and Pustejovsky, J. (Eds.) 2017. *Handbook of Linguistic Annotation*. Springer.

McEnery, T., R. Xiao and Y. Tono 2006. *Corpus-based Language Studies*. London: Routledge. O'Keefe, Anne and McCarthy, Michael (eds.) 2010. *The Routledge Handbook of Corpus Linguistics*. London: Routledge.

Meyer, Charles F. 2002. *English Corpus Linguistics*. Cambridge: Cambridge University Press.

Pustejovsky, J. & Stubbs, A. 2012. *Natural Language Annotation for Machine Learning: A Guide to Corpus-Building for Applications*. O'Reilly Media

Sinclair, John M. 2004. *Trust the Text: Language, Corpus and Discourse*. London: Routledge.

Wallis, S. 2021. *Statistics in Corpus Linguistics Research: A New Approach*. New York and London: Routledge.

LI 7867 Laboratory Phonetics and Phonology (Maria O'Reilly)

Hilary term

Aims:

This course introduces students to the laboratory investigation of the segmental and prosodic systems of languages. It provides a practical training in specific analytic techniques: although the primary focus is on acoustic analysis methods, students are also introduced to other analysis techniques, which involve articulatory and (time permitting) aerodynamic data.

The course focusses on a series of experimental tasks associated with key aspects of linguistic structure, in order to provide an understanding of (i) the primary phonetic dimensions of speech generation, (ii) how these phonetic dimensions are exploited in the sound systems of different languages, and (iii) the interactions of phonetic and phonological factors in determining the sound systems of languages.

Syllabus:

The course is delivered in terms of a number of topics, each of which explores some aspect of the human speech production capacity. With each topic the student is required to carry out and write up a practical analytic task, which serves to focus on how different languages exploit this dimension in their sound systems. Analysis techniques can include spectrography, pitch extraction, electropalatography and airflow transduction (oral and nasal). The topics which are the basis for analysis are a selection from the following:

- Voice production, including: how voice is generated; how voice is used in spoken communication; a cross-language perspective on phonological voicing contrasts
- Source Filter in speech production
- Vowel systems
- Lingual articulation of consonants: secondary articulation and gestural overlap
- Coarticulation, including cross-language differences in lingual coarticulation and phonological constraints on coarticulation.
- Prosody: phonetic dimensions and their use in linguistic systems

Learning outcomes:

On successful completion of the module students will be able to:

- explain the interplay between the production of speech and the structural characteristics of sound systems
- analyse the cross-language diversity in phonetic/phonological systems
- demonstrate basic skills in empirical analysis of speech data, including the selection of techniques appropriate to analyse particular issues; how the data are recorded; and knowledge of how the data are represented, segmented, and interpreted for linguistic analysis.
- present and write up experimental data

Assessment:

In previous years, assessment was based on a written assignment of 3-4,000 words which expanded on one of the experimental tasks undertaken during the course.

Suggested Readings:

- Ladefoged, P. 2005. *Elements of Acoustic Phonetics*. 3rd ed. Chicago: University of Chicago Press.
- Hayward, K. 2000. *Experimental Phonetics*. Harlow: Longman.
- Gobl, C and Ní Chasaide, A. 2010. *Voice Source Variation and its Communicative Functions*. In Hardcastle, W., J. Laver & F. Gibbon, *The Handbook of Phonetic Sciences*. 2nd ed. Oxford: Wiley-Blackwell.
- Ladefoged, P. and K. Johnson. 2011. *A Course in Phonetics*. New York: Harcourt Brace Jovanovich.
- Johnson, K. 2002. *Acoustic & Auditory Phonetics*. 2nd ed. Oxford: Blackwell.
- Ladd, D.R. 2006. *Intonational Phonology*. Cambridge: Cambridge University Press.
- Cruttenden, A. 1986. *Intonation*. Cambridge: Cambridge University Press
- Fry, D. 1979. Acoustic features of English Consonants. In *The physics of speech*. Cambridge: Cambridge University Press.
- Catford, J. 1977. *Fundamental Problems in Phonetics*. Bloomington: University of Indiana Press

LI 7868 Describing the Sounds of Languages (Irena Yanushevskaya) Michaelmas term

Aims:

This module aims to provide students with (i) a thorough understanding of how speech sounds are produced, (ii) fundamentals in the systematic description, classification and transcription of speech sounds, (iii) an understanding of the principles of phonemic analysis, and (iv) a basic training in phonemic analysis and systematic and impressionistic phonetic transcription.

Illustrative and exercise materials are drawn from a wide variety of languages. Teaching and learning methods include lectures, ear training and transcription practice. As part of self-study, students complete weekly reading and practical tasks using online resources.

Syllabus:

The course covers the following topics:

- Initiation and respiratory aspects of speech production
- Phonation
- The speech organs
- Principles of the IPA
- Consonants: place and manner of articulation
- Cardinal vowel system, the phonetic description of vowels
- Processes in connected speech: coarticulation and assimilation
- Systematic (phonemic, allophonic) and impressionistic transcription
- Phonemic analysis: basic concepts and practice

Learning outcomes:

On successful completion of the module, students should be able to:

- outline the principles of phonetic description of speech sounds;
- appropriately use standard descriptive terminology in phonetic and phonological description;
- identify basic concepts and methods of phonemic analysis;
- analyse and describe the articulation of speech sounds, consonants and vowels, within the framework of the International Phonetic Association;
- identify and discriminate between a wide range of speech sounds occurring in languages of the world;

- transcribe individual sounds and longer speech samples using the International Phonetic Alphabet using both broad and narrow phonetic transcription;
- select and use appropriate type of transcription (systematic, impressionistic) based on the nature of the analysis;
- apply the analytical and transcription skills to the description of sounds from unfamiliar languages;
- analyse phonetically transcribed data sets to perform basic phonological analyses

Assessment:

In previous years, assessment was based on two components, each contributing 50% towards the final module mark:

1. Course work: marked homework exercises carried out during the term
2. A short written project (practical task) submitted by week 12.

Core textbooks:

- Ladefoged, P., & Johnson, K. (2015). *A Course in Phonetics* (7 ed.). Sengage Learning. [Earlier editions 4, 5 and 6 can also be used]
- Ladefoged, P., & Maddieson, I. (1996). *The Sounds of the World's Languages*. Blackwell Publishers.
- Davenport, M., & Hannahs, S. J. (2020). *Introducing Phonetics and Phonology* (4 ed.). Routledge.

Other suggested reading is available via the module's ReadingList link in Blackboard.

LI 7869 Describing Meaning (Thomas Stephen)

Hilary term

Aims:

The course's main aims are (i) to introduce students to the tools used by formal semanticists to study meaning; (ii) to familiarize students with the application of these tools to understand real linguistic phenomena; and (iii) to give students experience of the practical description of the semantics of natural languages.

Working methods:

The topics in this course will be explored through seminars involving interactive lectures and group discussions and exercises. We will learn new tools for analysing meaning and composition in language and explore how to apply them to the study of natural languages.

Syllabus:

Specific topics addressed in this module include:

- Natural and Formal languages
- Compositionality
- Truth Functional Connectives
- Tense and Aspect
- Event Structure and Thematic Roles
- Meaning and Cognition
- Semantics in LLMs
- Theoretical Semantics in Legal Interpretation

Learning outcomes:

On successful completion of this module students should be able to:

- Apply the arguments for distinguishing the fields of semantics and pragmatics
- Describe the basic aspects of lexical semantics, including the status of lexemes and major lexical relations in English and one or more other languages
- Describe, analyse and apply formal approaches to semantics
- Assess the relationship between context and meaning
- Describe some cognitive accounts of figurative uses of language

Assessment:

The module will be assessed through a combination of exercises (40%) on the tools of formal semantics and a 3,000 word essay (60%) applying these tools to the analysis of semantic phenomena in natural languages.

Suggested readings:

Portner, Paul. 2005. *What is meaning?: Fundamentals of formal semantics*. Blackwell Publishing

Kearns, Kate. 2017. *Semantics*. Bloomsbury Publishing.

Coppock, Elizabeth. Champollion, Lucas. 2024. *Invitation to Formal Semantics*. Draft available for download at <https://eecoppock.info/teaching.html>

LI 7871 Speech Processing 1: Spectral Analysis (Andrew Murphy)

Michaelmas term

Aims:

The aim of this module is to provide students with an in-depth knowledge of the basic properties of continuous and discrete signals, and of linear time-invariant (LTI) systems, as the basis for spectral analysis of speech signals. Through the theoretical framework of LTI systems, the source-filter model of speech production is explored as well as different types of speech analysis techniques, including the speech spectrograph. A further aim is to introduce students to key digital signal processing techniques for spectral analysis of speech signals, including the Discrete Fourier Transform, Cepstral analysis and Linear Predictive Coding.

Syllabus:

Specific themes addressed within the module include:

- Continuous and discrete signals
- LTI systems
- The Source-filter model of speech production
- The Fourier Transform
- Digital Signal Processing: A/D, D/A, DFT, the Cepstrum, LPC
- Spectral analysis of speech signals

Learning outcomes:

On successful completion of this module the student will be able to:

- Describe the properties of continuous and discrete signals.
- Classify different types of speech signals and describe their general properties in the time and frequency domains.
- Outline the sampling theorem and explain the digitisation process of continuous-time signals and its implications for discrete-time speech processing.
- Describe the properties of linear time-invariant (LTI) systems.
- Define and explain different spectral analysis techniques based on the discrete Fourier transform (DFT) and on linear predictive coding (LPC).
- Apply spectral analysis techniques to the measurement of acoustic speech parameters.

Assessment:

In previous years, students carried out a series of practical exercises during the course, equivalent to 3-4,000 words. Alternatively, an assignment involving a single, larger task was carried out on a key aspect of the course: in this case, assessment was based on the written report (3-4,000 words) of the assignment.

Suggested readings:

Rosen, S. & P. Howell. 1999. *Signals and Systems for Speech and Hearing*. New York: Academic Press.

Balmer, L. 1997. *Signals and Systems: An Introduction*. New York: Prentice Hall.

Johnson, K. 2003. *Acoustic and Auditory Phonetics*. Oxford: Blackwell.

Ladefoged, P. 2005. *Elements of Acoustic Phonetics*. 3rd ed. Chicago: University of Chicago Press.

LI 7872 Formal Foundations of Linguistic Theories (Carl Vogel)

Michaelmas term

Aims:

The course is designed to establish competence in foundational mathematical concepts used in contemporary cognitive science and computationally-oriented approaches to linguistic theory. Basic concepts of discrete mathematics are reviewed with attention to their relevance in linguistics: sets, operators, relations, trees, logic, formal language theory. Emphasis is placed on finite recursive specification of infinite formal languages as an idealization of grammar specification for natural languages (each of which is thought to be infinite but managed by finite brains). Natural languages are modelled as uninterpreted sets of grammatical sentences whose internal structural complexity has implications related to constraints on human syntactic processing. Human languages are also modelled via their translation into logical languages supplied with deductive mechanisms supplying representational and denotational semantic analysis. Logical languages within a range of expressivity classes are considered in terms of their syntax, semantics, and inference mechanisms as simulations of human recognition, interpretation, and reasoning with natural language expressions. Thus, the aims of the course are to (i) establish competence with the core concepts and analytical tools, (ii) develop awareness of the range of applicability of the tools and concepts within linguistic theory and cognitive science, (iii) foster confident and fluent use of formal methods in analysing human language and reasoning.

Working methods:

The course relies on lectures and hands-on practice with the formal tools. Self-access practice with the tools is essential. An automated theorem prover is introduced to facilitate specification of formal theories of natural language syntax and semantics within one of the logical languages addressed in the lectures in order to use the theorem prover to test the consequences of theories of language on natural language inputs. Thought-problems designed to test understanding of key concepts will be offered at the end of each session.

Syllabus:

Topics addressed in the module include:

- Sets, characteristic functions, operators, relations
- Languages as sets of sentences
- Propositional logic: syntax, semantics & valid inference
- Deductive inference and human reasoning
- Predicate logic: syntax, semantics & valid inference
- First order logic (FOL): syntax & semantics & valid inference
- Translating natural language utterances into FOL
- Axiomatizing theories in Prolog (Horn Logic).

Learning outcomes:

On successful completion of the module students will be able to:

- Define the basic constructs in discrete mathematics: sets (finite, infinite and impossible), algebraic operations on sets (intersection, union, complement, difference), characteristic functions, relations (e.g. reflexivity, transitivity, symmetry), partial orders, total orders, equivalence classes; properties of trees; propositional logic, predicate logic, first order logic, Horn logic (syntax, semantics, limits and valid inference in each case).
- Demonstrate the relevance to syntax of human languages in idealizing natural languages as infinite sets of grammatical sentences;
- Demonstrate the relevance to syntax of human languages in providing finite recursive definitions for infinite logical languages;
- Demonstrate the relevance to semantics of human languages in providing a compositional denotational semantics (with a syntax-semantics interface) to infinite logical languages;
- Explain how natural language semantics may be represented indirectly using formal logical languages and their model-theoretic semantics;
- Specify clear theories of grammar as axioms in a deductive framework capable of testing theoretical predictions;
- Transfer abstract competence to practical

Assessment:

In previous years, students completed a take-home assignment with a mixture of problems intended to elicit demonstration of mastery of core concepts and ability to reason with those concepts in representing relevant phenomena.

Recommended Readings:

Course handouts and sources in their bibliographies.

Partee, B. A. ter Meulen and R. Wall. 1993. *Mathematical Methods in Linguistics*. Dordrecht: Kluwer Academic Press.

LI 7874 Speech Production, Hearing and Perception (Maria O'Reilly) Michaelmas term

Aims:

This course aims to provide (i) an understanding of the whole process of speech communication, encompassing the speaker and the listener and (ii) an understanding of some of the major models of production, perception and hearing, and (iii) practical, hands-on, experience in conducting production and perception experiments. Central to the course is an understanding of the acoustic theory of speech production, and of the acoustic characteristics of speech sounds. Speech materials are analysed to illustrate the acoustic properties of speech, provide insight into the underlying mechanisms of speech production, while also providing a basis for speech perception experimentation. The processes of hearing are dealt with along with the auditory transforms of the acoustic signal. Students are introduced to speech synthesis, and through synthesis-based experimentation to the methods that may be used to explore the perceptual correlates of speech sounds.

Syllabus:

Specific themes addressed within the module include:

- Acoustic theory of speech production
- Source filter theory
- Characteristics of the voice source
- Characteristics of the filter: resonance
- Hearing and the auditory system
- Synthesis and its applications in speech perception
- Perception of stops: locus theory
- Categorical perception
- Analysis, synthesis and perception of voice quality

Learning outcomes:

On successful completion of this module, students should be able to:

- explain the process of speech communication
- describe the acoustic theory of speech production and have knowledge of the acoustic properties of speech sounds
- assess some of the competing theories concerning the perception of speech

- conduct speech production or perception experiments
- interpret, present and write up experimental data

Assessment:

In previous years, the assessment was based on the conducting and writing up of experimental work on a key topic of the course, equivalent to 3-4,000 words.

Suggested readings:

- Borden, G. J., K. S. Harris & L. J. Raphael. 2003. *Speech Science Primer: Physiology, Acoustics, and Perception of Speech*. 4th ed. Philadelphia: Lippincott Williams & Wilkins.
- Hayward, K. 2000. *Experimental Phonetics*. London: Longman.
- Johnson, K. 2003. *Acoustic and Auditory Phonetics*. Oxford: Blackwell.
- Kent, R. & C. Read. 2002. *The Acoustic Analysis of Speech*. 2nd ed. Baltimore: Singular Publishing Group.
- Moore, B. C. J. 2005. *An Introduction to the Psychology of Hearing*. 5th ed. New York: Academic Press.

LI 7875 Speech Processing 2: Acoustic Modelling (Andy Murphy)

Hilary term

Aims:

The aim of this module is to provide students with an understanding of the acoustics of speech production and with knowledge about the signal analysis and processing techniques required to model the speech production process for the purpose of generating synthetic speech.

Syllabus:

A theoretical framework is developed whereby students are introduced to the Laplace transform and the s-plane, the z transform and the z-plane, as well as techniques for the design of digital filters. A further aim is to introduce students to different speech synthesis methodologies which may be used in text-to-speech systems, including parametric, concatenative, and articulatory approaches.

Specific themes addressed within the module include:

- Speech acoustics
- The Source-Filter model of speech production
- The Laplace transform / The z-transform / Impulse invariant transformation
- First and second order filters
- Parametric, concatenative and articulatory methods for speech synthesis and methods for text-to-speech conversion
- Cascade and parallel formant synthesis

Learning outcomes:

On successful completion of this module, students will be able to:

- Explain the fundamentals of speech acoustics.
- Demonstrate how the speech signal can be modelled in terms of source and filter.
- Design and use discrete-time filters for modelling the acoustics of the vocal tract, by applying techniques involving the Laplace, z- and filter transforms.
- Perform time and frequency domain analysis of cascade and parallel vocal tract models.
- Develop a basic formant synthesiser

Assessment:

In previous years, students carried out an assignment involving the design and implementation of acoustic models of speech production. Students were assessed on their implementations and written report of the assignment.

Suggested readings:

- Johnson, K. 2003. Acoustic and Auditory Phonetics. Oxford: Blackwell.
- Rosen, S., & P. Howell. 1999. Signals and Systems for Speech and Hearing. New York: Academic Press.
- Quatieri, T. F. 2002. Discrete-Time Speech Signal Processing: Principles and Practise. Englewood Cliffs, NJ: Prentice Hall.
- Holmes, J. & W. Holmes. 2001. Speech Synthesis and Recognition. London and New York: Taylor and Francis.
- Dutoit, T. 1997. An Introduction to Text-to-Speech Synthesis. Dordrecht: Kluwer.

LI 7877 The Pedagogical Grammar of English (Breffni O'Rourke)

Hilary term

Aims:

This module is concerned with the nature and development of L2 grammar, and with grammar as pedagogical content, with specific reference to English. The principal aims are to foster in students a critical awareness of a range of factors affecting the acquisition of L2 grammar, and to provide them with a basis for critically assessing a range of approaches to the teaching of grammar.

Working methods:

The module will be taught through a combination of lecture, workshop activities based on English grammar points and ELT materials, and student-led discussion.

Syllabus:

Specific themes addressed in the module include:

- the nature of grammatical rules
- declarative and procedural knowledge
- the roles of conscious and unconscious grammatical knowledge in learning a second or foreign language
- the relationship between grammar and lexis
- the role of output and practice in grammar acquisition
- the role of feedback in grammar acquisition

Learning outcomes:

On successful completion of the module, students will be able to

- critically discuss a range of conceptions of “grammar” in relation to the enterprise of language learning and teaching
- critically discuss a range of factors affecting the acquisition of L2 grammar
- compare and evaluate a range of approaches to the teaching of grammar
- summarise and critically engage with the current research literature on the acquisition and pedagogy of L2 grammar
- evaluate the challenges posed by specific features of English grammar for the learner of English
- apply the theoretical insights gained to the teaching of English grammar

- evaluate pedagogical tasks and materials for English teaching

Assessment:

- Mid-term assignment: 30%
- Final assignment: 70%

Suggested readings:

Larsen-Freeman, D. 2003. *Teaching Language: From Grammar to Grammmaring*. Boston: Thomson Heinle. (Textbook)

Thornbury, S. 1999. *How to Teach Grammar*. London: Longman

Hinkel, E. (Ed.) 2016. *Teaching English grammar to speakers of other languages*. London: Routledge.

Fotos, S. and H. Nassaji (eds.). 2007. *Form-focused Instruction and Teacher Education*. Oxford: Oxford University Press.

LI 7878 Describing English Grammar (Emanuela Mileva)

Michaelmas term

Aims:

This module has four principal aims: (i) to examine the major morpho-syntactic features of English, using insights from modern generative linguistic theory (ii) to understand the principles that account for morpho-syntactic variation across different English dialects, (e.g. Irish English, British English, American English, etc.) (iii) to develop a critical perspective on the question of what constitutes English grammar from the perspective of modern linguistic theory, and (iv) to understand how to compare English with other languages using formal tools.

Syllabus:

This module focuses on the concept of ‘grammar’ as a type of knowledge, setting aside questions of its usage. Focusing on major morpho-syntactic features, we will examine English grammar from the scientific perspective of modern generative linguistic theory. This approach to grammar as an innate human endowment will prove essential for analysing the structure of English, allowing us to compare the morpho-syntax of different English varieties with other languages in the tradition of comparative linguistics.

Spoiler alert: this module is not a course on prescriptive English grammar.

Learning outcomes:

On successful completion of this module, a student should be able to:

- Analyse the morpho-syntax of English sentences using insights from modern linguistic theory
- Compare and contrast language variation in English
- Evaluate critically the concept of *English grammar* through insights from modern generative linguistic theory
- Compare the grammars of different English dialects with the grammars of other languages

Assessment:

In previous years, assessment comprised the following:

- Syntax Exercise (Formative)
Marked on a pass/fail basis. Students who were unsuccessful on the syntax exercise were required to submit a supplemental exercise.
- Argumentative Essay (100%)
Students were assessed on the basis of one 3,500 word argumentative essay. Details on the essay guidelines were provided by Teaching week 5.

Suggested readings:

Van Gelderen, Elly. 2010. *An Introduction to the Grammar of English*. Revised edition. Amsterdam/Philadelphia: John Benjamins Publishing Company. (Required text)

Larson, Richard. 2010. *Grammar as science*. Cambridge, MA: The MIT Press.

Kortmann, Bernd et al. (eds.). 2004. *A Handbook of Varieties of English*. Vol. 2: Morphology and Syntax. Berlin: Mouton de Gruyter.

(Complete Reading List available on Blackboard)

LI 7883 Multilingualism (Colin Flynn)

Michaelmas term

Aims:

The goal of this module is to introduce students to ideas and concepts of multilingualism, and to examine situations where three or more languages are present in an individual's language repertoire or speech community. This module takes as its point of departure multilingual individuals (children and adults) and their social context. It has three key themes: (1) to explore concepts and theories in multilingual individuals, communities and societies, (2) to introduce cognitive and acquisitional aspects of multilingualism; and (3) to assess critically successes and failures in policies to encourage multilingual language learning and use, particularly in education. The module is intended as an introduction to research for students who are considering research on multilingualism in individuals and societies. Whilst drawing on examples from across the world, the module nevertheless has a strong European flavour, with references to the work of the European Union and Council of Europe in language education policy, and case studies drawn from multilingualism in Europe.

Syllabus:

Specific aspects addressed in the module include:

- General issues and concepts in individual and societal multilingualism
- Multilingual language acquisition, the role of prior native and non-native language knowledge in the language acquisition process, multilingualism and cognitive development, crosslinguistic influence
- Multilingual education programmes, tools to encourage multilingual language use and learning, and evaluation/assessment
- Language policy and language education policy in multilingual contexts

Learning outcomes:

On successful completion of this module, students should be able to:

- Analyse general issues and concepts in research on individual and societal multilingualism

- Critically evaluate theory and research relevant to multilingual practices and policies.
- Assess research on acquisitional and cognitive aspects of multilingual language acquisition
- Examine the impact of official language policies on multilingualism
- Critically assess the role of different types of educational systems and policies in affording opportunities for multilingual language learning and use
- Conduct research on multilingualism in the individual and society

Assessment:

- Assignment 1: 40%
- Assignment 2: 60%

Suggested readings:

- Aronin, L., & Singleton, D. 2012. *Multilingualism*. Amsterdam: John Benjamins.
- De Angelis, G. 2007. *Third or Additional Language Acquisition*. Clevedon: Multilingual Matters.
- Weber, J.-J., & Horner, K. 2012. *Introducing Multilingualism: A Social Approach*. New York: Routledge.

LI 7884 English Language Teaching Practice 1 (Antoin Rodgers)

Michaelmas term

Aims:

This module has four aims: (i) to explore the practical implications of language learning theory in classroom practices today; (ii) to deepen students' understanding of the pedagogical implementation of second language curricula in existing classrooms; (iii) to provide students with the opportunity to observe and reflect on real teaching practices, lesson plans, teaching materials, and assessment methods; and (iv) to provide students with a supported opportunity to teach in a language classroom. The module is designed to have students both observe teaching practices, and reflect critically on these observations. The module aims to provide a solid foundation of knowledge and skills necessary to engage in future language teaching.

Working methods:

The topics of the module are presented using a range of teaching methods. Theory will be usually be delivered through lectures, and then explored in greater depth through small-group, and whole-class discussion. Students will also be engaged in practical micro-teaching (small-scale teaching) demonstrations and evaluation.

Syllabus:

Specific themes addressed in the module include: teaching methods; curriculum implementation; using pre-existing teaching and learning materials in the classroom; creating lessons plans from syllabi; evaluation of TESOL materials, and student-centred teaching.

Learning outcomes:

On successful completion of this module students should be able to:

- Evaluate observed teaching practices for their strengths and weaknesses, based on teaching and learning theory
- Evaluate teaching and learning materials in order to select optimal materials to match student needs
- Evaluate the effectiveness of observed classroom-based tasks for student-centredness
- Create a lesson plan from an existing language syllabus
- Reflect on their own teaching practices

Assessment:

In previous years, students submitted a portfolio (2000 words, 50%) of reflections on classroom observations, which critically evaluated multiple facets of their classroom experience. They were also evaluated on a practical assignment (50%) where they demonstrated the teaching of a small classroom task, accompanied by a self-evaluation and reflection paper (1500 words), which drew on teaching and learning theory in relation to their own teaching experience.

Suggested readings:

Cook, V. 2016. *Second Language Learning and Language Teaching*. 5th edition. London: Routledge.

Hall, G. (Ed.) 2020. *The Routledge Handbook of English Language Teaching*. London: Routledge.

Harmer, J. 2015. *The Practice of English Language Teaching*. 5th edition. Harlow: Pearson. Brown, H.D. 2014. *Principles of Language Learning and Teaching*. 6th edition. Upper Saddle River: Pearson Education.

Larsen-Freeman, D. 2013. *Techniques and Principles in Language Teaching*. 3rd edition. Oxford: Oxford University Press.

Senior, R.M. 2006. *The Experience of Language Teaching*. Cambridge: Cambridge University Press

LI 7885 English Language Teaching Practice 2 (Bronagh Ćatibušić) Hilary term

Aims:

This module has four aims: (i) to explore the practical implications of language learning theory in classroom practices today; (ii) to deepen students' understanding of the pedagogical implementation of second language curricula in existing classrooms; (iii) to provide students with the opportunity to observe and reflect on real teaching practices, lesson plans, teaching materials, and assessment methods; and (iv) to provide students with a supported opportunity to teach in a language classroom. The module is designed to have students both observe teaching practices, and reflect critically on these observations. The module aims to provide a solid foundation of knowledge and skills necessary to engage in future language teaching.

Working methods:

The topics of the module are presented using a range of teaching methods. Theory will usually be delivered through lectures, and then explored in greater depth through small-group, and whole-class discussion. Students will also be engaged in practical micro-teaching (small-scale teaching) demonstrations and evaluation.

Syllabus:

Specific themes addressed in the module include: teaching methods; curriculum implementation; using pre-existing teaching and learning materials in the classroom; creating lesson plans from syllabi; evaluation of TESOL materials, and student-centered teaching.

Learning outcomes:

On successful completion of this module students should be able to:

- Evaluate observed teaching practices for their strengths and weaknesses, based on teaching and learning theory
- Evaluate teaching and learning materials in order to select optimal materials to match student needs
- Evaluate the effectiveness of observed classroom-based tasks for student-centredness
- Create a lesson plan from an existing language syllabus
- Reflect on their own teaching practices

Assessment:

In previous years, students submitted a portfolio (2000 words, 50%) of reflections on classroom observations, which critically evaluated multiple facets of their classroom experience. They were also evaluated on a practical assignment (50%) where they demonstrated the teaching of a small classroom task, accompanied by a self-evaluation and reflection paper (1500 words), which drew on teaching and learning theory in relation to their own teaching experience.

Suggested readings:

Cook, V. 2016. *Second Language Learning and Language Teaching*. 5th edition. London: Routledge.

Hall, G. (Ed.) 2020. *The Routledge Handbook of English Language Teaching*. London: Routledge.

Harmer, J. 2015. *The Practice of English Language Teaching*. 5th edition. Harlow: Pearson.

Brown, H.D. 2014. *Principles of Language Learning and Teaching*. 6th edition. Upper Saddle River: Pearson Education.

Larsen-Freeman, D. 2013. *Techniques and Principles in Language Teaching*. 3rd edition. Oxford: Oxford University Press.

Senior, R.M. 2006. *The Experience of Language Teaching*. Cambridge: Cambridge University Press.

LI 7895 Computer-Assisted Language Learning: Design, Implementation and Evaluation (John Sloan)

Hilary term

Aims:

This module combines both theory and practice and sets out to equip students with practical experience and skills as well as a theoretical understanding of how to design, implement and evaluate Computer-Assisted Language Learning applications. The emphasis throughout is on encouraging interdisciplinary collaboration among the students and on project-based group learning. The principal focus is on CALL development for Irish language instruction but content development for other languages is also possible. Specific aims are to: (i) enable students from different (technical, pedagogical and linguistic) backgrounds to develop their skills as well as a broad understanding of CALL as an interdisciplinary field, (ii) to familiarise students with some pedagogical considerations and second language acquisition theory that should ideally guide the development of CALL, (iii) familiarise students with a range of speech and language technologies that can be deployed in CALL (iv) provide students with practical skills in the design/development of CALL content, (v) provide students with practical skills in the implementation of CALL content, (vi) provide students with practical skills in the evaluation of CALL content and (vii) give students, where possible, hands on experience of working as part of a multidisciplinary team in order to create their own prototype digital materials.

Syllabus:

This module introduces students to current Computer-Assisted Language Learning (CALL) resources and presents an overview of current major trends in CALL research. In this context, ongoing CALL research on Irish in the School is presented. A brief overview of essential theoretical considerations is presented and discussion includes the fundamental place of second language acquisition and pedagogical theory in the design of CALL content. The specific language context and the sociocultural context of the language learner is another fundamental consideration that is here briefly reviewed along with the need to identify clear linguistic goals in CALL design.

The implementation of CALL design in terms of specific linguistic content or of a platform design, etc. is undertaken as group work and

the emphasis throughout is on maximising the interdisciplinary collaboration of students with different backgrounds and skills. Attention is also directed at how CALL materials can be evaluated. The module will encourage students to develop interactive and innovative CALL platforms which may make a significant contribution to the use of new language teaching methodologies in which technology can play a very significant role. The impact of the module may be significant in disseminating interactive CALL materials into schools.

Learning outcomes:

On successful completion of this module students will be able to:

1. explore how language structure as well as language acquisition and pedagogical theory should ideally be used as a foundation for CALL design;
2. describe how concepts, models and resources from speech and language sciences can be exploited to design powerful learning environments for CALL;
3. engage in implementation of CALL resources/materials that exploit speech and language models and technologies;
4. discuss suitable evaluation frameworks for speech and language-based CALL applications;
5. undertake research in either design or implementation of digital materials for CALL;
6. communicate the results of this research through presentation and through a written account. This should, where appropriate, include supplementary materials/content developed

Assessment:

In previous years, assessment involved a 3-4,000 word essay.

Suggested readings:

Materials are developed and tailored specifically for the course. Relevant material will be provided in and through Blackboard: e-books, e-journal articles and online materials are typically used in combination with lectures.

The indicative reading list for this module includes:

Beatty, K. (2003). Teaching and researching computer-assisted language learning. New York: Longman.

- Chapelle, C. (2001). *Computer applications in second language acquisition: Foundations for teaching, testing, and research*. Cambridge: Cambridge University Press.
- Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of research on language acquisition: Second language acquisition*. (Volume 2., pp. 413- 468). San Diego, CA: Academic Press.
- Ní Chiaráin, N. (2014). *Text-to-Speech Synthesis in Computer-Assisted Language Learning for Irish: Development and Evaluation*. (Doctoral thesis, CLCS, Trinity College, Dublin).
- Ní Chiaráin, N., & Ní Chasaide, A. (2015). Evaluating Synthetic Speech in an Irish CALL Application: Influences of predisposition and of the holistic environment. In S. Steidl, A. Batliner, & O. Jokisch (Eds.), *SLaTE 2015: 6th Workshop on Speech and Language Technologies in Education* (pp. 149-154). Leipzig, Germany
- Ní Chiaráin, N., & Ní Chasaide, A. (2020). *The Potential of Text-to-Speech Synthesis in Computer-Assisted Language Learning: A Minority Language Perspective* in, editor(s)Alberto Andujar , *Recent Tools for Computer- and Mobile-Assisted Foreign Language Learning*, Hershey, PA, IGI Global, 2020, pp149 - 169
- Thomas, M., Reinders, H., & Warschauer, M. (Eds.). (2012). *Contemporary computer-assisted language learning*. A&C Black.
- Thorne, S.L. & May, S. (Eds.) (2017) *Language, Education and Technology* (3rd ed.) Springer

LI7897 Speech and Language Technology in Education (John Sloan) Michaelmas Term

Aims:

The aim of this module is to introduce students to how speech and language technology, as well as computational models of speech and language can be used in the teaching/learning of language. There will be a specific focus throughout on the Irish language and its particular context, but an in depth knowledge of the Irish language is unnecessary for participation. The focus is both theoretical and practical and the course emphasizes the multidisciplinary perspectives that are required for effective deployment of technology in education. Students are introduced to a range of speech and language technologies, some of which are currently in use for language instruction, and some of which, though ripe for educational deployment, are not yet in use. Learning theories and pedagogical methods are explored in terms of their implications for the development of technological applications in language teaching. The sociolinguistic context is a further major factor which is considered. The broader question of differences in the deployment of the technology in minority and major world languages are discussed.

The module will be innovative in encouraging students from technical, pedagogic and linguistic backgrounds to explore the interdependence of these areas for the production of materials which are interdisciplinary by nature. Upon completion of the module, it is expected that students will have acquired specialised knowledge, skills and a theoretical framework for developing educational technology for language instruction.

Syllabus:

The module will equip students with a multidisciplinary theoretical framework as a background for the research and development of educational applications of technology. Speech and language technology is explored in detail and its potential for transforming the educational process is discussed. The need for a firm theoretical foundation in language acquisition and pedagogical theory as a precursor to educational content development is a major theme. Furthermore, attention is given the linguistic structure of the target language, the specific linguistic goals for particular learner cohorts are central considerations. Students also consider the sociocultural context in which the educational technology is being deployed. In this module there is ongoing reference to Irish speech and language technology and

the implications of technology for minority and endangered languages in comparison to major world languages are considered. While the module does not require students to have knowledge of the Irish language, illustrations with a specific reference to Irish will be used throughout.

Learning outcomes:

1. Articulate why linguistic analysis / theories of language acquisition are fundamental to the development of content in educational technology
2. Debate how speech analysis, speech models and speech technologies are currently used for language instruction. Articulate how the current state-of-the-art in these areas offers potential new avenues for future development
3. Debate how computational analysis and models of language, and language technologies are currently used for language instruction and the directions in which future developments are envisaged
4. Discuss how the specific language context and the socio-cultural setting (e.g., lesser-spoken vs. major world languages) impacts on the provision and use of speech and language technologies
5. Undertake research in one specific aspect of technology-based language instruction
6. Communicate the results of this research through written papers and/or presentations

Assessment:

In previous years, assessment was in the form of a written assignment (100%).

Suggested readings:

- Beatty, K. (2003). *Teaching and researching computer-assisted language learning*. New York: Longman.
- Handley, Z. (2009). Is text-to-speech synthesis ready for use in computer- assisted language learning? *Speech Communication*, 51, 906-919. doi:10.1016/j.specom.2008.12.004
- Lightbown, P. & Spada, N. (2013) *How Languages are Learned*. Oxford University Press. *Contemporary Computer-Assisted Language Learning*

- Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of research on language acquisition: Second language acquisition*. (Volume 2., pp. 413- 468). San Diego, CA: Academic Press.
- Ní Chiaráin, N. (2014). *Text-to-Speech Synthesis in Computer-Assisted Language Learning for Irish: Development and Evaluation*. (Doctoral thesis, CLCS, Trinity College, Dublin).
- Ní Chiaráin, N & Ní Chasaide, A. (2019), Integrating Dialogue within an iCALL Platform for Irish, Dialog for Good (DiGo) 2019: Workshop on Speech and Language Technology Serving Society, Stockholm, Sweden
- Ní Chasaide, A., Ní Chiaráin, N., Berthelsen, H., Wendler, C., Murphy, A., Barnes, E. & Gobl, C. ,(2019) Leveraging Phonetic and Speech Research for Irish Language Revitalisation and Maintenance, ICPhS 2019: the 19th International Congress of Phonetic Sciences, Melbourne, Australia, pp994 - 998
- Thomas, M., Reinders, H., & Warschauer, M. (Eds.). (2012). *Contemporary computer-assisted language learning*. A&C Black.

LIP12003 Experimental Analysis of Sound Systems (Maria O'Reilly)

Hilary term

Aims:

This module builds on the Michaelmas Term module The Sounds of Languages, and aims to:

- introduce students to experimental, laboratory-based approaches to the analysis of sound systems
- develop an understanding of the acoustic theory of speech production
- develop practical skills in the use of specific techniques, to include: basic principles of experimental design, skills in data segmentation and measurement, and experience in interpreting data and relating results to theoretical concerns
- through a series of laboratory analytic tasks, the module aims to provide insight into the interface of phonetics and phonology, looking at the acoustic-perceptual dimensions on which sound systems are built, at how languages vary in exploiting these dimensions, and how production/perception constraints may shape phonological structure and trigger sound change

Module Content:

This laboratory-based module introduces students to the empirical analysis of spoken language, attending to the theoretical aspects while developing practical analytic skills. It is organised in terms of a series of topics, illuminating specific dimensions of the sound structures of languages. For each topic introduced, analytic tasks are undertaken that allow students to explore the phonetic realisation of phonological contrast. Throughout, consideration is given to languages' diversity in exploiting the dimensions of potential contrast, and to the production/perception constraints that shape sound systems and tend to trigger sound change. The module deals primarily with the segmental structure of languages, though essential aspects of prosodic structure are dealt with briefly.

Acoustic analysis is central to the module, as are basic skills in reading broad and narrow-band spectrograms. An introduction to the basic acoustic theory of speech production is provided, and students are shown the steps involved in experimental research: basic

considerations in experimental design; segmentation and annotation of data; measurement and presentation of results; interpretation and theoretical implications of results.

Non-acoustic techniques are more briefly introduced, such as the articulatory technique, electropalatography, and, time permitting, aerodynamic techniques, to illustrate how these can illuminate particular aspects of sound structure.

Students are shown how empirical data is presented and written up, following the conventions of scientific writing in the field.

Learning Outcomes:

On successful completion of this module, students should be able to:

- Engage in laboratory-based empirical description and analysis of aspects of the sound structure of languages.
- Demonstrate an understanding of basic acoustic theory and of key techniques that are used for quantitative analysis.
- Discuss how experimental data illuminates (i) the phonetic-phonological structure of a language, and (ii) how the human sound-producing capacity is exploited differently across languages for the communication of meaning.
- Carry out an empirical research task, demonstrating an understanding of experimental design, data segmentation, annotation and measurement and of how experimental data is interpreted.
- Present the results of the research task, following the conventions for scientific publications in the field.

Assessment:

In previous years, assessment involved a laboratory-based experimental task, to be presented according to the conventions of scientific publication in the field (3,000-4,000 words).

Recommended Reading List:

Ladefoged, P. (2005). *Elements of Acoustic Phonetics*. 3rd ed., Chicago: University of Chicago Press.

Johnson, K., (2012). *Acoustic and Auditory Phonetics*, 3rd ed. Oxford: Wiley-Blackwell.

Hayward, K. 2000. *Experimental Phonetics*. Harlow: Longman.

- Gobl, C. and Ní Chasaide, A. (2010). Voice Source Variation and its Communicative Functions, in Hardcastle, W. J. Laver & F. Gibbon (eds.) *The Handbook of Phonetic Sciences*, 2nd ed., Oxford: Wiley-Blackwell.
- Ladefoged, P. and Johnson, K. (2015) *A Course in Phonetics*, 7th ed. Stamford, CT: Cengage Learning.
- Ohala, J. J. (2005). Phonetic explanations for sound patterns. Implications for grammars of competence. In W. J. Hardcastle & J. M. Beck (eds.) *A figure of speech. A festschrift for John Laver*. London: Erlbaum. 23-38.
- Fry, D. (1979). Acoustic features of English Consonants, in *The Physics of Speech*, Cambridge University Press.
- Catford, J. (1977). *Fundamental Problems in Phonetics*. Bloomington: University of Indiana Press
- Ohala, J. J. (1995). Experimental phonology. In John A. Goldsmith (ed.), *A Handbook of Phonological Theory*. Oxford: Blackwell. 713-722.

LIP12008 Psychology of Language Learning and Teaching (Sarah Sheridan)

Hilary term

Aims:

This module has four main aims:

- (i) to introduce key concepts and theories in the psychology of language learning;
- (2) to examine that factors that contribute to positive psychology in the classroom;
- (3) to critically examine research methodologies deployed within this discipline; and
- (4) encourage students to critically reflect on their own teaching / learning experiences.

Learning outcomes:

Upon successful completion of the module, students should be able to:

- Analyse general issues and concepts in research on language learning psychology
- Engage in informed discussions on matters relating to learner and teacher wellbeing.
- Provide evidence of a critical awareness of the range of research methodologies used by language learning psychology researchers, and reflect on the appropriateness of methods in different contexts.
- Examine current research directions and demonstrate an awareness of areas which require further investigation.
- Identify factors affecting positive psychology in the classroom and present innovative ways to foster positive emotions amongst learners

Module content:

This module explores factors that enable language learners and teachers to thrive individually and in their communities. Focus is placed on three distinct areas; theoretical considerations, empirical investigations and applied solutions. Key concepts and theories will be introduced relating to the psychology of language learning. Empirical data will highlight the challenges emerging from these contexts, and the applied element considers innovative ways to implement positive psychology in the classroom.

The topics of the module will be presented in lecture form and will be further explored in group discussion. Readings will be regularly assigned and students will be encouraged to reflect on this knowledge and how it relates, or not, to their own teaching / learning experiences.

- Specific topics addressed in the module include:
- Language teacher / learner motivation
- Language learning anxiety
- Emotional complexity of language learning
- Emotional complexity of language teaching
- Learning strategies and self-regulation
- Positive psychology in the classroom
- Teacher & learner wellbeing

Assessment:

In previous years, assessment involved a midterm group presentation (20%) and a final 3,000-word assignment (80%).

Recommended Reading:

Dornyei, Z., & Ryan, S. (2015). *The psychology of the language learner revisited*. London: Routledge.

Gkonou, C., Dewaele, J. M., & King, J. (Eds.). (2020). *The emotional rollercoaster of language teaching*. Multilingual Matters.

MacIntyre, P., Gregersen, T., & Mercer, S. (Eds.). (2016). *Positive psychology in SLA*. Bristol: Multilingual Matters.

Mercer, S., & Kostoulas, A. (Eds.). (2018). *Language teacher psychology*. Multilingual Matters.

Williams, M., Mercer, S., & Ryan, S. (2016). *Exploring psychology in language learning and teaching*. Oxford: Oxford University Press.

Additional readings will be suggested on a weekly basis.

LIP12025 Second Language Curriculum Planning and Implementation [ELT-only] (Antoin Rodgers)

Michaelmas term

Aims:

This module has three aims: (i) to explore in theory and practice the key pedagogical concepts of learner-centredness and learner autonomy; (ii) to give students a thorough knowledge of learner-centred principles of second language curriculum design and their pedagogical implementation; and (iii) to familiarize students with the Common European Framework of Reference for Languages (CEFR). The module is designed to challenge students to reflect critically on their own experience as language learners and their practice as language teachers.

Syllabus:

Specific themes addressed in the module include: the theoretical underpinnings of learner-centredness and learner autonomy; the theory and practice of needs analysis in language curriculum design and implementation; the CEFR's action-oriented approach to the description of language use and language learning; how to use the CEFR to design second language curricula; target language use in language teaching and learning; key concepts in sociocultural approaches to language learning; and the development of inclusive language curricula for diverse, multilingual learning contexts.

Learning outcomes:

On successful completion of this module students will be able to:

- Explain the concepts of learner-centredness and learner autonomy
- Analyse the descriptive categories of the Common European Framework of Reference for Languages (CEFR)
- Apply the descriptive categories of the CEFR to the analysis of learners' needs
- Employ the descriptive categories of the CEFR to design and generate a scaled second language curriculum
- Employ the European Language Portfolio (ELP) to mediate and implement a scaled second language curriculum
- Apply techniques and theories learned in class in order to develop language learners' capacity to plan, monitor and evaluate their own learning
- Develop and apply practical techniques for developing language learner autonomy

Working methods:

The successive topics of the module are presented in lectures and explored in small-group discussion and workshops. Students are expected to contribute to collaborative and reflective activities both in-class and outside class, and to engage fully in the module's project work.

Assessment:

In previous years, the module was assessed through two assignments:

3. A group project presentation on curriculum development for a specific target learner group (40%).
4. An essay assignment (2,500-3,000 words) involving theoretical engagement and reflection on the practical implementation of a particular aspect of curriculum design (60%).

Suggested readings

- Council of Europe 2020. *Common European Framework of Reference for Languages: learning, teaching, assessment: Companion volume*. Strasbourg: Council of Europe.
- Council of Europe 2001. *Common European Framework of Reference for Languages: learning, teaching, assessment*. Cambridge: Cambridge University Press.
- Nation, I. S. P. & Macalister, J. 2020. *Language Curriculum Design. 2nd Edition*. London: Routledge.
- Richards, J.C. 2017. *Curriculum Development in Language Teaching. 2nd Edition*. Cambridge: Cambridge University Press.
- Little, D.G., Dam, L. & Legenhausen, L. 2017. *Language learner autonomy: theory, practice and research*. Bristol: Multilingual Matters.

Further reading:

- Mikan, P. & Wallace, I. 2020. *The Routledge handbook of language education curriculum design*. New York: Routledge.
- Macalister, J. & Nation, I. S. P. (eds.) 2011. *Case Studies in Language Curriculum Design: Concepts and Approaches in Action Around the World*. New York: Routledge.

- Little, D & Figueras, N. 2022. *Reflecting on the Common European Framework of Reference for Language and its Companion Volume*. Bristol: Multilingual Matters.
- Little, D. 1991. *Learner Autonomy 1: Definitions, Issues and Problems*. Dublin: Authentik.
- Dam, L. 1995. *Learner Autonomy 3: From Theory to Classroom Practice*. Dublin: Authentik.
- Long, M. H. (ed.) 2005. *Second Language Needs Analysis*. Cambridge: Cambridge University Press.

LIP12026 Language Testing [ELT-only] (Rowland Imperial)

Hilary term

Aims:

This module has two aims: (i) to familiarize students with fundamental principles in language testing, and (ii) to apply those principles to the design of language tests, scoring/rating schemes, and validation procedures. Particular importance is attached to the development of students' practical ability to design valid and reliable tests and other forms of assessment

Syllabus:

Specific themes addressed in the module include: types of language assessments and their purpose; the concept of the criterion in language testing; the testing cycle; the design of test items and test tasks – discrete point vs. integrative tests; the design of scoring and rating procedures; establishing the validity and reliability of language tests; relating tests and assessments to the CEFR's proficiency levels.

Learning outcomes:

On successful completion of this module students should be able to:

- describe in detail fundamental principles in language testing
- apply those principles to the successive stages of language test design, implementation and validation
- devise and design test items and test tasks
- create a scoring scheme for tests of receptive competence
- design and implement a rating scheme for tests of productive competence
- discuss the measures that are used to explore the stability of individual test items and the reliability of raters
- critically evaluate and appraise the literature in the field

Working methods:

The class is divided into groups of students and each group is assigned a different language-testing project. Week by week, key topics in language testing and assessment are introduced with close reference to the literature. The topics are then explored by the student groups as they gradually develop their projects. In the final week of the module the groups present their completed projects, explaining how they have taken account of the theoretical issues raised in the course of the module. Students are expected to relate their projects to the

proficiency levels of the Common European Framework of Reference for Languages (CEFR).

Assessment:

In previous years, students prepared and delivered a group presentation as described above. The final presentation contributed towards 30% of students' final score in the module. The remaining 70% was based on an individual written assignment of 2,500 words. The student designed a language test or assessment tool to measure the proficiency or learning achievement of a particular group of language learners. This test/assessment tool, which could not replicate any of the group projects developed during the module, could focus on one particular skill or on a combination of skills. It was presented in a discursive assignment that briefly described the chosen group of learners and their learning goal, explained the choice of test, justified the test design, described the rating and scoring procedures, and outlined appropriate validation procedures.

Suggested readings:

- McNamara, T. 2000. *Language Testing*. Oxford: Oxford University Press.
- Green, A. 2021. *Exploring Language Assessment and Testing* (2nd Ed.). Routledge.
- Council of Europe 2020. *Common European Framework of Reference for Languages: learning, teaching, assessment: Companion volume*. Strasbourg: Council of Europe.
- Council of Europe 2001. *Common European Framework of Reference for Languages: learning, teaching, assessment*. Cambridge: Cambridge University Press.

Further reading:

- Bachman, L. F. 1990. *Fundamental Considerations in Language Testing*. Oxford: Oxford University Press.
- Bachman, L.F. & Palmer, A.S. 2010. *Language Assessment in Practice: Developing Language Assessments and Justifying their Use in the Real World*. Oxford University Press.
- Brown, H.D. & Abeywickrama, P. 2010. *Language Assessment. Principles and Classroom Practices*. London: Longman.

- De Angelis, G. 2021. *Multilingual Testing and Assessment*. Bristol: Multilingual Matters.
- Shohamy, E. 2001. *The Power of Tests. A Critical Perspective on the Use of Language Tests*. Harlow: Pearson Education.

LIP12027 Describing Grammar [LING-only] (Valentina Colasanti)

Michaelmas term

Aims:

This module has four principal aims:

- To come to an understanding of the structural underpinnings of how words come together to form sentences.
- To introduce the student to the ways in which linguists approach the observable structural aspects of language.
- To being able to recognise and investigate the combinatory system that forms sentences from phrases and phrases from their subparts.
- To learn how to analyse languages formally, i.e., analytically investigate phrase and sentence structure.

Working methods:

The topics of the module are introduced in lectures and explored and developed in workshops and seminars. Exercises and discussion will focus on a range of languages in addition to English. The module assumes no previous knowledge of morphology and syntax.

Syllabus:

This course is an introduction to the formal study of syntax in natural language from a cognitive perspective. By ‘syntax’, we mean linguistic structure at the phrase and sentence level. That is, the combination of words into phrases and phrases into sentences. Detailed investigation into sentence structure reveals that sentences are not formed merely by stringing together words. Instead, sentences have properties that imply a complex hierarchical organization that is rule-governed and systematic within and across languages. By ‘formal’, we mean analytically precise investigation that focuses on the form of a linguistic object -here, phrase and sentence structure. We will study syntax from a ‘cognitive perspective’, meaning that the overarching goal of our investigation is to explore and model the human cognitive faculty responsible for building and manipulating complex syntactic structures in the mind.

Learning outcomes:

On successful completion of this module students should be able to:

- Demonstrate a knowledge of the basic features of sentence structure: syntactic categories, constituency, and dependency

- Apply the tools of a functional and lexicalist view of grammar to the description of simple sentences in English and one or more other languages
- Explain how cross-linguistic syntactic variation may be described
- Analyse how syntactic rules and processes interface with other levels of linguistic knowledge, in particular with the semantics of verbal argument structure.

Assessment:

In previous years, the module was assessed through two assignments, each worth 50%:

- Assessment 1. In-class test on the topics introduced in the module.
- Assessment 2. 2000 words essay on the syntactic description of one or more languages.

Suggested readings:

Sportiche, Dominique, Koopman, Hilda, Stabler, Edward. 2014. *An Introduction to Syntactic Analysis and Theory*. London: Wiley Blackwell.

Carnie, Andrew. 2021. *Syntax. A Generative Introduction*. 4th edition. London: Wiley Blackwell.

Larson, Richard. 2010. *Grammar as science*. Cambridge, MA: The MIT Press.

LIP12028 Datasets and Natural Language Processing (Elaine Uí Dhonnchadha)

Hilary term

Aims:

This module aims to:

- introduce students to corpus design, pre-processing and annotation, and the role of language data in speech and language processing
- enable students to gain experience of using various types of corpora, various corpus analysis and query tools, and corpus processing software
- familiarise students with the research literature in the field

Learning Outcomes:

On successful completion of this module students should be able to:

1. Identify the benefits and challenges of using data, knowledge bases and language models in various language processing domains
2. Differentiate between machine-learning algorithms and their applications
3. Present a synopsis of literature in the field
4. Gain practical experience of problem solving and computational resources through weekly computer lab sessions using various types of data and language processing tools.

Module Content:

Data and annotations are used in machine learning, in the development and testing of speech and language processing tools, and the development of linguistic knowledge bases.

Topics covered in this module may include:

- Data collection and pre-processing
- types of annotation, e.g. parts-of-speech, phrase structure, semantic categories etc. and manual and automatic methods of annotation, and evaluation
- the exploitation of corpora in a variety of machine learning and natural language processing/generation applications, using a variety of software tools and methodologies

Assessment:

In previous years, assessment consisted of a single assignment worth 100% (e.g. an essay of no more than 4000 words).

Recommended Reading:

Relevant papers are assigned each week for class discussion.

Jurafsky, D. & Martin, J., n.d. : Speech and Language Processing. Third Edition. Upper Saddle River, N.J.: Prentice Hall
<https://web.stanford.edu/~jurafsky/slp3/>

Lu, X. 2014. Computational Methods for Corpus Annotation and Analysis. Springer.
https://www.researchgate.net/publication/266707568_Computational_Methods_for_Corpus_Annotation_and_Analysis

Dunn, J. 2022. Natural Language Processing for Corpus Linguistics. Cambridge: Cambridge University Press. DOI:
<https://doi.org/10.1017/9781009070447>

Ide, N and Pustejovsky, J. (Eds.) 2017. Handbook of Linguistic Annotation. Springer.

Pustejovsky, J. & Stubbs, A. 2012. Natural Language Annotation for Machine Learning: A Guide to Corpus-Building for Applications. O'Reilly Media

Klein, E., Loper, E. and Bird, S. 2009. Natural Language Processing with Python - Analyzing Text with the Natural Language Toolkit. O'Reilly Press.

<https://www.nltk.org/book/>

<https://www.datacamp.com/courses/natural-language-processing-fundamentals-in-python>

Madnani, N. (2007). Getting Started on Natural Language Processing with Python. In XRDS: Crossroads, Volume 13 Issue 4.
[https://datajobs.com/data-science-repo/NLP-\[Nitin-Madnani\].pdf](https://datajobs.com/data-science-repo/NLP-[Nitin-Madnani].pdf)
(2012)

Manning, C and Hinrich Schütze, H. (1999). Foundations of Statistical Natural Language Processing. MIT Press. Cambridge, MA.

<https://nlp.stanford.edu/fsnlp/>

<https://mitpress.mit.edu/books/foundations-statistical-natural-language-processing>

Developing Linguistic Corpora: a Guide to Good Practice. (n.d.)
<http://www.ahds.ac.uk/creating/guides/linguistic-corpora/index.htm>

Journals and Conference Proceedings:

- Association of Computational Linguistic (ACL) Anthology
 - <https://aclanthology.org/>
- Language Resources and Evaluation Journal (LREJ)
 - <https://link.springer.com/journal/10579>
- Natural Language Processing (formerly Natural Language Engineering)
 - <https://www.cambridge.org/core/journals/natural-language-processing>
- IEEE Xplore
 - <https://ieeexplore.ieee.org/Xplore/home.jsp>
- arXiv.org e-Print archive
 - <https://arxiv.org/search/cs>
- Digital Scholarship in the Humanities (DSH)
 - <https://academic.oup.com/dsh>