

# MA in Computational Linguistics

## Programme Specification

**Awarding Institution:**

University of London (Interim Exit Awards made by Goldsmiths' College)

**Teaching Institution:** Goldsmiths, University of London

**Final Award:** MA

**Programme Name:** MA in Computational Linguistics

**Total credit value for programme:** 180

**Name of Interim Exit Award(s):** Postgraduate Diploma in Computational Linguistics (120 credits), Postgraduate Certificate in Computational Linguistics (60 credits)

**Duration of Programme:** 1 year full-time; 2 years part-time

**UCAS Code(s):** N/A

**HECoS Code(s):** (CAH11-01-01) computer science

**QAA Benchmark Group;** n/a

**FHEQ Level of Award:** Level 7

**Programme accredited by:** Not applicable

**Date Programme Specification last updated/approved:** 2022/23

**Home Department:** English and Creative Writing

**Department(s) which will also be involved in teaching part of the programme:**

Department of Computing

### 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? 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 potential students with interests in language analysis and language technology to access the theoretical understanding and practical skills they would 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, it provides students 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. All students take modules that provide them with the 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 R), 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**

<b>Code</b>	<b>Learning outcome</b>	<b>Taught by the following module(s)</b>
<b>A1</b>	<b>Knowledge and understanding of research into the structure and meaning of language, including the way they are shaped by language use and language change</b>	<b>EN71075C</b>
<b>A2</b>	<b>Knowledge and understanding of the main concepts and principles of computing and the application of computing techniques to linguistic data</b>	<b>IS71058A (NLP), IS71068A (DP)</b>

**Cognitive and thinking skills**

<b>Code</b>	<b>Learning outcome</b>	<b>Taught by the following module(s)</b>
<b>B1</b>	<b>Ability to analyse quantitative and qualitative data from the perspective of a limited range of theoretical and conceptual frameworks</b>	<b>EN71075C, IS71058A, IS71068A</b>
<b>B2</b>	<b>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</b>	<b>IS71058A (NLP), IS71068A (DP)</b>
<b>B3</b>	<b>Ability to synthesise research findings and insights</b>	<b>EN71075C, IS71058A</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>Understanding and ability to deploy both qualitative and/or quantitative/formal approaches to the representation and analysis of linguistic data</b>	<b>EN71075C, IS71058A (NLP)</b>
<b>C2</b>	<b>Ability to apply a range of natural language processing techniques to a range of practical tasks</b>	<b>IS71058A (NLP), IS71068A (DP)</b>
<b>C3</b>	<b>Ability to plan and conduct a small-scale independent research project</b>	<b>EN71075C, IS71058A (NLP)</b>
<b>C4</b>	<b>Ability to present and communicate results of their own research and analysis and articulate their key insights and contribution</b>	<b>EN71075C, IS71058A (NLP)</b>

**Transferable skills (Elements)**

<b>Code</b>	<b>Learning outcome</b>	<b>Taught by the following module(s)</b>
<b>D1</b>	<b>Ability to communicate own ideas</b>	<b>EN71075C, IS71058A</b>
<b>D2</b>	<b>Desire to critically question ideas and concepts, engaging in reflective and independent thinking</b>	<b>EN71075C, IS71058A</b>

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>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>EN71075C, EN71076C, EN71077B, EN71078B, EN71079A, Corpus Linguistics, IS53036C</b>
<b>A2</b>	<b>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>EN71080A, EN71077B, EN71078B, IS5306C, Corpus Linguistics</b>
<b>A3</b>	<b>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>IS71058A, IS5306C, IS71058A, IS71068A, Corpus Linguistics</b>
<b>A4</b>	<b>Knowledge and understanding of the main concepts and principles in the application of AI, machine learning</b>	<b>IS53036C, IS71058A, IS71068A, Corpus Linguistics</b>

	and related techniques to language data	
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### Cognitive and thinking skills

Code	Learning outcome	Taught by the following module(s)
B1	Ability to analyse quantitative and qualitative data from the perspective of a range of theoretical and conceptual frameworks	IS53036C, EN71075C, EN71076C, EN71077B, EN71079A, EN71080A, Corpus Linguistics, IS71058A
B2	Ability to relate mathematical and computational models and techniques to complex qualitative data, and to evaluate their advantages/disadvantages as analytical tools	IS53036C, IS71058A , IS7107A, Corpus Linguistics
B3	Ability to synthesise diverse and complex research findings and insights	IS71058A, EN71075C, EN71076C , EN71077B, EN71079A, EN71080A, Corpus Linguistics, IS71058A

### Subject specific skills and professional behaviours and attitudes

Code	Learning outcome	Taught by the following module(s)
C1	Understanding and ability to deploy both qualitative and/or quantitative/formal approaches to the representation and analysis of linguistic data	IS53036C, EN71075C, EN71077B, EN71080A, Corpus Linguistics

<b>C2</b>	<b>Ability to apply a range of natural language processing techniques to a range of practical tasks</b>	<b>IS53036C, Corpus Linguistics</b>
<b>C3</b>	<b>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>EN71075C, EN71077B, EN71078B, EN71079A, EN71080A, IS71058A, Corpus Linguistics</b>
<b>C4</b>	<b>Ability to present and communicate results of their own research and analysis and articulate their key insights and contribution</b>	<b>IS71058A, EN71077B, EN71078B, EN71079A, EN71080A, 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>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>EN71075C, EN71076C, EN71077B, EN71078A, EN71079A, EN71080A, IS71058A, Corpus Linguistics</b>
<b>D2</b>	<b>Desire to critically question ideas and concepts, engaging in reflective and independent thinking</b>	<b>EN71075C, EN71076C, EN71077B, EN71078A, EN71079A, EN71080A IS71058A, Corpus Linguistics</b>

<b>D3</b>	<b>Trust in own intuition and ability to use an interdisciplinary approach to find solutions to complex problems</b>	<b>EN71077B, EN71078A, EN71079A, EN71080A, Corpus Linguistics, IS71058A, IS53036C</b>
<b>D4</b>	<b>Awareness and ability to live and work ethically; desire to minimise negative impact on society and culture</b>	<b>EN71076C, EN71077B, EN71078A, EN71079A, EN71080A, IS71058A, Corpus Linguistics, IS53036C, IS71058A</b>
<b>D5</b>	<b>The capability to modify and adapt behaviours and approaches to better meet challenges</b>	<b>EN71077B, EN71078A, EN71079A, EN71080A, Corpus Linguistics, IS53036C, IS71071A</b>

In addition to the learning outcomes above, students who successfully complete the MA 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>Deep knowledge and understanding of an area of computational linguistics emerging from a substantial independent project with theoretical and/or practical significance</b>	<b>Final project</b>

### **Cognitive and thinking skills**

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

**Transferable skills (Elements)**

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

**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). We strongly recommend that for their 30 credit option students choose EN71077B Discourse and Identity in Spoken Interaction which will equip students with the skills to transcribe and analyse the patterns of spontaneous conversation from various perspectives. Part-time students typically take 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

### Full-time mode

#### Academic year of study 1

Module Name	Module Code	Credits	Level	Module Type	Term
Core Issues of English Language and Linguistics	EN71075C	30	7	Compulsory	1
Data programming	IS71068A	15	7	Compulsory	1
Corpus Linguistics	TBD	15	7	Compulsory	1
Machine learning	IS71071A	15	7	Compulsory	2
Natural Language Processing	IS71058A	15	7	Compulsory	2
Modules from the approved list of option modules offered by the Departments of Computing and ECW	(See list below)	30		Option	1&2
Final project		60	7	Compulsory	3

Note: If a student has already recently successfully completed a previous linguistics or computing degree which contains modules offering content that largely overlaps with our linguistics or our computing compulsory modules (EN71075C or IS71058A or IS71068A), then the student can apply to replace either the linguistics or the computing compulsory modules with linguistics or computing option modules of equivalent credit. The student will need to specify which compulsory module(s) they wish to have replaced in their initial application. A transcript of the successfully completed previous relevant degree, as well as course outlines of the successfully completed relevant modules need to be submitted with the application in order to be considered by the admissions tutor(s). Such substitutions will only be permitted where the admission tutor(s) are satisfied that the required relevant learning outcomes will already have been met.

**Part-time mode**

**Academic year of study 1**

Module Name	Module Code	Credits	Level	Module Type	Term
Core Issues of English Language and Linguistics	EN71075	30	7	Compulsory	1
Data programming	IS71068A	15	7	Compulsory	1
Machine learning	IS71071A	15	7	Compulsory	2

**Academic year of study 2**

Module Name	Module Code	Credits	Level	Module Type	Term
Corpus Linguistics	TBD	15	7	Compulsory	1
Natural Language Processing	IS7105A	15	7	Compulsory	2
Modules from the approved list of option modules offered by the Departments of Computing and English and Creative Writing	(See list below)	30	7	Option	1&2
Final Project	TBD	60	7	Compulsory	3

**List of option modules currently available at the Departments of Computing and ECW**

The list below indicates the current approved option module provision at the Departments of Computing and Linguistics. Please note that some modules may not be available in a particular year owing to staffing constraints. Students may also choose up to 30 credits from Masters level modules taught by other departments in the college, where specifically approved by the Programme Co-ordinator.

Module Name	Module Code	Credits	Level	Module Type	Term
Data Science Research Topics	IS71058A	15	7	Option	tbc

Statistics and statistical data mining	IS71104A	15	7	Option	tbc
Big data analysis	IS71059B	15	7	Option	tbc
Data visualisation	IS71082B	15	7	Option	tbc
Artificial intelligence	IS53024B	15	7	Option	tbc
Neural networks	IS71040A	15	7	Option	tbc
The User Experience of Artificial Intelligence	IS71111A	15	7	Option	tbc
R Programming	IS71106A	15	7	Option	tbc
Introduction to Research Methods	IS71091A	15	7	Option	tbc
Interaction Science	IS71092B	15	7	Option	tbc
Discourse and identity in spoken interaction	EN71077 B	30	7	Option	tbc
Language & Ideology in Written Discourse	EN71080 A	30	7	Option	tbc
Language in its Sociocultural Context	EN71076 C	30	7	Option	tbc
Intercultural discourse and communication	EN71079 A	30	7	Option	tbc
English in a multilingual world	EN71078 B	30	7	Option	tbc

## 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.

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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 three 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

### **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 MA 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, and 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**

Not applicable

## **Tuition fee costs**

Information on tuition fee costs is available at: <https://www.gold.ac.uk/students/fee-support/>

**Specific programme costs**

Not applicable