

# MSc Computational Linguistics

## Programme Specification

<b>Awarding Institution:</b>
University of London (Interim Exit Awards made by Goldsmiths' College)
<b>Teaching Institution:</b> Goldsmiths, University of London
<b>Final Award:</b> MSc in Computational Linguistics
<b>Programme Name:</b> MSc Computational Linguistics
<b>Total credit value for programme:</b> 180
<b>Name of Interim Exit Award(s):</b> Postgraduate Diploma in Computational Linguistics (120 credits), Postgraduate Certificate in Computational Linguistics (60 credits)
<b>Duration of Programme:</b> 1 year full-time; 2 years part-time
<b>UCAS Code(s):</b> N/A
<b>HECoS Code(s):</b>
<b>QAA Benchmark Group</b>
<b>FHEQ Level of Award:</b> Level 7
<b>Programme accredited by:</b> Not applicable
<b>Date Programme Specification last updated/approved:</b>
<b>Home Department:</b> Computing
<b>Department(s) which will also be involved in teaching part of the programme:</b> ECW

## Programme overview

Have you ever wondered how personal assistants like Siri and Alexa work, or how humans interact with chat bots and robots in natural language? Would you like to learn more about AI and LLMs? Are you interested in how language is structured, what its social functions are, or how to build formal mathematically-informed models of it? If so, then this programme is for you.

This interdisciplinary programme enables you with an interest in language analysis and language technology to access the theoretical understanding and practical skills you need in the academic and professional spheres of natural language processing and computational linguistics. Based on an inter-departmental collaboration between the Department of Computing and the linguistics team at the Department of English and Creative Writing at Goldsmiths, this programme provides you with

access to modules that explore language structure and meaning, the relationship between language, society and culture, linguistic analyses of text and speech, Natural Language Processing, programming, Corpus Linguistics, as well as a further range of option modules available at the two Departments.

Our ambition is to open the intersection of linguistics and computation to students coming from either of these two disciplines, or from other disciplines but with strong interests in this domain. You take modules that provide you with an understanding of how language works, building on the core areas of structure and meaning (morphology, syntax, semantics and pragmatics), core programming skills (including Python), and with a solid understanding of how language technologies can be applied to various natural language processing tasks.

Beyond the core modules you can choose from a range of linguistics and computing modules, which allows you to shape your degree according to your primary interests and professional ambitions. Throughout the programme we encourage you to develop an understanding of the ethical and social dimensions of computational linguistics and its applications. We guide you to develop the communication skills you would need to present the analyses and tools you develop, as well as their applications, to a wide range of potential stakeholders and users.

Your studies on this programme, and especially the independent final project, encourage you to think of practical applications of computational linguistics. We will support you in developing links with businesses and technological organisations looking to recruit individuals with the skills and knowledge you have gained.

## **Programme entry requirements**

We would accept applicants with an Upper Second-Class Bachelor's or equivalent degree in either a humanities or a science subject. Degree results below the upper second class would be considered where there are indications of academic strength. Although for this programme we do not require prior study of linguistics or computer science, in judging applications we would look for evidence of strong numeracy skills and basic knowledge of programming, an aptitude for computational thinking, and an interest in and capability for working in interdisciplinary contexts. A high level of competence in written and spoken English is also required. If your first language is not English, you should normally have an IELTS minimum score of 6.5.

## Programme learning outcomes

Students who complete a Postgraduate Certificate (60 credits, core modules only) will achieve the following learning outcomes:

### Knowledge and understanding

Code	Learning outcome	Taught by the following module(s)
A1	Demonstrate conceptual and practical knowledge and understanding of research into the structure and meaning of language, including the way they are shaped by language use and language change	EN71075D Core Issues in English Language and Linguistics, EN71077C Analysing Discourse and Identity in Spoken Interaction
A2	Demonstrate knowledge and understanding of the main concepts and principles of computing and the application of computing techniques to linguistic data	IS71130A Natural Language Processing, IS71068B Data Programming

### Cognitive and thinking skills

Code		Learning outcome	Taught by the following module(s)
B1		Develop ability to analyse quantitative and qualitative data from the perspective of selected theoretical and conceptual frameworks	EN71075D Core Issues in English Language and Linguistics, EN71077C Analysing Discourse and Identity in Spoken Interaction, IS71071B Machine Learning, IS71068B Data Programming,

			IS71130A Natural Language Processing
B2		Develop ability to relate a limited range of mathematical and computational models and techniques to complex qualitative data, and to evaluate their advantages/disadvantages as analytical tools	IS71130A Natural Language Processing, IS71068B Data Programming, IS71071B Machine Learning
B3		Critically synthesise and evaluate research findings and insights	EN71075D Core Issues in English Language and Linguistics, EN71077C Analysing Discourse and Identity in Spoken Interaction, IS71130A Natural Language Processing, IS71071B Machine Learning

### Subject specific skills and professional behaviours and attitudes

Code	Learning outcome	Taught by the following module(s)
C1	Demonstrate conceptual understanding and practical ability to deploy both qualitative and/or quantitative/formal approaches to the representation and analysis of linguistic data	EN71075D Core Issues in English Language and Linguistics, EN71077C Analysing Discourse and Identity in Spoken Interaction, IS71130A Natural Language Processing, IS71068B Data Programming
C2	Demonstrate practical ability to apply a range of natural language processing techniques to a range of practical tasks	IS71130A Natural Language Processing, IS71068B Data Programming, IS71071B Machine Learning

<b>C3</b>	<b>Develop and demonstrate ability to plan and conduct a small-scale independent research project</b>	<b>EN71077C Analysing Discourse and Identity in Spoken Interaction, IS71130A Natural Language Processing, IS71071B Machine Learning, IS71068B Data Programming</b>
<b>C4</b>	<b>Develop the skills to present and communicate results of own research and analysis and articulate their key insights and contribution</b>	<b>EN71075D Core Issues in English Language and Linguistics , EN71077C Analysing Discourse and Identity in Spoken Interaction, <u>IS71130A Natural Language Processing</u>, <u>IS71071B Machine Learning</u>. <u>IS71068B Data Programming</u></b>

### Transferable skills (Elements)

<b>Code</b>	<b>Learning outcome</b>	<b>Taught by the following module(s)</b>
<b>D1</b>	<b>Develop the skills to communicate own ideas effectively</b>	<b>EN 71075D Core Issues in English Language and Linguistics, EN71077C Analysing Discourse and Identity in Spoken Interaction, <u>IS71130A Natural Language Processing</u>, <u>IS71071B Machine Learning</u>, <u>IS71068B Data Programming</u></b>
<b>D2</b>	<b>Hone a desire and ability to critically question ideas and concepts, engaging in reflective and independent thinking</b>	<b>EN71075D Core Issues in English Language and Linguistics, EN71077C Analysing Discourse and Identity in Spoken Interaction, <u>IS71130A Natural Language</u></b>

		<b>Processing, IS71071B Machine Learning</b>
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**Students who complete a Postgraduate Diploma (120 credits, no final project) will achieve the following learning outcomes:**

**Knowledge and understanding**

<b>Code</b>	<b>Learning outcome</b>	<b>Taught by the following module(s)</b>
<b>A1</b>	<b>Demonstrate knowledge and understanding of research into the structure and meaning of language, including the way they are shaped by language use and language change, as well the way they relate to shared social realities and categories of different language communities</b>	<b>EN71075D Core Issues in English Language and Linguistics, EN71077C Analysing Discourse and Identity in Spoken Interaction, EN71155B Corpus Linguistics, IS71130A Natural Language Processing</b>
<b>A2</b>	<b>Demonstrate knowledge and understanding of how manual and automatic methods are deployed in the analysis of spoken interactional data and written texts in order to gain better understanding of linguistic structure and meaning, as well as with respect to the identity of language users and the sociocultural conditions they reflect and shape</b>	<b>EN71077C Analysing Discourse and Identity in Spoken Interaction, IS71130A Natural Language Processing, EN71155B Corpus Linguistics</b>

<b>A3</b>	<b>Demonstrate knowledge and understanding of how linguistic meaning and structure are represented in formal and computational models and how a wide range of computational and statistical techniques can be used to analyse and process linguistic data</b>	<b>IS71071B Machine Learning, IS71130A Natural Language Processing, IS71068B Data Programming, EN71155B Corpus Linguistics</b>
<b>A4</b>	<b>Demonstrate knowledge and understanding of the main concepts and principles in the application of AI, machine learning and related techniques to language data</b>	<b>IS71071B Machine Learning, IS71130A Natural Language Processing, IS71068B Data Programming, EN71155B Corpus Linguistics</b>

### Cognitive and thinking skills

<b>Code</b>	<b>Learning outcome</b>	<b>Taught by the following module(s)</b>
<b>B1</b>	<b>Develop conceptual understanding and practical ability to analyse quantitative and qualitative data from the perspective of a range of theoretical and conceptual frameworks</b>	<b>IS71071B Machine Learning, EN71075D Core Issues in English Language and Linguistics, EN71077C Analysing Discourse and Identity in Spoken Interaction, EN71155B Corpus Linguistics, IS71130A Natural Language Processing</b>

<b>B2</b>	<b>Develop conceptual understanding and practical ability to relate mathematical and computational models and techniques to complex qualitative data, and to evaluate their advantages/disadvantages as analytical tools</b>	<b>IS71071B Machine Learning, <u>IS71130A Natural Language Processing</u></b>  <b>, EN71155B Corpus Linguistics</b>
<b>B3</b>	<b>Develop and demonstrate ability to synthesise and evaluate critically diverse and complex research findings and insights</b>	<b><u>IS71130A Natural Language Processing</u></b>  <b>, EN71075D Core Issues in English Language and Linguistics, EN71077C Analysing Discourse and Identity in Spoken Interaction, EN71155B Corpus Linguistics</b>  <b>, IS71071B Machine Learning</b>

### Subject specific skills and professional behaviours and attitudes

<b>Code</b>	<b>Learning outcome</b>	<b>Taught by the following module(s)</b>
<b>C1</b>	<b>Demonstrate conceptual understanding and practical ability to deploy both qualitative and/or quantitative/formal approaches to the representation and analysis of linguistic data</b>	<b>IS71130A Natural Language Processing, EN71075D Core Issues in English Language and Linguistics, EN71077C Analysing Discourse and Identity in Spoken Interaction, EN71155B Corpus Linguistics</b>



<b>C2</b>	<b>Demonstrate ability to apply a range of natural language processing techniques to a range of practical tasks</b>	<b>IS71130A Natural Language Processing, EN71155B Corpus Linguistics, IS71071B Machine Learning</b>
<b>C3</b>	<b>Demonstrate ability to plan and conduct an independent research project, including such that combine understanding of language and computation, matching the needs of an appropriate research question to the data and techniques of analysis that can address it</b>	<b>EN71077C Analysing Discourse and Identity in Spoken Interaction, <u>IS71130A Natural Language Processing</u>, EN71155B Corpus Linguistics, IS71071B Machine Learning</b>
<b>C4</b>	<b>Demonstrate ability to present and communicate results of their own research and analysis and articulate their key insights and contribution</b>	<b>IS71130A Natural Language Processing, IS71071B Machine Learning, EN71077C Analysing Discourse and Identity in Spoken Interaction, EN71155B Corpus Linguistics</b>

### Transferable skills (Elements)

<b>Code</b>	<b>Learning outcome</b>	<b>Taught by the following module(s)</b>
<b>D1</b>	<b>Develop and demonstrate ability to speak and write confidently about one's own capabilities, work and ideas and the confidence to share them with the world</b>	<b>EN71075D Core Issues in English Language and Linguistics, EN71077C Analysing Discourse and Identity in Spoken Interaction, <u>IS71130A Natural Language Processing</u></b>

		, EN71155B Corpus Linguistics
D2	Hone a desire to question ideas and concepts critically, engaging in reflective and independent thinking	EN71075D Core Issues in English Language and Linguistics, EN71077C Analysing Discourse and Identity in Spoken Interaction, <u>IS71130A Natural Language Processing</u>  , EN71155B Corpus Linguistics, IS71071B Machine Learning
D3	Build trust in own intuition and ability to use an interdisciplinary approach to find solutions to complex problems	EN71077C Analysing Discourse and Identity in Spoken Interaction, EN71155B Corpus Linguistics, <u>IS71130A Natural Language Processing</u>  , IS71071B Machine Learning
D4	Develop an awareness and ability to live and work ethically; desire to minimise negative impact on society and culture	EN71077C Analysing Discourse and Identity in Spoken Interaction, <u>IS71130A Natural Language Processing</u>  , EN71155B Corpus Linguistics, IS71071B Machine Learning
D5	Develop and demonstrate the capability to modify and adapt behaviours and approaches to better meet challenges	EN71077C Analysing Discourse and Identity in Spoken Interaction, EN71155B Corpus Linguistics, IS71130A Natural Language Processing, IS71071B Machine Learning

**In addition to the learning outcomes above, students who successfully complete the MSc will achieve the following learning outcomes:**

## Knowledge and understanding

Code	Learning outcome	Taught by the following module(s)
A1	Demonstrate deep knowledge and understanding of an area of computational linguistics emerging from a substantial independent project with theoretical and/or practical significance	IS71135B Final project

## Cognitive and thinking skills

Code	Learning outcome	Taught by the following module(s)
B1	Hone an ability to identify Independently an original research question in the area of computational linguistics with relevance to real-world applications	IS71135B Final project

## Subject specific skills and professional behaviours and attitudes

Code	Learning outcome	Taught by the following module(s)
C1	Hone an ability to plan and conduct an independent research project in the context of real-world needs including such that combine understanding of language and computation, matching the needs of an appropriate research question to the data and techniques of analysis that can address it	IS71135B Final project

## Transferable skills (Elements)

Code	Learning outcome	Taught by the following module(s)
D1	Demonstrate an ability and confidence to share one's own work and ideas with expert and/or general audiences	IS71135B Final project
D2	Build trust in own intuition and ability to use an interdisciplinary approach to find solutions to complex problems	IS71135B Final project

## Mode of study

The programme is available in full-time (12 months) and part-time (24 months) modes. All students take compulsory taught modules (90 credits) and optional taught modules (30 credits) and complete a final project (60 credits). Part-time students typically take some of the compulsory modules in their first year and the option modules in their second year of study. The final project is compulsory for all students. It is typically submitted in September, in the second year of study in the case of part-time students. Students choose their option modules from a list of modules made available by the Departments of Computing and English and Creative Writing.

## Programme structure

Module Name	Module Code	Credits	Level	Module Type	Term	PT
Core Issues in English Language and Linguistics	EN71075D	15	7	Compulsory	1	Y1

Analysing Discourse and Identity in Spoken Interaction	EN710077C	15	7	Compulsory	2	Y1
Data programming	IS71068B	15	7	Compulsory	1	Y1
Corpus Linguistics	EN71155B	15	7	Compulsory	1	Y2
Machine learning	IS71071B	15	7	Compulsory	1	Y2
Natural Language Processing	IS71130A	15	7	Compulsory	2	Y1
Modules from <u>an</u> approved list of option modules offered by the Departments of Computing and ECW		30	7	Option	2	Y2
Final project in Computational Linguistics	IS71135A	60	7	Compulsory	3	Y2

Flexible allocation of modules is possible in exceptional cases and with the approval of the Programme leadership team.

## Grading and marking criteria

80-100%	Distinction (exceptional/ outstanding)	Represents the overall achievement of the appropriate learning outcomes to an exceptionally accomplished or outstanding level. Marks in this category will be awarded for work of publishable quality which demonstrates conceptual mastery of the material within a highly original approach that may represent a significant contribution to debates within the field.
70-79%	Distinction	Represents the overall achievement of the appropriate learning outcomes to an excellent level. Marks in this category will be awarded for work which demonstrates excellent conceptual knowledge and understanding and/or excellent practical skills in the field; which puts forward a relevant and well-supported argument in response to a well-formulated research question with an appropriate scope and focus; which builds on an effective synthesis of prior research which is communicated with clarity and analytical vigour; which bears the hallmarks of independent and original thinking; and which communicates ideas and practical approaches with well-structured fluency and professional standards of execution.
60-69%	Merit	Represents the overall achievement of the appropriate learning outcomes to a very good level. Marks in this category will be awarded for work which demonstrates very good conceptual knowledge and understanding and/or very good practical skills in the field; which puts forward a relevant and mostly well-supported argument in response to a well-formulated research question; which builds on an effective synthesis of prior research which is mostly communicated with clarity and analytical vigour; and which mostly communicates ideas and practical approaches with very good structure and clarity.
50-59%	Pass	Represents the overall achievement of the appropriate learning outcomes to a threshold level. Work awarded a pass

		will demonstrate sound knowledge and understanding of its subject; it will put forward a relevant argument which may need some further support in some areas; it will show good familiarity with prior work in the field and adequate application of theoretical and practical skills; standards of presentation and communication would meet threshold expectations. Some of the qualities of first-class work may be found in this category but the difference will be of either degree or realisation.
30-49%	Fail	Represents an overall failure to achieve the appropriate learning outcomes.
10-29%	Bad Fail	Represents a significant overall failure to achieve the appropriate learning outcomes.
1-9%	Very Bad Fail	A submission that does not even attempt to address the specified learning outcomes.
0%	Non-Submission or plagiarised assessment	A categorical mark representing either the failure to submit an assessment or a mark assigned for a plagiarised assessment

## Academic support

Support for learning and wellbeing is provided in a number of ways by departments and College support services who work collaboratively to ensure students get the right help to reach their best potential both academically and personally.

All students are allocated a Personal Tutor (one in each department for joint programmes) who has overall responsibility for their individual progress and welfare. Personal Tutors meet with their student at least twice a year either face-to-face, as part of a group and/or electronically. The first meeting normally takes place within the first few weeks of the autumn term. Personal Tutors are also available to students throughout the year of study. These meetings aim to discuss progress on modules, discussion of the academic discipline and reports from previous years if available (for continuing students). This provides an opportunity for progress, attendance and assessment marks to be reviewed and an informed discussion to take place about how to strengthen individual learning and success.

All students are also allocated a Senior Tutor to enable them to speak to an experienced academic member of staff about any issues which are negatively impacting their academic study and which are beyond the normal scope of issues handled by Programme Convenors and Personal Tutors.

Students are provided with information about learning resources, the Library and information available on Learn.gold (VLE) so that they have access to department/ programme handbooks, programme information and support related information and guidance.

Taught sessions and lectures provide overviews of themes, which students are encouraged to complement with intensive reading for presentation and discussion with peers at seminars. Assessments build on lectures and seminars so students are expected to attend all taught sessions to build knowledge and their own understanding of their chosen discipline.

All assessed work is accompanied by some form of feedback to ensure that students' work is on the right track. It may come in a variety of forms ranging from written comments on a marked essay to oral and written feedback on developing projects and practice as they attend workshops.

Students may be referred to specialist student services by department staff or they may access support services independently. Information about support services is provided on the Goldsmiths website and for new students through new starter information and induction/Welcome Week. Any support recommendations that are made are agreed with the student and communicated to the department so that adjustments to learning and teaching are able to be implemented at a department level and students can be reassured that arrangements are in place. Opportunities are provided for students to review their support arrangements should their circumstances change. The Disability and Wellbeing Services maintain caseloads of students and provide on-going support. The Careers Service provides central support for skills enhancement, running The Gold Award scheme and other co-curricular activities that are accredited via the Higher Education Achievement Report (HEAR).



The Academic Skills Centre works with academic departments offering bespoke academic literacy sessions. It also provides a programme of academic skills workshops and one-to-one provision for students throughout the year.

## **Placement opportunities**

The programme's structure, in particular the final project and preparation for it, encourages student engagement with external organisations and provides networking opportunities to help students identify their preferred career path. In addition, we will engage with local employers and global organisations to develop partnerships and internship opportunities for students to further develop their professional skills and competencies.

## **Employability and potential career opportunities**

The MSc in Computational Linguistics develops analytic and critical skills, providing students with the skills and competencies needed to intelligently interrogate textual and qualitative data; to extract meaning from raw information; and to communicate the results of their investigations to stakeholders or other interested parties. These skills lead naturally to a variety of careers with employers from the technology sector, financial sector, biomedical research, the charitable and voluntary sector, and academic research. The skills and competencies developed by the programme include the ability to manage and process language data, to reflect on the insight and implications, and to develop empathy and awareness to communicate it effectively. These skills are highly desirable to prospective employers. The programme's structure, in particular the final project and preparation for it, encourages student engagement with external organisations and provides networking opportunities to guide students along their chosen career path. Our graduates will be challenged to confront the many ethical issues in AI and computational linguistics. In the modern era of data availability, it is vital that all participants involved in the acquisition and analysis of language data are aware of potential biases and the impact of their actions on privacy, anonymity, and personal security.

The program team will establish and maintain an Industrial Advisory Board including senior researchers and practitioners from the profession. This Board will provide advice on the professional aspects of the programme and review the curriculum to ensure that it meets the needs

of current and future employers. In addition, we will maintain links with local employers and organisations to develop partnerships and internship opportunities as part of the final project, where appropriate, for students to further develop their professional skills and competencies. We will also make extensive use of guest speakers throughout the program to provide varied professional perspectives. Combined with extensive practical experience gained via the final project module, this will provide immersion and insight into the professional aspects of working as a computational linguist or NLP (Natural Language Processing) engineer.

## **Programme-specific requirements**

**N/A**

## **Tuition fee costs**

STANDARD TEXT

## **Specific programme costs**

N/A