21-22

DEGREE

MÁSTER UNIVERSITARIO EN TECNOLOGÍAS DEL LENGUAJE

CODE 310701

UNED

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INTRODUCTION

Language Technologies are all those computer technologies whose aim is human language. They were initially born as a branch of Artificial Intelligence with the aim of providing machines with the ability to process textual information and interact with their environment through the language of people themselves (Natural Language Processing). It is therefore an area with a strong interdisciplinary component (Computer Science, Logic, Maths, Cognitive Psychology, Linguistics, etc.).

Currently, Language Technologies are present in systems that we use in our daily life such as search engines, automatic translators, recommenders, conversational agents (chatbots), etc. They are also the technologies used by companies to adjust their advertising messages to our profile or to monitor the reputation of people and organizations on the web and social networks.

Therefore, it is a multidisciplinary specialty that requires a high technical knowledge both in computer science and in statistical models and machine learning. The objective of this Master's Degree is to provide students with this knowledge as well as to guide them in its practical application.

The UNED Master's Degree in Language Technologies is a demanding, research-oriented master's degree with an extensive final project (750 hours) under individualized supervision.

OBJECTIVES AND COMPETENCES

After finishing the master's studies, students must be able to undertake innovation and research work in "Language Technologies". Therefore, they should:

1. Know the research methodology: formulate research questions, generate hypotheses, use techniques and tools to develop new methods, as well as conduct experiments allowing hypotheses to be validated;

2. Contextualize the work in relation to other existing works, compiling and correctly referencing the bibliographic references. In particular, to be able to carry out studies of bibliographic synthesis autonomously, identifying the computable techniques and methods suitable for a given problem;

3. Abstract the process and the results obtained in the experimentation in order to propose new models and methods, as well as lines of future work;

4. have an advanced knowledge of the topics of the specialization line of the MsC. In particular, to know in detail the state of the art in Language Technologies;

5. Make solvent scientific presentations, to propose innovative solutions for current problems in line of research of Language Technologies, as well as to develop and evaluate those solutions according to scientific methodology

CAREER OPPORTUNITIES

All large technology companies working on the web and social networks need engineers trained in Language Technologies. Not only the best known ones because they belong to our daily environment (e.g. Google, Facebook, Twitter, Amazon) but also tourism, medical, banking, patent, advertising, online reputation, etc. because they all handle large amounts of textual information that people can no longer process without the help of computers. An expert in Language Technologies is a highly demanded profile to occupy jobs related to innovation and product development.

The study programme is based on the experience of close collaboration of the lecturers and proffesors staff with more than a dozen European and North American universities in the context, above all, of carrying out European R&D projects. From the perspective of the research profile of this programme, the activities, results and international presence of the faculty involved guarantee the validity and interest of the proposed programme.

Although this Master's degree is research-oriented (as opposed to other professional types), it offers interest for professional practice in innovative sectors, since most of the techniques studied in it have proven to be useful for solving problems of commercial interest, which is why an increasing number of computer service companies are looking for specialists in these subjects.

ACCESS PREREQUISITES

Admission Criteria

The criteria for the admission of students are three: academic training, average grade of the file and dedication. These criteria will be used to rank new applications until the quota established each year by the coordinating committee of the Master's degree is covered. For this reason, it is essential to indicate the average grade of the student's academic record when pre-registering.

As far as training is concerned, graduates in computer science will be preferenced.

Graduates from related careers, such as Telecommunications, Physics, Maths, etc., will also be admitted, although in this case the average grade of the file required will be higher than for computer science graduates. Knowledge of computers acquired outside the degree and in professional practice will also be valued.

In exceptional cases graduates from other careers will be admitted, who have a brilliant academic record and demonstrate sufficient knowledge of mathematics and computer science to study this master's degree.

Other requirements

Those interested in studying the Master's degree must have a sufficient reading level in English to understand technical content in that language.

Permanence requirements

According to the rules of permanence of the UNED's MsC, approved by agreement of the Governing Council of June 24th 2008, students of Masters with a teaching load of 60 ECTS credits (like this one) will have a period of permanence of four years, which must be understood as consecutive.

Requirements for access to the doctorate

This is a research-oriented master's degree that qualifies students for carrying out a PhD, provided that they certify 300 ECTS credits in their higher studies. However, admission to a doctoral program ultimately depends on the corresponding Doctoral Coordination Commission and not on that of this master's degree.

ADMISSION CRITERIA

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Students who meet the entrance requirements will send scans, at the time of pre-registration, of the documents accrediting their degree and those they consider relevant.

It will be essential to indicate the average mark of the academic file in the pre-registration.

If you are admitted, you will be asked for academic accreditation. When making the selection, the Master's Coordination Commission will take into account, under equal conditions, the order of pre-registration.

NUMBER OF NEW STUDENTS

The maximum number of students is 75 (including newly admitted students and students from previous years who have not completed the master's degree). However, in order to maintain the quality of the Master's programme, this number may be reduced by the Master's Coordination Commission. In any case, it should only be understood as a maximum number that should never be exceeded.

CURRICULUM

Subjects (6 credits each; annual; optional; choose five until completing 30 credits):

•Intelligent Access to Information

•Web Mining

•Probabilistic Methods

- Natural Language Processing
- Network-based techniques applied to Language Processing
- Web search engines
- Social Information Mining
- Data mining
- Text Mining
- Semantics and pragmatics on the Web.
- Neural Networks for Natural Language Processing.
- Representation of texts in vector and probabilistic spaces.

    Master's final dissertation: 30 ECTS, mandatory.

RULES

General

- RD 56/2005, de 21 de enero, por el que se regulan los Estudios Universitarios Oficiales de Posgrado
- RD 1393/2007, de 29 de octubre, por el que se establece la ordenación de las enseñanzas universitarias oficiales
- RD 43/2015, de 2 de febrero, por el que se modifica el Real Decreto 1393/2007, de 29 de octubre, por el que se establece la ordenación de las enseñanzas universitarias oficiales, y el Real Decreto 99/2011, de 28 de enero, por el que se regulan las enseñanzas oficiales de doctorado.
- Actualización de los procedimientos de organización y gestión académica de los Másteres Universitarios oficiales y Doctorado de la UNED, para su adaptación en lo dispuesto en el RD. 1393/2007.
- Normas y criterios generales de reconocimiento y transferencia de créditos para los másteres.
- RD 861/2010, de 2 de julio, por el que se modifica el Real Decreto 1393/2007, de 29 de octubre, por el que se establece la ordenación de las enseñanzas universitarias oficiales

Permanence in the MsC

- Normas de permanencia en estudios conducentes a títulos oficiales de la Universidad Nacional de Educación A Distancia

Master's final dissertation

- Regulación de los trabajos de fin de master en las enseñanzas conducente al título oficial de master de la UNED

PRACTICES

Each subject involves the development of practical work. The possibility of external practice is not been considered.

Likewise, obtaining the degree entails carrying out a Final Master's dissertation of 30 ECTS credits of a research practical nature. This work will have to be defended before a scientific panel appointed for this purpose.

Students must take this final work into account from the beginning of their studies, so that the coursework serves as a starting point for its completion.

It is recommended that students review the Course Guide before to carry out the final project, in which they will be able to find out in which research areas a project can be carried out and who the reference researchers are for carrying out a project in that area.

OFFICIAL DOCUMENTATION

In accordance with current legislation, all universities must submit their official degrees to a process of verification, monitoring and accreditation.

In the case of the UNED, the *Consejo de Universidades* receives the degree report and sends it to the ANECA for evaluation and issuance of the verification report. If the report is favorable, the *Consejo de Universidades* issues the verification resolution, and the *Ministerio de Educación* submits the proposal for the official nature of the degree to the Government, orders its inclusion in the *Registro de Universidades, Centros y Títulos* (RUCT) and its subsequent publication in the Boletín Oficial del Estado (BOE).

Official master's degrees must renew their accreditation within four years of their verification or from the date of their last accreditation, in order to check whether the results obtained are adequate to guarantee the continuity of their teaching. If they are adequate, the *Consejo de Universidades* issues a Resolution of the accreditation of the degree.

These resolutions and reports are set out in the Registro de Universidades, Centros y Títulos (RUCT).

VERIFICATION / MODIFICATION

•Memoria del título

•Informe de verificación de la ANECA

•Resolución de verificación del CU

•Informe/s de modificación del Plan de Estudios

•Inscripción del título en el Registro de Universidades, Centros y Títulos

•Publicación del Plan de Estudios en el BOE

TRACING

•Informe de seguimiento del título 2012

ACCREDITATION

•Informe de renovación de la acreditación 2015

- Resolución de acreditación del CU 2015
- Informe de renovación de la acreditación 2019
- Resolución de acreditación del CU 2019

INTERNAL QUALITY ASSURANCE SYSTEM FOR THE TITLE

The UNED has an Internal Quality Assurance System (SGIC-U) that covers all its official degrees, masters and doctorates, as well as the services it offers, the design of which was certified by ANECA.

The SGIC-U includes all the processes necessary to ensure the quality of its teaching staff, resources and services for students: access, admission and reception, external internships, mobility programmes, academic guidance and labour market integration, monitoring and evaluation of training results, attention to suggestions and complaints and the adequacy of support staff, among others.

Those responsible for the SGIC are:

- The Coordinating Commission of the Degree
- The Centre's Quality Assurance Committee
- The Computer Science Faculty
- The UNED Quality Assurance Commission

Through the statistical portal, the UNED provides information to the entire university community both on the results of training and on the results of satisfaction of the various groups involved.

Documents of the SGIC of the degree:

- Main results of performance
- Results of satisfaction of the different groups
- Quality Objectives of the Centre

Title coordinating committee

The Coordination Commission shall ensure the quality of the Master's. Its composition is as follows:

- Chairman: The Director of the School, **Rafael Martínez Tomás**
- Master's coordinator: **Victor Fresno Fernández**
- Academic secretary of the Master's: **Roberto Centeno Sánchez**
- Member of Administration and Services Staff linked to the academic management of the degree: **Lidia Segovia Orellana**
- A representant of students enrolled in the degree: **Juan Carlos Ruiz González**

PROFESSIONAL ATRRIBUTIONS

The Ministry of Education of Spain does not recognize professional attributions to any IT studio. Therefore, this MsC has no professional attributions recognized.

GENDER EQUALITY

Consistent with the assumed value of gender equality, all the denominations that in this Guide refer to single-person, representative, or members of the university community and are made in the masculine gender, when they have not been replaced by terms generic, shall be understood as interchangeably in female or male gender, depending on the sex of the holder who performs them.