



Universitat de Lleida

Master's degree self-assessment report
ASIIN (EUR-ACE®, Euro-Inf®)
2021

Polytechnic School

Approval date	Approved by
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Acronyms and Initialisms

	Significat	Significado	Meaning
ACUP	Associació Catalana d'Universitats Públiques	Asociación Catalana de Universidades Públicas	Catalan Association of Public Universities
ADE	Grau en Administració i Direcció d'Empreses	Grado en Administración y Dirección de Empresas	Bachelor's degree in Business Administration and Management
AQU	Agència per a la Qualitat del Sistema Universitari de Catalunya	Agencia para la Calidad del Sistema Universitario de Cataluña	Catalan University Quality Assurance Agency
BOE	Butlletí Oficial de l'Estat	Boletín Oficial del Estado	Official State Gazette
CAE	Comité d'Avaluació Extern	Comité de Evaluación Externo	External Evaluation Committee
CAI	Comité d'Avaluació Intern	Comité de Evaluación Interno	Internal Evaluation Committee
CAU	Comissió d'Avaluació de la Universitat	Comisión de Evaluación de la Universidad	University Evaluation Committee
CFGS	Cicle Formatiu de Grau Superior	Ciclo Formativo de Grado Superior	Higher education training cycle
CV	Campus virtual	Campus Virtual	Virtual Campus
EPS	Escola Politècnica Superior	Escuela Politècnica Superior	Polytechnic School
ETSEA	Escola Tècnica Superior d'Enginyeria Agrària	Escuela Técnica Superior de Ingeniería Agraria	School of Agrifood and Forestry Science and Engineering
GATE	Grau en Arquitectura Tècnica i Edificació	Grado en Arquitectura Técnica y Edificación	Bachelor's degree in Architectural Technology and Building Construction
GEEIA	Grau en Enginyeria Electrònica Industrial i Automàtica	Grado en Ingeniería Electrónica Industrial y Automática	Bachelor's degree in Automation and Industrial Electronic Engineering
GEES	Grau en Enginyeria de l'Energia i Sostenibilitat	Grado en Ingeniería de la Energía y Sostenibilidad	Bachelor's degree in Energy and Sustainability Engineering
GEI	Grau en Enginyeria Informàtica	Grado en Ingeniería Informática	Bachelor's degree in Computer Engineering
GEM	Grau en Enginyeria Mecànica	Grado en Ingeniería Mecánica	Bachelor's degree in Mechanical Engineering
HIDA	Hores impartides de docència a l'aula	Horas impartidas de docencia en el aula	Teaching hours taught in the classroom
INSPIRES	Institut Politècnic d'Innovació i Recerca en Sostenibilitat	Instituto Politécnico de Innovación e Investigación en Sostenibilidad	Polytechnic Institute of Research and Innovation in Sustainability
MEIND	Màster en Enginyeria Industrial	Máster en Ingeniería Industrial	Master's degree in Industrial Engineering
MEINF	Màster en Enginyeria Informàtica	Máster en Ingeniería Informática	Master's degree in Informatics Engineering
PAS	Personal d'Administració i Serveis	Personal de Administración y Servicios	Administration and Services Personnel
PAU	Proves d'Accès a la Universitat	Pruebas de Acceso a la Universidad	University Entrance Exams
PDI	Personal Docent i Investigador	Personal Docente e Investigador	Teaching and Research Staff
PTE	Pràctiques Tutelades en Empresa	Prácticas Tuteladas en Empresa	Internship
RUCT	Registre d'Universitats, Centres i Títols	Registro de Universidades, Centros y Títulos	Registry of Universities, Centres and Degrees



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	Significat	Significado	Meaning
SGIQ	Sistema de Garantia Interna de la Qualitat	Sistema de Garantía interna de la Calidad	Internal Quality Assurance System
EPI	Equip de protecció individual	Equipo de protección individual	Personal Protective Equipment
CIC	Consell Interuniversitari de Catalunya	Consejo Interuniversitario de Cataluña	Interuniversity Council of Catalonia
EEES	Espai Europeu d'Educació Superior	Espacio Europeo de Educación Superior	European Higher Education Area
MECES	Marc Espanyol de Qualificacions per a l'Educació Superior	Marco Español de Cualificaciones para la Educación Superior	Spanish Higher Education Qualifications Framework
TFG	Treball de Fi de Grau	Trabajo de Fin de Grado	Bachelor's thesis
TFM	Treball de Fi de Màster	Trabajo de Fin de Màster	Master's thesis



A) About the Accreditation Procedure

This report on the accreditation of the Master's Degree in Computer Engineering and the Master's Degree in Industrial Engineering of the Polytechnic School was drafted during the months of June and July 2021. This report is part of the Internal Phase of the accreditation process of EPS and consists of the following stages:

- Constitution of the Internal Evaluation Committee (CAI)
- Preparation of the Accreditation report and collection of evidence.
- Publication of the report.
- Report approvals.
- Submission of the report to ASIIN and access to the evidence.
- Preparation of the students' achievements corresponding to the subjects selected by the External Evaluation Committee (CAE).

This process begun on 06/02/2021 with a meeting to present the accreditation process, which was attended by the Centre's Management and the coordinators involved (0_01_EPS_Reunió accitacions 2021.pdf), where the guidelines for the drafting of the self-report and the work schedule were established (0_02_Cronograma.pdf).

On 06/17/2021, the date on which the Study Committee that acts as the School Quality Assurance Committee met, the Internal Evaluation Committee (CAI) of the accreditation process was set up (0_03_EPS_Acta 2021-06-17. pdf). It should be noted that the composition of the CAI guarantees the participation of all university groups (PDI, PAS and students) in the assessment of training programmes.

Regarding the accreditation process, specific meetings were held with the teaching staff, the students and the PAS to complete the Accreditation Report. Likewise, different university services were contacted (Library and Documentation Service, International Relations Office, Institute of Continuing Education and Training Sciences, etc.) in order to obtain specific information. Once all the information was collected, it was presented jointly, in the form of a report, to all members of the CAI. The evidence (0_04_EPS_Conv_CAI.pdf) contains the minutes of the CAI meeting where the draft report was presented prior to public exposure. It should be noted that all groups (PDI, PAS and students) are represented on this committee. Once the comments, evaluations and corrections of the committee were incorporated, a complete version was prepared, which was publicly exposed (0_05_EPS_ExPublica.pdf). Comments from all EPS groups have been received, and have been included in the report, which contains the supporting evidence.

As a consequence of the overall process, this self-assessment report has been drafted collaboratively. It can be seen that the sections regarding each degree have been drafted by each programme coordinator. This collaborative process reduces the uniformity among the sections, but enriches the contributions within the framework of each programme.

This report was initially written in Spanish. An automatic translation into English was subsequently carried out, followed by a linguistic revision.

Some of the evidence presented, such as samples of student work, has also been translated into English with automatic translation.



General data

Website of the Higher Education Institution	University of Lleida (UdL) http://udl.cat/ca/en/studies/poficials_eng/ http://udl.cat/ca/en/studies/studies_bycentres/
Faculty / Department offering the Degree Programme	Polytechnic School

Seals applied for

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for[1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2] (will be completed by ASIIN)
Máster en Ingeniería Industrial (MEIND)	Master's degree in Industrial Engineering	EUR-ACE®	ASIIN, 08.04.2016 - 30.09.2021	
Máster en Ingeniería Informática (MEINF)	Master's degree in Informatics Engineering	Euro-Inf®	ASIIN, 08.04.2016 - 30.09.2021	



B) Characteristics of the Degree Programme/s

a) Name	Final degree (original / English translation)	b) Areas of Specialization	c) Corresponding level of EQF [3]	d) Mode of Study	e) Double / Joint Degree	f) Duration	g) Credit points / unit	h) Intake rhythm & First time of offer
Máster en Ingeniería Industrial (MEIND)	Ingeniero Industrial/ Master's degree in Industrial Engineering		Level 7	Full time / time		4 semesters	120 ECTS	20 2014-15
Máster en Ingeniería Informática (MEINF)	Ingeniero Informático/ Master's degree in Informatics Engineering	. Enterprise Resource Planning Systems . Big Data Analytics . Video Game Development . Enterprise Integrated Projects	Level 7	Full time / part time		3 semesters	90 ECTS	20 2011-12



C) Self-assessment for the ASIIN-Seal

1. The Degree Programme: Concept, content & implementation

Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)

In Spain, Bachelor's and Master's degrees are regulated by Royal Decree RD 1393/2007, amended by RD 861/2010. Since the adaptation of the Spanish university system to the framework of the EHEA, the structure of university studies in Spain distinguishes between Bachelor's degrees (4 years of study, usually 240 ECTS) and Master's degrees (1-2 years, between 60 and 120 ECTS).

In addition, the Spanish Government establishes specific rules for the degrees of the so-called "regulated professions", as is the case of engineering. These professions have specific legislation that defines the skills that the student must acquire at the end of their studies:

Order CIN/351/2009, establishing the requirements for the verification of official university degrees that enable exercising the profession of Industrial Technical Engineer. This is the case of the GEM and GEEIA Bachelor's degrees. When designing the GEES curriculum, the indications of this order were followed. In this way, the content of the first and second years constitutes a common core between the three Bachelor's degrees. This allows the student to make the decision to choose one of the three degrees when s/he has more knowledge.

Order CIN/311/2009 establishing the requirements for the verification of official university degrees that enable exercising the profession of Industrial Engineer. This is the case of the MEInd (Master's degree in Industrial Engineering).

Resolution of June 8, 2009 establishing recommendations for official degrees in the fields of Computer Engineering (MEInf. Master's degree in Computer Engineering) and Computer Technical Engineering (GEI)

As indicated in the previous evaluation, the Polytechnic School began to work on adapting its teachings to the EHEA in 2007. To carry out this adaptation, it was necessary to detect the needs of all the parties involved, which required the participation of both social agents: companies, public and private institutions and Alumni (external agents) from each engineering sector, as well as from the different university groups, represented by the teaching staff, the Administration and Services Personnel (PAS) and the students (internal agents). It should be noted that in the search for external agents, the Social Council of the UdL played a crucial role, organizing different meetings with external agents.

This procedure followed the Master Plan for Teaching at the University of Lleida, approved by the University Governing Council on June 10, 2007. Likewise, given the complexity of the process of adaptation of the UdL degrees, the Teaching Planning Unit was created. The purpose of this Unit was to give support to the university community to carry out the adaptation of the UdL to the new EHEA framework, in accordance with current regulations and the policy of the Vice-Rectorate for Teaching of the UdL.

The first step in this procedure consisted of deciding which undergraduate degrees should be implemented in the EPS; To this end, a set of meetings / encounters with the different agents were set up in order to detect the training, economic and social needs of our environment. The internal agents prepared a proposal based on the availability of resources at the relevant Centre and the departments,



which was submitted to the external agents. This proposal consisted of the vertical deployment of the EPS with the aim of implementing long-term first-degree and second-cycle degrees (Master's degrees) in the three branches of engineering at the School (IT, Industrial and Building). Through a meeting for each engineering sector with external agents, this proposal was agreed upon and a major challenge was achieved, such as the support of society for the vertical development model proposed by the School.

All the evidence related to the process of preparing the study plans is listed by the code 1_02_EPS. The evidence presented is the composition of the committees for the preparation of the study plans, the minutes of the School Board, the agreements of the academic associations and decrees with requirements for the design of the study plans, the working documents prepared by the Ministry of Education and the Guidelines of the University of Lleida, the White Papers of the different degrees, the surveys carried out on social agents concerning the design of competences, the results of these surveys and the list of social agents who participated in the process.

The Degree Map project proposed replacing each of the existing technical engineering degree with a new degree. This proposal culminated in the approval of the Degree Map of the Polytechnic School:

- Degree in Computer Engineering
- Degree in Building Engineering
- Degree in Electronic, Industrial and Automatic Engineering
- Degree in Mechanical Engineering

Once the reports of the degrees were finalized, the School proceeded to start the process of implementing the two master's degrees currently taught at the School: Master's degree in Industrial Engineering and Master's degree in Computer Engineering.

For the design of the study plans, three phases were established with the participation of various agents:

- Definition of competences: Internal and external agents
- Preparation and approval of study plans: Internal agents prepare the proposal, consult external agents and they agree. Approval will be granted by the governing bodies of the school: Study Committees and the Centre and University Board: Governing Council.
- Preparation and approval of reports: The reports will be prepared by the management team of the Centre and will be approved by the governing bodies of the School: Study Committee and Centre Board.

To define the competences of each degree, the following were considered:

1. The competences defined in the royal decrees regulating the engineering professions.
2. The transversal competences that each University and School may define. As a result of the collaboration of the different groups, the list of Transversal Competences of the Polytechnic School was drawn up. This list would be the reference for the preparation of future study plans for bachelor's and master's degrees and would complement the strategic competences of the University of Lleida and those specific to each degree. The strategic competences of the EPS were approved by the Plenary Committee of the Degrees in Industrial Engineering, Computer Engineering and Building Engineering on 16 June 2008.

It must be said that in the three fields of study, Industrial, Computer Science and Technical Architecture,



monitoring committees were established, basically channelled through professional associations that meet with the main objective of monitoring the development of the degrees, as well as how to generate initiatives that improve them. As a result of these committees, the Awards for the Best Academic Record and the Award for the Best Bachelor's Degree and Master's Degree Final Projects of each degree are awarded.

The implementation of the Master's Degree in Industrial Engineering was the culmination of a very old demand of the professional sector of Industrial Engineering in our environment. It should be noted that until 2010, the start date of these new master's degree studies, students from Lleida who wanted to continue their studies in Industrial Engineering had to travel to Barcelona, Terrassa or Zaragoza to study the second cycle, which caused a great lack of qualified professionals in the Industrial Engineering sector. This caused the professional sector, channelled by the Association of Industrial Engineers of Catalonia (Lleida area), to firmly support the implementation of these studies and actively participate both in the preparation of the study plan, and in the subsequent implementation process.

Regarding the Master's Degree in Computer Engineering, work began a year later, given that the School already taught Second-cycle Computer Engineering studies. Following the same criteria used with the Master's Degree in Industrial Engineering, a committee was set up in which a representative of the Association of Information Technology Companies of Lleida (AETI) participated, considering the strong roots that this association has in Lleida and that it represents the vast majority of companies in the city's ICT sector.

MASTER'S DEGREE IN INDUSTRIAL ENGINEERING

The objectives, competences and learning outcomes of the Master's Degree in Industrial Engineering (MEIND) are set out in the report of the degree reviewed periodically and verified by external evaluation committees. Also, as it is an approved official degree, its structure can be consulted in the register of Universities, Centres and Degrees (RUCT) (<https://www.educacion.gob.es/ruct/home>) of the Ministry of Education with the code 4314785. The publication in the DOGC was made in ORDER ECO/83/2015, of 27 March (<https://dogc.gencat.cat/ca/document-del-dogc/?documentId=691547>) with the code 4312290. In addition, to facilitate access to such information, it is also included on the master's degree website, which is continually updated and fully accessible (<http://www.masterindustrial.udl.cat/en/>).

The design of the MEIND respects the guidelines established in Royal Decree 1393/2007, of 29 October, which establishes the organization of official university education, and the ORDER CIN/311/2009, of 9 February, which establishes the requirements for the verification of official university degrees that entitle exercising the profession of Industrial Engineer.

For the implementation of the objectives and learning outcomes of the degree, an internal committee approved by the School Centre Board (EPS) was set up, which took place on 20 December 2007 (Minutes No. 61). This committee was represented by all the groups involved in the university together with the participation of different social agents representing the industrial sector, professional associations, companies and professionals, which are listed in chapter 2.4 of the degree report.

The objectives were defined so that in addition to acquiring knowledge and knowing how to apply it, students acquire professional skills and abilities in accordance with the current law that regulates it. The participation of the different groups involved was key to developing a study structure in accordance with the title of the degree, reaching the highest levels of excellence.

The objectives of the programme perfectly summarize the training profile of an industrial engineer. They are correctly founded and are represented by the competences assigned in each of the subjects that make up the learning modules. These competences have been classified into different types according to



whether they are basic, transversal or specific. The teaching guides of the subjects very clearly specify the objectives, competences and expected results. Their information is updated and synchronized according to the degree report, likewise, they are periodically reviewed at the beginning and end of each academic year.

The objectives and learning outcomes that are specified in the degree, are feasible and fully coincide in their actual implementation. In addition, they are in accordance with the learning criteria described in the respective Subject-Specific Criteria ASIIN (SSC), and guarantee the capacities to practise in professional activities related to the master's degree.

MASTER'S DEGREE IN COMPUTER ENGINEERING

The objectives, competences and learning outcomes of the Master's Degree in Computer Engineering are included in the degree report, periodically reviewed and updated, and verified by external evaluation committees. Like all approved official degrees, the relevant information can be consulted in the Registry of Universities, Centres and Degrees (RUCT) (<https://www.educacion.gob.es/ruct/home>) of the Ministry of Science, Innovation and Universities. In this record it contains the code: 4312823. The authorization for its teaching was published in the DOGC with order ECO/96/2013, of 21 May 2013 (<http://portaldogc.gencat.cat/utillsEADOP/PDF/6388/1302915.pdf>) and in the BOE of 8 February 2013 (<https://www.boe.es/boe/dias/2013/02/08/pdfs/BOE-A-2013-1334.pdf>). The verification of the study plan was published in the BOE of 17 December 2015 (<https://www.boe.es/boe/dias/2015/12/17/pdfs/BOE-A-2015-13762.pdf>).

At the meeting of the School Board (EPS), which took place on 20 December 2007 (Minutes No. 61), a committee was set up to prepare a master's degree proposal for each of the EPS teaching branches: computer science, industrial engineering, and construction. This committee was made up of representatives of the groups involved in the university together with different social agents of the sector: associations, companies and professionals. This committee prepared the study plan for the Master's Degree in Computer Engineering in accordance with the guidelines of the Resolution of 8 June 2009, of the General Secretariat of Universities, defining the modules and subjects and assigning the competences to each of the subjects that constitute the master's degree.

Finally, the study plan for the Master's Degree in Computer Engineering was approved by the EPS Centre Board, held on 23 December 2010 at the Polytechnic School of the University of Lleida.

The learning objectives of the master's degree have been designed to allow students to acquire the knowledge and professional skills required by law, as well as those that allow quality professional performance. The contribution resulting from the participation of all the groups involved played a key role, and continues to do so, in order that the master's degree structure enjoys levels of excellence in line with what society expects.

The objectives of the degree have been designed so that the master's degree graduate has a training profile in accordance with what is expected of a Computer Science Engineer. These objectives are met and achieved as learning outcomes in the different subjects that make up the modules that structure the master's degree. These competences are grouped into various kinds: basic, transversal or specific, according to their particularities and scope. The teaching guides of the subjects serve to map these competences to achieve the objectives and results of the degree. The binding nature of these guidelines, which are periodically updated and reviewed prior to the beginning of the academic year, in synchrony with the degree report, serves as a basic tool that shapes the master's degree.



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The design of the curriculum, as well as its implementation, which follows the learning objectives and outcomes specified in the programme report, is feasible and in accordance with the learning criteria described in the respective Subject-Specific Criteria ASIIN (SSC). These objectives guarantee the capacity to exercise professional activities related to the degree.



Criterion 1.2 Name of the degree programme

MASTER'S DEGREE IN INDUSTRIAL ENGINEERING

The name of the degree is appropriate based on the training profile, structure and defined content. The name has always been in accordance with the learning outcomes and has been maintained since it was approved by the Council of Ministers on 29 January 2009 (BOE No. 25, page 9885). Later, Order CIN/311/2009, of 9 February establishes the requirements for the verification of official university degrees that enable exercising the profession of Industrial Engineer. The changes made to the degree so far, all non-substantial, described in Criterion 1.3 of this report, do not generate any type of disagreement with the initial training objectives and competences. The correct adaptation of the title name remains in force.

MASTER'S DEGREE IN COMPUTER ENGINEERING

The name of the master's degree programme is appropriate to the training profile, structure and defined content. Such denomination has always been in accordance with the specifications established in the Resolution of 8 June 2009, of the General Secretariat of Universities, publicizing the Agreement of the Council of Universities, which regulates degrees in the field of Computer Engineering. The name of the Master's Degree in Computer Engineering complies with Section 1.1 of Annex I for degrees that qualify for the profession of Computer Engineer.

The changes made to the degree so far, non-substantial and substantial, described in Criterion 1.3 of this report, do not generate any type of disagreement with the initial competences and training objectives. The correct adaptation of the title name remains in force.



Criterion 1.3 Curriculum

MASTER'S DEGREE IN INDUSTRIAL ENGINEERING

The MEIND study plan consists of 120 ECTS, taken over 2 academic years, with 30 ECTS per semester, where 78 ECTS are core/compulsory subjects, and 24 are elective ECTS. Among the elective subjects, 12 ECTS correspond to levelling courses according to the access degree of each student, while the remaining 12 are grouped into 5 blocks of various topics. Finally, 18 ECTS are established for the Master's Degree Final Project. Criterion 2.1 details its structure and modules.

The design of the degree was positively verified by ASIIN on 8 April 2016. The verification committee resolved that the study plan was consistent with the competence profiles and the objectives of the degree, allowing the proper development of skills.

Subsequently, on 28 July 2020, the Catalan University Quality Assurance Agency, issued a favourable result for the evaluation of the accreditation proposal of the study plan that leads to the official University master's degree in Industrial Engineering. In its report, most of the points for improvement were related to ensuring the achievement of the same competence profile and the temporality in the acquisition of competences between students in dual training and students in traditional training. For this reason, the centre's management has already drawn up its own Dual Training Methodological Framework because there is still no official regulation on this topic.

Since the last accreditation by ASIIN, the entire structure, objectives and competences of the master's degree have been maintained, only 4 non-substantial changes have been made that have not affected the profile of competences or the planned objectives, on the contrary, they have been actively implemented, improving the natural functioning of the degree. The correspondence between the validated report and its actual delivery is total, not only in the non-substantial changes made but in the entire structure of the study plan defined from the beginning of the degree.

The information on the objectives of the degree, competences and structure of the study plan, detailing the different training modules and teaching guides for each subject, is available and updated, and is accessible to the general public on the degree website (<http://www.masterindustrial.udl.cat/es/>). Likewise, all non-substantial changes have always been introduced in the degree report, updated in the informative channels of the centre, and have been successfully implemented in the academic years following their approval by the Study Committee and subsequent ratification by the Governing Council of the UdL. The modifications that have occurred since the last verification of the degree by ASIIN are detailed below. All of them are non-substantial:

- 15/16 academic year. Non-substantial modification approved by the Governing Council of the UdL on 06/2016 (agreement 158/2016). *Creation of a new elective line.*
 - The opening of this elective line consists of two subjects of 6 ECTS each. These subjects will be offered in the second semester (S2) of the second year (AY2). These subjects are called Enterprise Projects I and Enterprise Projects II.
- 15/16 academic year. Non-substantial modification approved by the Governing Council of the UdL in 06/2016 (agreement 158/2016). *Incorporation of a new evaluation system*
 - The evaluation system of the Dual Training Learning notebook is incorporated, and it will be applied to students who take the Enterprise Projects subjects, in the dual training modality.
- 15/16 academic year. Non-substantial modification approved by the Governing Council of the



UdL in 06/2016 (agreement 158/2016). *Semester allocation.*

- A semester correction of the Industrial Organization II subject is indicated, the purpose being that what is indicated in the report should truly reflect the subject planning without any inconsistencies. The subject of Industrial Organization II is taught in the first year, second semester, and not in the second year, second semester, as wrongly indicated in the subject sheet.
- 21/22 academic year. Non-substantial modification approved by the Governing Council of the UdL on 02/2021 (agreement 18/2021). *New competence.*

Introduce the new transversal competence “Apply the gender perspective to the tasks of the professional field”. This competence has been assigned to the subject Control, Certifications and Auditing of the basic training of the degree. The learning outcomes have been extended to include the following:

Know how to approach the assigned projects and research work integrating variables of sex and gender.

This competence is included in order to comply with the requirement of the AQU to assess the implementation of the gender perspective.

Regarding the gender perspective, apart from the incorporation of a new competence, equality measures are being promoted in the writing and content of the teaching guides and presentation and follow-up materials of the degree by viewing bibliographic material written by women and the use of inclusive, non-discriminatory language.

MASTER'S DEGREE IN COMPUTER ENGINEERING

The structure of the programme of the Master's Degree in Computer Engineering at the Polytechnic School of the University of Lleida is the result of integrating the guidelines established in Royal Decree 861/2010, of 2 July which modifies RD 1393/2007, of 29 October which establishes the organization of official university teachings, with the recommendations of the Council of Universities for the proposal by the Universities of Reports Applicable to Official Degrees in the field of Computer Engineering (8 June 2009).

The Master's degree curriculum is structured into 90 ECTS, taken over two years, the first year of 60 ECTS and the second of 30 ECTS. This study plan is divided into four modules, and these are organized, in turn, into subjects.

These subjects have been defined according to the competences that a Computer Engineer must possess. Criterion 2.1 sets out the structure and modules of the master's degree. The degree was positively verified by ASIIN on 8 April 2016. This verification proved that the study plan met the qualification's profile of competences and objectives.

Despite not modifying the study plan or the competence profile, the content of the subjects has been adjusted, logically, to the reality of the market and to technological and scientific advances, more obviously in elective subjects closer to the state of the art (such as Big Data, etc.).

Since the last accreditation, non-substantial changes have been made to the structure of the master's degree, that have not affected the competences or the objectives described in the report.



Detailed information on the objectives, competences and structure of the degree's study plan is publicly available, fully up-to-date, on the degree's website: www.masterinformatica.udl.cat. In addition, all the changes implemented are set out in the degree report, as well as being disseminated via the information channels of the centre, and have been implemented in the courses following their approval by the relevant bodies (Study Committee and subsequent ratification by the UdL Governing Council).

The modifications that have occurred since the last verification of the degree by ASIIN:

- 2017/18. Non-substantial modification. Approved by the Governing Council of the UdL on 30 March 2017. Inclusion of new optional subjects: Enterprise Integrated Projects (Dual).

- 2017/18. Substantial modification. Approved by AQU on 12 June 2017. Introduction of a new speciality: Enterprise Integrated Projects.

The new speciality, covered by the subject of Enterprise Integrated Projects (18 ECTS), allows the student to study this speciality through the dual training modality, based on the principle of complementarity of learning in an academic environment and in a professional environment. This training modality is carried out alternating between the University and the company, and the student will be integrated into the business organization, participating in the design, management and development of real projects in the company. This is divided into three courses:

- Enterprise Projects 1
- Enterprise Projects 2
- Enterprise Projects 3

This training offer directly involves companies in the ICT sector in the economic and business environment of the region. Students taking this complete speciality will obtain a mention in the name of the degree.

- 2021/22. Non-substantial modification. Approved by the Governing Council of the UdL on 22 April 2021 (agreement 65/2021). Introduce the new transversal competence "Apply the gender perspective to the tasks of the professional field".

This competence has been assigned to the subject Technological Business Management and Entrepreneurship of the basic subjects of the degree, since it is the one that best fits its content. This subject already included as competence: CG9. Ability to understand and apply ethical responsibility, legislation and professional deontology in the activity of the profession of Computer Engineering.

It provides students with competences directly related to managerial skills, human resources management and product and/or business design, making it the ideal place to include the gender perspective in these competences.

Regarding the gender perspective, apart from the incorporation of a new competence, equality measures have been incorporated in the writing and content of the teaching guides and presentation materials, equitable visual content in gender and inclusive, non-discriminatory language. The effort made regarding gender perspective in recent years is positively valued and is expected to have an effective impact on the social and inclusive training of students and therefore on society.



Criterion 1.4 Admission requirements

MASTER'S DEGREE IN INDUSTRIAL ENGINEERING

Pre-registration and enrolment instructions are defined in the Academic regulations for official university master's degree studies of the UdL, which are updated in each academic year and approved by the Governing Council. Likewise, on the master's degree website (<http://www.masterindustrial.udl.cat/en/futurs-estudiants/acces-admissio/>), as it is a regulated profession, the general criteria for admission to the MEIND, the necessary training complements according to the access qualification, the EPS-UdL admission criteria, and additional information such as the pre-registration regulations are described. Moreover, and with the aim of achieving greater dissemination, this website has been developed in three languages: Spanish, Catalan and English.

The evolution of the number of new students varied somewhat over the years. While in some years there is more demand than supply of the 20 available places, as in the 16/17 academic year with 27 students and as expected for the 21/22 academic year, in other years, such as 17/18 and 19/20, the number of new students was among the lowest, specifically 12 students, reaching, e., 60% of the supply. Thus, the percentage demand varies from 60% to 130%.

If data of provenance is analysed, it can be seen that most students basically come from the university itself. This is because this master's degree is heavily regulated, which means that universities have little room for manoeuvre to establish relevant differentiations between them. Furthermore, it is offered by most of the Catalan and state universities, which makes it difficult to attract students from other origins. If the few students who have enrolled in this master's degree from other universities are analysed, it can be seen that they are students from the area who have completed a degree that is not offered by the UdL and return to take the master's degree at home, or students not born in the area, who have completed an industrial engineering degree at another university, but for work reasons, have settled in the surroundings of Lleida, and wish to extend their training by taking a master's degree at the UdL.

Despite the above, the UdL master's degree in Industrial Engineering has managed to distinguish itself from other universities, through its dual-modality training. This attracts some foreign students, including from South American countries, since they consider it as an economic means for their maintenance. However, since this master's degree trains for the regulated profession of industrial engineer, the requirement to homologate the student's degree in Spain prior to enrolment makes their enrolment to the master's degree practically unfeasible. In order to overcome this situation, double international degree programmes have been established so that students can obtain a Spanish degree which provides access to the master's degree programme.

Finally, it should be noted that the name "Industrial Engineer" in Spain differs from its use in the rest of the world. The profession of "Industrial Engineer" in Spain is a regulated profession, and professionals are capacitated to sign projects. In addition, it aims at expanding engineering skills in different fields. It differs in concept, knowledge and skills from the title of "Industrial Engineer" in other countries, which focus rather on management.

Regarding the gender of the students, the proportion of women enrolled in the Master's Degree in Industrial Engineering is less than 10% and therefore lower than the average of the pattern of Industrial Engineering degrees of the university. In order to improve this percentage, in the latest edition two former female students were included among the speakers of the master's degree presentation sessions in order to incorporate their vision of the interest of said training. A series of specific activities to promote the master's degree have also been planned in the degrees with the highest percentage of women, such as the Degree in Chemical Engineering offered in Igualada, in order to increase the



proportion of women on the master's degree.

MASTER'S DEGREE IN COMPUTER ENGINEERING

Admission profiles and access routes to master's degree studies, including the ones for this 'master's degree, are set out in the Academic regulations for official university master's degree studies of the UdL, approved by the Governing Council of the UdL. Admission profiles and access routes are available on the web (<http://www.masterinformatica.udl.cat/en/futurs-estudiants/acces-admissio/>) in three languages: Spanish, Catalan and English.

Since the 17/18 academic year, the number of students enrolled in the master's degree has remained at between 15 and 20 (the maximum number of possible entrants is 20 students since there are 20 places), except in the 20/21 academic year, when the number admitted was very low, with only 9 admitted students, still pending analysis of the effect of Covid19 on student access.

Of the students of the master's degree, except for this last year, there has been a slight rise in the number of students from the UdL itself, rising from 12 to 16 between 17/18 and 19/20, until a decrease to 3 for the 20/21 academic year.

Regarding international students, the number ranges between 1 and 6 each year, indeed with 6 this last year 6 (surpassing the number of students from the UdL itself). The presence of these international students greatly enriches the teaching experience since, language aside, the vision and background, both technical and personal, of the students is very varied.

With regard to the gender of the students, the proportion of women enrolled in the master's degree in Computer Engineering follows the same pattern as in the bachelor's degree in Computer Engineering, since, naturally, the origin of master's degree students is the studies of their previous degree, either at the UdL or at another university. The proportion thus remains at around 10% of female students.



2. The Degree Programme: Structures, Methods & Implementation

Criterion 2.1 Structure and modules

MASTER'S DEGREE IN INDUSTRIAL ENGINEERING

The Master's Degree in Industrial Engineering consists of 120 ECTS, taken over 4 semesters, of 30 ECTS each. The study plan is divided into 5 modules, and these are organized, in turn, into subjects. These subjects have been defined taking into account the competences and objectives described for the master's degree, which in turn determine the contents to be taught and their corresponding training activities and assessment systems.

The following table shows the modules that make up the study plan, together with their corresponding ECTS.

MASTER'S DEGREE STRUCTURE	CREDITS
Industrial technology module (I)	36
Installations, plants and complementary constructions module (II)	18
Management module (III)	24
Optional training module (IV)	24
Master's thesis module (V)	18
TOTAL CREDITS	120

All the modules listed in the previous table are compulsory.

The subjects that make up these modules of the curriculum, along with their distribution per semester, as well as the associated ECTS, are shown in the following tables, depending on whether they are taught in the first year or in the second year.

FIRST YEAR

SUBJECT	MODULE	SEMESTER	CREDITS
Generation and Distribution of Energy	I	1	6
Unit Operations of Chemical Processes	I	1	6
Electrical Installations and HVAC Systems	II	1	6
Industrial Organization 1	III	1	6
Elective 1	IV	1	6
Advanced Manufacturing Systems	I	2	6
Machine Design and Testing 1	I	2	6
Industrial Structures 1	II	2	6
Industrial Organization 2	III	2	6
Elective 2	IV	2	6

It should be noted that the subjects that make up electives 1 and 2 are directed since they are established according to the degree in Industrial Engineering that a student has taken before joining the master's degree programme.



DIRECTED ELECTIVES

OPTION 1
Structural and Mechanical Analysis
Systems Engineering

OPTION 2
Thermohydraulics
Feedback Control

SECOND YEAR

SUBJECT	MODULE	SEMESTER	CREDITS
Thermal and Hydraulic Machines	I	1	6
Electronics and Control Systems Design	I	1	6
Control, Certifications and Auditing	II	1	6
Business Administration and Organizational Structures	III	1	6
Project and Human Resources Management	III	1	6
Elective 3	IV	2	6
Elective 4	IV	2	6
Master Thesis	V	2	18

Up to 5 different groups of optional subjects have been established, in order to integrate the different training possibilities that may appear. Thus, the Mobility group is for integrating mobility students, the Business Projects group is aimed at students doing dual modality training, while energy systems, mechanical systems and control systems are for students who study the master's degree in ordinary training.

Energy systems
Electric machinery in industry
Analysis of industrial thermal equipment

Mechanical systems
Design of metal structures
CAE studies of machine elements

Control systems
Industrial instrumentation
Dynamic and control systems

Enterprise projects (dual training)
Enterprise projects I
Enterprise projects II

Mobility
Mobility I



Mobility II

Finally, the master's degree includes the completion of a compulsory Master's Degree Thesis (TFM), regulated by the regulations approved by the School Board of 12/23/2010 and updated on 10/29/20 (<http://www.eps.udl.cat/ca/informacio-academica/document-informacio-academica/Reglament-dels-Treballs-de-Final-de-Grau-TFG-i-Master-TFM-de-IEPS/>).

MASTER'S DEGREE IN COMPUTER ENGINEERING

The Master's Degree in Computer Engineering consists of 90 ECTS, taken over 3 semesters, of 30 ECTS each. The study plan is divided into four modules, and these are organized, in turn, into subjects.

These subjects have been defined according to the competences and objectives described for the master's degree, which in turn determine the contents to be taught and their corresponding training activities and assessment systems. The following table shows the modules that make up the study plan, together with their corresponding ECTS.

Denomination	Character	ECTS
MANAGEMENT MODULE	Compulsory	13.5
INFORMATION TECHNOLOGIES MODULE	Compulsory	40.5
	Specialty	18
OPTIONAL SUBJECTS MODULE	Optional	6
MASTER THESIS	Compulsory	12
	Total ECTS	90

All the modules listed in the previous table are compulsory.

The subjects that make up these modules of the proposed study plan, together with the ECTS associated with them, are shown in the following table:

MODULE			SUBJECT	
NAME	Car.	ECTS	NAME	ECTS
MANAGEMENT MODULE		13.5	IT Project Management	7.5
	OBLI		Technological Business Management and Entrepreneurship	6
INFORMATION TECHNOLOGIES MODULE		40.5	ICT Project: Development and Implementation	9
			ICT Project: Communication Services and Security	9
			Evaluation Techniques and Usability Testing	4.5
	OBLI		Embedded and Ubiquitous Systems	4.5
			High Performance Computing	4.5
			Computer Graphics and Multimedia	4.5



	ESP	18	Intelligent Systems	4.5
			Enterprise Resource Planning Systems	18
			Big Data Analytics	18
			Video Game Development	18
			Enterprise Integrated Projects	18
			Mobility in Computer Technologies	18
OPTIONAL TRAINING MODULE	OPT	6	Business practice	6
			Research	6
			Optional Add-ons	6
			Mobility	6
MASTER'S DEGREE THESIS	OBLI	12	MASTER'S DEGREE THESIS	12

The distribution per semester of the subjects that make up the modules, together with the ECTS associated with them, is shown in the following table:

Ac. year 1 - Semester 1	ECTS	Ac. year 1 - Semester 2	ECTS
IT Project Management	7.5	Evaluation Techniques and Usability Testing	4.5
Computer Graphics and Multimedia	4.5	High Performance Computing	4.5
ICT Project: Development and Implementation	9	ICT Project: Communication Services and Security	9
Embedded and Ubiquitous Systems	4.5	Technological Business management	6
Intelligent Systems	4.5	Entrepreneurship	6
TOTAL ECTS	30	Specialty course	6
		TOTAL ECTS	30
Ac. year 2 - Semester 1	ECTS		
Optional Subjects Module	6		
Specialty courses	12		
Master Thesis	12		
TOTAL ECTS	30		
TOTAL ECTS of the MASTER'S DEGREE		90	

From this proposed Curriculum, it should be noted that students must take all the compulsory subjects, and must take 18 ECTS corresponding to speciality subjects offered in the Information Technology module and an additional subject from the optional training module. Students taking the 18 ECTS credits entirely in one of the following blocks: a) Big Data Analytics, b) Enterprise Resource Planning Systems, c) Video Game Development, d) Enterprise Integrated Projects, will obtain a mention in their degree of



the speciality in question.

Likewise, the aforementioned proposed study plan includes an Optional Subjects Module of 6 ECTS. It should be noted that each of the subjects in this optional training module has different characteristics:

- On the one hand, the subject of In-Company Internships (6 ECTS) aims for the student to reinforce their teaching curriculum through in an internship in a company.
- The optional Research course (6 ECTS) is aimed at students who wish to continue their postgraduate studies with the completion of a Doctoral Thesis. In accordance with this objective, the student must carry out specific training in the research group where they wish to carry out their Doctoral Thesis.
- The Elective Supplements subject (6 ECTS) allows the student to complement the skills acquired in the chosen speciality with the knowledge that can be acquired by taking a subject from another speciality.
- The Mobility subject (6 ECTS) included in the optional training module, allows the student to take some subjects of the computer science branch in a mobility programme, which are not included in this study plan.

In accordance with the Resolution of the Council of Universities of 8 June 2009, defining the specifications of the master's degree in Computer Engineering, the master's degree includes the completion of a compulsory Master's Degree Thesis (TFM), regulated by the regulations approved by the School Board of 12/23/2010 and updated on 10/29/20 (<http://www.eps.udl.cat/ca/informacio-academica/document-informacio-academica/Reglament-dels-Treballs-de-Final-de-Grau-TFG-i-Master-TFM-de-IEPS/>).

It should be noted that for students who opt for the Mobility in Information Technology speciality, will be encouraged to carry out their TFM at the destination university.



Criterion 2.2 Work load and credits

For each semester, the academic calendar is organized into 15 weeks devoted to lectures and tutorials and 4 weeks intended for tests, which are organized as follows:

- one week in the middle of the semester for the partial exams.
- two consecutive weeks at the end of the semester for the final exams
- one extra week devoted to exam retakes, for students who may have failed some part of the assessment.

The exams are scheduled to avoid overlapping, distributing them along the exam period. Furthermore, each subject organizes additional assessments based on tests, projects, oral presentations,...

The School management considered it appropriate to carry out a study map of the degrees in order to analyse students' workload during the year to avoid load peaks due to the coincidence in time of a large number of internships and exams. A document was drawn up for each degree called "Map of Practical Activities". This document is revised every 2-3 years.

The lectures for each subject are scheduled weekly, so the workload can be distributed along the whole semester. The guide plans of each subject specify the expected workload.

MASTER'S DEGREE IN INDUSTRIAL ENGINEERING

The master's degree is taught in the afternoon, from 3 p.m. to 9 p.m. making it easier for part-time students or those who study in dual mode, to combine both their academic and labour-related duties. Likewise, in order to facilitate the monitoring of the subjects, the following distribution is established for the teaching of ECTS.

40% face-to-face (including face-to-face assessment tests)
60% self-study.

Every subject in the master's degree has a workload of 6 ECTS. The Academic Framework of the school establishes that 1 ECTS corresponds to 25h of study. Hence, all subjects have a total workload of 150 hours, of which 60 are face-to-face and 90 correspond to individual work.

As the contents to be taught are very diverse between the subjects of the master's degree, the activities that are carried out in the contact hours are not uniform between subjects. Thus, in the face-to-face activities, in addition to traditional lectures, problem solving and laboratory practicals, other activities such as seminars, visits to companies or facilities and visits to fairs are scheduled, which are highly valued by students.

The individual work part includes carrying out work and practice reports, which may be individual or in groups.

The result of this approach translates into a performance rate (ECTS passed/ECTS enrolled) that oscillates at around 90%, and an efficiency rate (ECTS enrolled per year/ECTS of the study plan) that, with the exception of last year, is maintained in values greater than 95%.

	2016-17	2017-18	2018-19	2019-20	2020-21
Performance rate	91.8%	91.9%	86.9%	89.3%	92.6%
Efficiency rate	99.5%	98.8%	96.7%	95.6%	89.7%



Average graduation time (years)	2.1	2.4	2.8	2.2	4.7
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Finally, in relation to the students' workload, in conversations with them, it is found, as expected, that students doing dual mode have a higher, though bearable workload, while for students doing the traditional mode consider it appropriate.

MASTER'S DEGREE IN COMPUTER ENGINEERING

Given that a significant percentage of the students taking the master's degree are working, the master's degree is taught entirely in the afternoon, 5 p.m. to 9 p.m. Likewise, in order to facilitate the follow-up of the subjects, the following definition of ECTS is established:

- 30% face-to-face (including face-to-face assessment tests)
- 10% tutored individual work. The teacher must post a set of activities in the Virtual Campus of the subject that are resolved independently by the student, but with a high degree of tutoring by the teacher.
- 60% individual work.

Thus, for the different subjects that make up the study plan, the following distribution of hours will be planned, considering that one ECTS equals 25h of study:

ECTS	TOTAL HOURS	30% Face-to-face	10% Tutored Work	60% Individual Work
4.5	112.5	33.75	11.25	67.5
6	150	45	15	90
7.5	187.5	56.25	18.75	112.5
9	225	67.5	22.5	135

In order to facilitate the student's supervised work, the teaching staff who teach the master's degree undertake to comply with the following aspects:

- All teaching materials associated with the subjects must be posted on the Virtual Campus of the subject at the beginning of the semester.
- The teacher must define, a week in advance, the specific contents that will be worked on in the next face-to-face session of the subject.
- All the questions asked by the students in the CV must be answered within 24 hours.

Furthermore, the timetable allocates daily time slots devoted to Group Lab, during which the Projects Lab is reserved for the master's degree students, who can freely use it for group work.

The result of this approach translates into a performance rate (ECTS passed/ECTS enrolled) that oscillates around 90% and an efficiency rate (ECTS enrolled per year/ECTS of the study plan) that is maintained at approximately 97%.

If we focus on the first year (since the second year/third semester includes the final master's degree thesis, as well as internships in a company, etc.), we will see that the rate of students sitting exams (follow-up of studies) is above 90%, and success and performance rates clearly surpass 85%.



Universitat de Lleida

Master's degree	2017/18	2018/19	2019/20	2020/21
Performance	96.7%	89.4%	95.6%	89.5%
Efficiency	92.1%	97.6%	96.8%	98.3%

1st year	2017/18	2018/19	2019/20	2020/21
Success	100%	100%	95.9%	89.8%
Performance	100%	87.4%	95.3%	86.9%



Criterion 2.3 Teaching methodology

Every year, the university holds a call for grants for projects to innovate and improve teaching. Its main objective is to motivate teachers in the search for active and innovative teaching methodologies, to develop teaching resources and materials that favour learning and the improvement of the assessment process. EPS teachers actively participate in these calls. This information is expanded in criterion 4.2.

At the same time, EPS together with Professional Associations, awards prizes with various financial endowments to the best Bachelor's Degree Thesis (TFG) and Master's Degree Thesis (TFM). This distinction recognizes high quality work. To apply for one of the awards, the work must be published in RecerCAT. All the awards and distinctions can be consulted at the following link:

http://www.eps.udl.cat/ca/info_sobre/concursos_premis/

MASTER'S DEGREE IN INDUSTRIAL ENGINEERING

As a general rule, the UdL's Degree Assessment and Qualification Regulations define that the assessment must be continuous throughout the teaching period of the subject. This leads to using methodologies that allow continuous work, among which the most used are problem-solving activities, laboratory practicals in small groups and group work with or without public presentations. The most common methodologies specified in the definition of degree subjects report are: lectures, problem solving and practicals. However, due to the fact that the number of enrolled is reduced, generally less than 20 students, it is feasible to visit companies or facilities, visit fairs, hold seminars,... which add a bonus to the training of these students.

Some teachers have also been introducing new methodologies of active learning and self-learning, such as, for example, flipped class, reflective teaching (enquiry-based learning) and case studies. The teaching methodologies used in each subject are indicated in their teaching guide.

The UdL has a web platform called virtual campus (CV) that provides a virtual student-teacher working environment with a dedicated workspace for each subject. It has tools to share digital content, organize lesson contents temporarily, manage activities, take tests and questionnaires, publish grades, as well as an integrated videoconferencing system and communication tools such as forums, messages, announcements, etc. The use of this virtual platform has been key due to the situation of the pandemic that has forced teaching 100% online. Therefore, there has been a significant increase in its use and the learning model is expected to be increasingly supported by the online tools offered by the CV.

To carry out practical work, the EPS has several laboratories, which in recent years have been equipped through the investments of the successive calls for improvement of the EPS teaching infrastructures. These laboratories have been equipped in order to improve the more practical and specialized training activities in those subjects that so require.

The teaching staff of the UdL have a service called Support and Advice to Teaching Activity (<http://www.saad.udl.cat/ca/>), focused on providing the necessary pedagogical support to improve current teaching methodologies. There is also the Teacher Training Unit (<http://www.fpu.udl.cat/ca/>) that offers different pedagogical training courses for teachers. Thanks to these services and also to the competitive call for innovation and improvement of teaching projects promoted by the Vice-Rector's Office for Academic Planning and Quality, the teaching staff of the master's degree has been able to improve teaching methodologies in recent years.

The students' assessment of whether the teaching methods used have been adequate is satisfactory. In recent academic years, 18/19, 19/10 and 20/21, these assessments have remained constant, and



specifically the average scores awarded to teachers has been 3.9, 3.9 and 3.8 out of 5, respectively. In the same way, the average of the student's assessments of the methodologies used in the last 3 years have been very positive with a result equal to or greater than 3.9 for this period.

MASTER'S DEGREE IN COMPUTER ENGINEERING

The UdL's Evaluation and Qualification Regulations, which regulate student assessment, define that assessment should preferably be continuous throughout the teaching period of the subject. This preference is perhaps even more important in a master's degree, in which most students are already integrated in the labour market or belong to research groups at the UdL.

An important aspect to highlight is the integration of Project-Based Learning (PBL) as an integral, core methodology of the curriculum. The purpose of this integration is twofold. First, for the contents of the subjects to be applied in a concrete way to solve a real practical case. Second, to integrate the subjects in the resolution of a larger project. This allows, on the one hand, benefiting from the good learning outcomes provided by the project-based methodology, and on the other hand, it helps the student to see how the structure of the curriculum, the methodology and the learning outcomes are aligned and integrated with the competences that the labour market expects of a Senior Engineer. Specifically, in the first semester, the subject "ICT Project: Development and Implementation" proposes conducting an ICT project from a more technological point of view, while the subject "IT Project Management" also develops its contents around the same proposed ICT project. Regarding the second semester, it is intended to give continuity to the ICT project by proposing quality of service and security solutions, in the subject "ICT Project: Communication Services and Security" but also to study the viability of the project from a business management point of view, or regarding its usability and accessibility in the subject "Evaluation Techniques and Usability Testing". The rest of the subjects are also based on the use of the project-based methodology, but on a smaller scale, such as the three subjects which comprise the Biga Data speciality, which work on a common data project.

All of the above implies that the working methods of the subjects are, for the most part, continuous, generally group work, highly applied, and usually assessed together with the work done through a public presentation (usually in the context of the subject itself). In some subjects, even external professionals from companies participate on the assessment boards of these public presentations, providing the labour market's point of view to students.

Therefore, master's degree courses use and take advantage of a wide range of teaching methods and techniques, from the lecture to the flipped classroom, enquiry-based learning and case studies.

The exceptional situation of the last two years, due to the COVID-19 pandemic, has led to having to resort to other methodologies based, basically, on online learning, from videoconference classes to asynchronous video classes, simulations, debates and forums.

The UdL has an LMS (Learning Management System) that makes up the university's virtual campus. This virtual campus, based on the Sakai LMS platform, is used by some of the largest universities in the world, and the UdL is one of the pioneers of its use in Europe, one of the oldest members of the Sakai foundation, and a participant in the development of the platform itself (especially in the support of multiple languages), meaning that the support of the platform that can be provided by the university's ICT services is excellent. The platform provides all the necessary tools for interaction between teachers and students. It can be used both to support face-to-face teaching (as it has traditionally been used at the UdL) and to support totally non-face-to-face teaching (as it has been used during some periods due to COVID-19). In this last year, students have rated the use of the CV for their learning with a score of 4.3 out of 5.



The methodologies and their development plan for each subject are clearly defined in their teaching guides, which are periodically updated and adapted according to their needs. Said teaching guides act both as a reference for students and as a “contract” between teachers and students regarding the conditions of assessment and the provision of teaching.

The EPS has different laboratories to carry out practical and laboratory classes, and many subjects of the master's degree are carried out entirely in these laboratories, so that, if lectures are required, these classes are already carried out in the laboratory, so students can go on to apply what was learned without delay (such allocation of classrooms is possible due to the size of the teaching groups on the master's degree).

The professors of the UdL have a service called Support and Advice to Teaching Activity (<http://www.saad.udl.cat/ca/>) focused on providing the necessary pedagogical support to improve current teaching methodologies. There is also the Teacher Training Unit (<http://www.fpu.udl.cat/ca/>) that offers different pedagogical training courses for teachers.



Criterion 2.4 Support and assistance

The academic and professional guidance that the School offers to students was rated very positively as “in progress to excellence” in the previous 2019 accreditation, highlighting the good level achieved to date by the School in terms of advice, assistance and support for learning received by students.

The mechanisms through which the EPS satisfies academic orientation are the Centre's orientation and tutoring Plan, called in the UdL “Acompanya-Plan Néstor”, the support of the Coordinator, the Mentoring of students, and the actions for recognition of academic excellence (awards and scholarships). On the other hand, in terms of support for professional guidance, the main services and activities are the Job Placement Plan, In-company internships, Dual Training, the Internationalization of the EPS, participation in the Industrial Doctorate programme, and various complementary activities such as the subject “Engineers and their socio-professional environment”, specific talks that take place during the year, talks given by professional associations and awards that they grant to the best TFM, etc.

The main resources devoted to helping, counselling and supporting students are:

- **Class delegates**

Each class provide one or two delegates. Their role is to represent the interests of the students and facilitate a quick and agile communication channel with professors, the programme coordinator and the head of studies. Furthermore, they are also involved in the Students Council of the faculty.

- **Student guidance and support**

In each UdL centre, a coordinator of the UdL Acompanya - Nèstor Programme is appointed to organize the reception sessions of the centre in coordination with management and guide and advise students throughout their learning process.

The plan designates the coordinator as the student's tutor, who works closely with the coordinator of the degree/master, since s/he acts as a reference figure for the student, should the student incur any incident or need for guidance and support. Therefore, the degree/master's coordinator also plays an important role in student guidance, exercising the functions of advisor throughout the learning process and managing the suggestions and complaints of the students, and directing them towards the relevant areas and services.

Also, in the mobility processes, the international relations coordinator is in charge of informing and advising the students of the School interested in participating in a mobility programme and participating in their selection.

- **Incorporation of the inclusion coordinator of the centre**

The UdLxTothom Programme is one of the services that the UdL offers to the entire university community: students, administration and services staff, and teaching and research staff. It is attached to the Coordination of Social Commitment, Equality and Cooperation and is managed within the University Information and Guidance Unit. Its objective is to promote the participation and inclusion of people with functional diversity, based on the principles of equal opportunities, inclusion and social responsibility.

The inclusion coordinator of the UdLxTothom programme of the centre is responsible for adapting to and enabling needs derived from situations of disability or specific educational needs of the student.

- **Student Associations; Student Council, IAESTE and LleidaHack.**

The EPS Student Council is the body for consultation, deliberation, communication and representation of the students of the School, which is responsible for matters related to both academic life and university extension involving students. Its objectives are to ensure that the



rights and duties of students are fulfilled as well as to promote their participation in all areas of university life and to ensure that students receive quality academic and human information. In our faculty, this council is very active, and holds periodic meetings with the faculty management team to coordinate, discuss and suggest actions for improvement.

IAESTE is an international student association, with a very active local committee at the University of Lleida, which aims to provide students who are pursuing scientific and technical careers with the possibility of doing internships in foreign companies and institutions during their training at the University.

LleidaHack is an association mainly comprising students and alumni of the faculty, whose goal is to foster a passion for technology. They organize different activities such as the HackEPS programming competition, the TechMeetings, to which they invite experts to present novel ICT topics in a very informal environment, they organize workshops, talks to secondary and high schools, and even participate in the Technovation programme by mentoring young girls interested in ICT.

- **Dolors Piera Centre for equal opportunities and the promotion of women.** The main goals of this centre are to promote equality policies among men and women as well as motivate the inclusion of the gender perspective in teaching, research and management. In particular, they have developed a protocol to prevent and deal with situations of gender-based violence and sexual harassment, addressing students, PAS and PDI. They have an office which is very visible and accessible for students, located in the classrooms building of the campus.

Since the last accreditation, the EPS has continued to incorporate improvements in the learning support systems, among which the following are specifically devoted to fostering the orientation and job placement of students:

- **UdL-Treball job placement fair**
UdL-Treball is an annual, one-day fair, aimed at bringing companies and students together. For students, UdLTreball is a way to find out first-hand about the job opportunities in the region, receive specific guidance on employability and, through the activities that are scheduled, learn the best way to enhance and improve their professional skills. Likewise, for companies, UdL-Treball is a way to make themselves known and show themselves as a real option for a professional future, as well as to have direct contact with the options of joint work and continuous training offered by the University of Lleida.
- **Implementation of Dual Training:** In the 15/16 academic year, Dual Training was launched in the Master's Degree in Computer Engineering, and in 16/17 in the Master's Degree in Industrial Engineering, whose operation was regulated through a specific procedure. Dual training allows students to work in a company in the morning, with an employment contract, and attend the university in the afternoon; with academic recognition of the tasks, skills and competences acquired in the company, becoming an essential tool to place master's degree students in the labour market. The School has developed a Methodological Framework for Dual Training to include all the processes related to this methodology, therefore attending to a recommendation from the 2019 External Assessment Committee (master's degree accreditation).
- **Increase in the number of Industrial doctorates:** The EPS has actively participated in the Industrial Doctorate Programme (<http://www.doctorat.udl.cat/es/mencions/doctorat-industrial-00001/>) promoted by the Generalitat of Catalonia whose objective is to contribute to the competitiveness and internationalization of industry, reinforce instruments to attract talent and



place future doctors in a position to conduct R&D&I projects in a company. Industrial doctorates, in addition to being knowledge transfer bridges, act and contribute to strengthening relations between the industrial fabric and universities and research centres. The EPS has not been left out of this great opportunity and has participated in this programme since its inception. To date, two industrial doctoral theses have already been completed (at the companies Scytl, and Ilerfred and Sallen) and another three are in progress (two at Lleida.net and one at PMP).

- **Incorporation of professionals from reference companies on the assessment boards** of the projects in the Learning by doing subjects of the Master's Degree in Computer Engineering. Their participation on these committees is most valuable for students, since they have to present their projects and can receive face-to-face assessment focused on a professional, real company point of view.
- **Promote contact and relations by students with professional associations:** Professional associations and business associations collaborate closely with the School in different aspects:
 - **Awarding of prizes and distinctions for the best academic records.** These awards are granted annually within the framework of the Alumni dinner (<http://www.alumnieps.udl.cat/ca/>).
 - **Awarding of prizes and distinctions for the best TFG/TFM.** These awards allow schools to know first-hand the lines of work carried out in the degree final projects (http://www.eps.udl.cat/ca/info_sobre/concursos_premis/). At the same time, it is a good motivation for students to produce an innovative TFG/TFM.
 - **Talks organized by professional associations.** These talks mainly target final year students, in which they present the challenges and possibilities that the labour market will offer them. In turn, they offer students one year of free tuition, which can support them in their professional initiation (<http://www.eps.udl.cat/ca/agenda/Xerrada-Sr.-Eduard-Martin-Dega-COEINF.-La-professio-denginyer-informatic-estudis-i-carrera-professional-00001>).
- **Autodesk Agreement:** In the 17/18 academic year, a collaboration agreement was signed between the UdL and the company Autodesk whereby, among many other advantages, the educational community has free access to the company's academic version of its applications, among which AutoCAD and Revit stand out in building and architecture, in addition to being able to issue official certificates of the level reached by students during their studies, which allows not only improving their knowledge of these programs but also to be able to prove their level in their curriculum vitae (<http://www.eps.udl.cat/ca/noticies/La-UdL-esdeve-Autodesk-Authorized-Academic-Partner/>).
- **Increase in international "mobility internships":** The School supports, empowers and motivates students to participate in the Erasmus-Internship programme where they are the ones who have to look for the European company where they can carry out their internship. This encourages students to face a new situation in their training, such as having to prepare a CV, a cover letter, and begin to "train" their jump to the labour market, since the situation is very similar to that of having to look for work for the first time. Another option for international internships is through the IAESTE (International Association for the Exchange of Students for Technical Experience) student association, present in more than 80 countries, has a very active local committee in our university. Students interested in doing an international internship join the association in their first or second year, so they can apply for an internship in their third or fourth year, or even while taking their master's degree programme.



- **Implementation of the EPS PRO-GATEWAY programme**

The EPS PROfessional Gateway programme consists of a series of activities that aim to provide professional guidance for students. This programme consists of:

- Guidance talks given by professional associations
- Guidance talks and tutoring offered by the degree coordinators
- EPS company corner: this is a space, physical and temporal, where companies and students can meet and get to know each other, the main aim being for companies to introduce themselves and inform our students of job opportunities, of the possibilities of doing their TFG/TFM, Internships, the possibility of Dual Training, when appropriate. They are usually organized on Tuesdays and Wednesdays. Each session is devoted to a single company, which is allocated the lobby of the faculty so that interaction with students is casual and informal. However, due to the requirement of physical attendance, this initiative has been interrupted by the pandemic and it is planned to restart in the 2021/2022 academic year.
- Speed dating: this dynamic Networking activity consists of conducting quick and concise interviews between students who finish their bachelor's or master's degree and the companies in the sphere of influence. This format favours close and individual contact, exchange and proximity when it comes to meeting the ideal candidate or company. Some activities have been cancelled or reduced as a result of the pandemic, and they are expected to resume and intensify as soon as the health situation so allows.

- **Complementary activities**

Throughout the academic year, several activities are organized together with companies, whose goal is to promote close contact with the latest projects and technologies used in the professional sector.

- Hackathon: This activity is promoted by the School and organized by students of the School under the supervision of a teacher. It is a programming tournament in which a group of companies (sponsors) pose a programming challenge or project. Participating students must solve one or more of these challenges. The solutions are evaluated by an expert committee made up of university professors and company experts. The best solution is awarded a prize by the company or sponsor that launches the challenge. This activity is designed to motivate students to solve real programming problems and learn programming technologies, techniques and methodologies, but also to bring companies closer to the university environment and make the companies known among students and encourage their contact. This makes this activity essential to enhance the interaction between the School and students and the surrounding companies and promote participation in joint activities of knowledge transfer, project creation, etc. (<https://www.udl.cat/ca/serveis/oficina/agenda/Hackathon-de-LEPS-HackEPS-2020/>)
- Summer course by the company GFT on Mainframe technology held in the EPS facilities that also served select personnel for this company (<http://www.eps.udl.cat/ca/noticies/LEPS-i-GFT-ofereixen-aquest-estiu-un-curs-gratuit-en-tecnologia-Mainframe/>).
- Course at the UdL Summer University offered by the company Starloop in collaboration with the EPS on video game technology (<http://www.eps.udl.cat/ca/noticies/Inici-a-LEPS-del-Curs-de-videojocs-per-a-la-inclusio-adreca-a-joves-vulnerables-en-situacio-de-risc-social/>).
- Visits to reference companies such as GFT, Minsait, EURECAT, BonArea, Alter Software, STRATESYS, Alier, San Miguel-Mahou, Romero-Polo, Subcoele, etc... have continued to be visited with the aim of guiding students in their transition to the professional world.



- o Incorporation of professionals from leading companies and representatives of professional associations in specific talks in the field of EPS master's degree subjects, such as Mr. Guillem Boira, Dean of the Association of Industrial Engineers of Lleida, Mr. Josep Freixanet, GFT manager, Mr. Francesc Guitart, from GFT, Mr. Aitor Corchero, from the EURECAT technology centre, Mr. Jordi Gervás, representing Lleida Provincial Council, and Mr. Josep Clotet and Angel Ros, from the Lleida Technology Park, to name just a few.



3. Exams: System, Concept & Organisation

Criterion 3 System, concept and organisation

MASTER'S DEGREE IN INDUSTRIAL ENGINEERING

Compulsory and optional subjects

The assessment system for each subject is public and can be found in the teaching guides for each of the subjects through the degree website and also on the virtual campus. The assessment system is governed by the EPS Academic Framework (<http://www.eps.udl.cat/ca/informacio-academica/normatives/marc-academic-eps/>) that is constantly evolving to respond to the needs of all subjects in the assessment methodologies to achieve the learning outcomes.

A wide range of assessment systems is used for the master's degree subjects, but given the practical nature of the master's degree content, most subjects use assessment systems based on practical and/or practical tests (in addition to written tests), guaranteeing continuous assessment.

Sistemas de evaluación utilizados en el MEInd



Figure 1. Assessment systems used in the MEInd

It should be noted that a total of 91% of MEInd subjects use one or more methodologies: laboratory practicals, use of specific software, or visits to companies. Of the three, the most widely used methodology is that of specific software, used in 74% of the subjects, while laboratory practicals are used in 35% of the subjects, and company visits in 30%.



Figure 2. Percentage of MEInd subjects that use laboratory practicals, specific software, or visits to companies as their methodology.

All these assessment activities and teaching methodologies have been enhanced and strengthened by the policy and the effort by the EPS in recent years to increase and improve laboratory equipment and software.

From the evidence on the achievements set out in the degree portfolio, (Criterion 3 \ MEInd \), it can be observed that the assessment criteria are explicit, appropriate to the nature of the implementations and allow discerning the quality of the learning.

Moreover, the teaching methodologies are varied and appropriate to the content and skills to be acquired in the master's degree. It should be noted that, although these methodologies are already used intensively in undergraduate studies, one differentiating feature of the master's degree competences is that the student acquires and masters communication, leadership, managerial and project management skills, etc. In order for the student to correctly acquire the skills of the degree and to ensure that the scope of work and the contents of the subjects adjust, as much as possible, to what the student will encounter in the world of work, the teaching staff has adopted new teaching methodologies such as Problem-Based Learning, Project-Based Learning and Flipped Learning to encourage entrepreneurship and students' communication skills. These methodologies not only place the student at the centre of the learning process, but through continuous monitoring and assessment activities, they make the student aware of their progress and place them at the heart of the learning process. The incorporation of these teaching methodologies has also implied the adaptation of the assessment methodologies.

Master's Degree Final Project (TFM)

The TFM is evaluated following a continuous assessment methodology where four well-differentiated sections are evaluated: Initial report, follow-up report, final document and presentation. This procedure guarantees tailor-made assessment and monitoring mechanisms for each of the phases and the certification of the learning outcomes throughout the process of preparing the Master's Degree Final Project.

In-Company Internships

The Master's Degree in Industrial Engineering does not include In-Company Internships (PTE) in its study plan. However, it does include a Dual Training modality, which is much more ambitious than the PTE.



MASTER'S DEGREE IN COMPUTER ENGINEERING

Compulsory and optional subjects

The assessment system for each subject is public and can be found in the teaching guides for each of the subjects through the degree website and also on the virtual campus.

A wide range of assessment systems is used for the master's degree subjects, but given the practical nature of the master's degree content, most subjects use a learning methodology based on problems and teamwork and a continuous assessment system. A smaller set of subjects has opted for more innovative methodologies such as project-based learning and Learning-by-doing that, by simulating a real context, aim for the student to learn through experience, making mistakes and sharing ideas.

It should be noted that, although some of these methodologies are already used in undergraduate studies, it is a differentiating feature of the master's degree competences and a requirement by companies that the student acquire and master communication, leadership, managerial and project management skills, etc. In order for the student to acquire in a natural way and consolidate both basic and transversal competences, the master's degree teachers have made a great effort to implement new methodologies such as Learning-by-doing, Coaching techniques, Entrepreneurship models as "Elevator Pitch", etc., which not only allow a different approach to learning, but also foster the entrepreneurial and communication skills of our students. These methodologies not only place the student at the centre of the learning process, but through continuous monitoring and assessment activities make the student aware of their progress, teach them to manage their own time, and be the focus of the learning process. The incorporation of these teaching methodologies has implied an adjustment to the assessment methodologies and significant coordination efforts. Assessment is carried out continuously by the different teachers, transversally for all the competences, but there are also follow-up meetings and joint final presentations, where all the teachers share their assessments yielding a global and consensual assessment.

The results of the surveys and the students' assessments are data that are reviewed by the coordination each academic year to detect possible anomalous situations and propose corrective actions.

In-Company Internships (PTE)

Regarding the In-Company Internships, the coordinator of the PTE of the degree follows up students' progress through communicating with the company tutor, which allows any dysfunctions that may arise to be solved quickly. The assessment of the PTE is based on four items:

- Internship notebook (report) to be delivered by students, and monitoring by the academic tutor of the PTE of the degree.
- Assessment by the company tutor.
- Presentation of the work carried out before a board.
- Self-assessment by the student.

The PTE assessment model takes into account the vision of the three stakeholders involved: students, companies and teachers, and allows certifying the achievement of learning outcomes based on the competences established in the Certificate Verification Report. The way in which Tutored Internships are coordinated in the Company and how they favour the students' employment guidance is explained in Criterion 2.4 of this report.

Master's Degree Final Project (TFM)

The TFM will be evaluated following a continuous assessment methodology where four well-differentiated sections are evaluated: Initial report, follow-up report, final document and presentation. This procedure guarantees tailor-made assessment and monitoring mechanisms for each of the phases and the certification of the learning outcomes throughout the process of preparing the Master's Degree



Final Project.

Improvements and good practices

Review and improvement of the assessment system in subjects involving Learning-by-doing

The implementation of new teaching methodologies also implies the continuous review of the monitoring and learning process of the students. In these subjects, the learning objectives must be clearly defined and assessment measures established both at group and individual level. Criteria that consider not only the quality of the final product but also the learning process of each of the students must be taken into account. The assessment process for these methodologies are an open question that must be continually reviewed and improved on and must be accompanied by the training and involvement of teachers. In order to address this aspect, various actions have been carried out:

- Training activities have been carried out for teachers to discuss and review the assessment processes.
- Regular meetings have been held at the beginning of each academic year to define the strategy for creating working groups, the follow-up procedure, the documentary productions that will be required, as well as the criteria and the assessment calendar.
- Regular meetings have been held at the end of each academic year to exchange views on academic results, student satisfaction, teacher satisfaction with the procedure, and take note of proposals for improvement for the following academic year.
- It has been established that the monitoring and assessment activities in the different phases of the project: SPRINTS and final presentation of the project, are to be carried out by several teachers and not individually. Both teachers and professionals participate in these sessions. In the final assessment of the project, managers of ICT companies with a very good relationship and involvement with the programme sometimes participate.
- It should be said that these meetings are held with practically all the teaching staff involved in the subjects dedicated to the performance of a real entrepreneurial project using the Learning-by-doing methodology, at least 7 teachers plus the coordinator of the master's degree.
- Promotion of coordination activities between teachers and subjects.
- Promotion of Coaching activities. These activities, held at the beginning of the year, are useful for teachers to find out students' emotional, interaction and communication profile and during the year they enable detecting possible individual and group conflicts and find appropriate solutions.

Promotion of coordination activities

Intensive work has been carried out to promote coordination activities between subjects. To do so, actions have been carried out such as:

- Creating a timetable where the subjects working on the implementation of a real project share a time slot. In this way, the schedule does not mark the content, but rather the place where the project will be carried out at the pace set by the project and the different follow-up activities. The contents arise as they are needed and the most appropriate teachers are involved in each phase and jointly in the monitoring and assessment activities.
- Defining groups of subjects that are coordinated with each other to enhance the transversality of knowledge, provide a common thread to the contents which are applied to the resolution of larger, more enriching projects. As an example of groups of subjects that work together we have:
 - o Project 1: Development PPP for entrepreneurship
 - IT Project management(1AY1S)
 - ICT Project: Development and Implementation(1AY1S)



- Evaluation Techniques and Usability Testing (1AY2S)
 - Technological Business Management and Entrepreneurship.... (1AY2S)
 - Project 2: Development of a graphic project
 - Computer Graphics and Multimedia..... (1AY1S)
 - Intelligent Systems (1AY1S)
 - Embedded and ubiquitous systems (1AY1S)
 - Project 3: Big Data Project
 - Massive Data processing..... (1AY2S)
 - Data Mining (2AY1S)
 - Big Data Project (2AY1S)
- Periodic teacher coordination meetings are encouraged at project level.

Dual training

The dual training modality in university studies is an innovative aspect. There is no common methodology, its implementation is not generalized and there is no regulation, or labour-related framework that regulates this modality for university studies. Similarly, there are also many application and evaluation models. The main objective of dual training is for the student to acquire skills in a real work environment.

This methodology was implemented in the MEInf during the 15/16 academic year and in the MEInd during the 16/17 academic year.

The dual-mode student alternates professional experience and studies, attending part-time at the company and part-time at university, during the academic year. Outside the academic year, the student works full-time in the company.

In the specific case of the MEIND, the result of the assessment of the experience acquired in the company is transferred to a block of four subjects, three subjects for all companies (the optional block called Business Projects, and the subject Project Management and Human Resources), and a subject that depends on the technological profile of each company (to date Industrial Organization II, Design and Testing of Machines I, Industrial Construction I, and Basic Operations of Chemical Processes have been offered).

In the specific case of the MEINF, the result of the assessment of the experience acquired in the company is transferred to a block of four subjects, three subjects belonging to the speciality called Enterprise Integrated Projects and one subject from the optional training module called Trending Topics in Computer Science. In this way, the dual training student takes exactly the same compulsory subjects of the study plan as a regular student, and in-company training is recognized as a speciality with a mention in the degree.

The activities that the student will carry out and the skills that will be worked on and assessed are defined in advance in what we call the training project. The training project is also specified in a monitoring and assessment notebook that we call the learning notebook. The learning notebook specifies the data of the people who participate in the process: the student (E), the company tutor (TE) and the university tutor (TU). The notebook also specifies the schedule of meetings, at least two per semester, face-to-face, during the master's degree. The notebook is shared among the three stakeholders: student, company tutor and university tutor. In the first meeting of each semester, the activities and competences to be evaluated are established. In addition, the student must include information about their experience in terms of integration in the company and their learning experience. In the second meeting, the TE evaluates the achievement of the activities, the degree of acquisition of the competences as well as a set of transversal skills and/or competences. The TE can also comment on students' strengths and progress



for subsequent assessments. Based on the TE's comments, the student writes down his or her own assessment of the process and the assessment received in the notebook. This is repeated for four semesters, in the case of the MEInd and for 3 semesters, in the case of the MEInf. In addition, for each semester the student drafts an activity report. In this report the student describes all the activities carried out, their purpose, the time dedicated to them, the technologies used, and, most importantly, the skills worked on and the experience acquired are evaluated. This report is essential to proceed with the assessment. The reports of activities of each semester together with the learning notebook form the set of evidence for the assessment of the subjects of the dual modality block.

The assessments that the student receives, as well as the comments, the reports, the meeting calendar, etc., and any additional information that the learning process may generate is always shared by the three stakeholders, so that everyone knows the status of the assessment process and the student is aware at all times of the evolution of their learning process.

The process that has been described provides us, on the one hand, with a tool that allows us to convey the student's monitoring and learning process, as well as certify the learning outcomes. On the other hand, the method of selecting tutors from both the university and the company guarantees the quality of the activities and the learning process, as well as compliance with the qualification profile.

Academic indicators

MASTER'S DEGREE IN INDUSTRIAL ENGINEERING

MU in Industrial Engineering	2016-17	2017-18	2018-19	2019-20
Performance rate	91.8%	91.9%	86.9%	89.3%
Efficiency rate	99.5%	98.8%	96.7%	95.6%
Average graduation time	2.1	2.4	2.8	2.2

Average graduation time:

The average graduation time in the 19/20 academic year was 2.2 years (taking into account that the MEInd lasts 2 years). This indicator is stable and satisfactory for the period of analysis, since in the 16/17 academic year it was 2.1 years, and in the 17/18 academic year it was 2.4 years. The variation that exists between years is insignificant and is largely due to the fact that students may choose to extend the TFM for a few months longer than expected, especially if they start working during the last semester.

Efficiency rate (minimum credits/enrolled credits):

The efficiency rate remains at values of between 95.6% and 99.5%. This rate is higher than both the average for the UdL and for the EPS. It also highlights that there is no significant difference in the efficiency rate between "full-time" students and "part-time" students, thanks to good organization to be able to continue their studies in either of the two modalities.

Performance rate (credits passed/credits enrolled):

The performance rate is high: from 91.8% in the 17/18 academic year to 89.3% in the 19/20 academic year. This is explained by the interest that students have in taking the master's degree and completing their training, by the good dedication by the teaching staff and by the possibility of working in groups of adequate size, achieving individualized monitoring of the learning process. This makes it easier for all students to keep up with the course successfully.



In this sense, it is worth highlighting the efforts made both by the teaching staff and by the coordination and the Centre to maintain these values with the deployment and continuous improvement of the degree. This great stability of the highly satisfactory and excellent figures is due to the continuous improvement actions that are carried out to correct possible imbalances in the implementation of the degree.

MU in Industrial Engineering. Cohort.	Graduation rate in expected time (t and t + 1)	Dropout rate at t + 1
2014-15	41.7%	25,%
2015-16	91.3%	4.3%
2016-17	55.6%	33.3%
2017-18	66.7%	25,%

Graduation rate in the expected time (t + 1):

The 2016/17 cohort had a graduation rate of 55.6%, somewhat higher than the 2014/15 cohort (41.7%). On the other hand, the 2015/16 cohort shows much higher values (91.3%). This is due to the fact that in cohorts 17/18, 16/17 and 14/15 there was a much higher percentage of part-time students than in cohort 15/16. The implementation of Dual Training aims to respond (among other things) to this situation, by facilitating a training plan in which professional experience is gained, but with an itinerary and dedication that allow completing full-time master's degree.

Dropout rate:

The dropout rate stands at 25% for the 2017/18 cohort. This is due, as with the graduation rate, to the higher percentage of part-time students in these cohorts. On the other hand, in the 2015/16 cohort (where there were no part-time students) the dropout rate stood at 4.3%. As mentioned in the graduation rate, the implementation of Dual Training aims to respond (among other things) to this situation.

Regarding the gender perspective, the performance rate is 10% higher in the case of women than that of men, constantly during recent years, as is the rate of efficiency, which is also 5% higher in the case of women compared to men.

Improvements and good practices

- **Implementation of Dual Training.**

Due to the significant number of part-time students (since they work) and the higher dropout rates incurred by such students, the introduction of a Master's Degree in Dual Training modality is proposed. The main objective of dual training is for the student to acquire certain skills in a real work environment. In this way the student, based on real cases, learns and gains professional experience at the same time. This modality includes an employment contract for students, who work part-time in the company during the academic year, and full-time outside.

In this way, students' need/desire to gain experience while taking the MEInd is resolved in a more orderly way and without losing sight of the fact that their priority is the master's degree. This modality has helped to drastically reduce part-time students for work reasons, as well as to improve dropout rates (although the evolution of this rate must be analysed over a longer period to ascertain whether it stabilizes).

Finally, the opinions collected during the last years from the students of the Dual Training programme indicate that the assessment of the Dual Training modality is very positive.



- **Realization of an internship map.**

All of the stakeholders participating in the MEInd (management, coordination, teachers, students, etc.) constantly strive to identify possible future imbalances in order to implement improvements to prevent them from occurring. In this case, the realization of an internship map of the degree stands out, which aims to analyse the students' workload during the year to avoid load peaks due to a large number of practicals and exams clashing. With this measure, possible future problems of excess load are prevented at specific times, which improves students' ability to manage their time to dedicate it to achieving their learning outcomes.

MASTER'S DEGREE IN COMPUTER ENGINEERING

MU in Computer Engineering. Cohort. 2	Graduation rate in expected time (t+1)	Dropout rate at t+1	Dropout rate in first year
2014-15	28.6%	28.6%	21.4%
2015-16	70.0%	20.0%	15.0%
2016-17	87.5%	12.5%	.%
2017-18	80.0%	.%	.%

The table above shows the graduation and dropout rates. In the period covered by the course the graduation rate decreases. The causes are the increase in the dropout rate and the delay in the graduation of students. Enrolment for this cohort was high due to the interest of students from degrees to be extinguished, by obtaining a degree in the EHEA. However, most of them combined their studies with a full-time job. If we take into account the experimental nature of the degree, with great practical content using technologies that are continually renewed, these factors make it difficult to follow up the studies.

The main objective of the changes introduced in the curriculum applied for the 15/16 academic year is to achieve a more attractive, higher quality curriculum, which includes specific actions to reverse the negative results of the previous period, such as:

- Enrolment guidance.
- Continuous monitoring of students, especially of students doing the master's degree for more than two years.
- Contact with students who have dropped out to follow up and encourage them to resume their studies.

The direct results of these actions can be observed in the same table which reflects how the graduation rate rises rapidly to values of 70%, 87.5% and 80% in the 15/16, 16/17 and 17/18 academic years, and the dropout rate progressively falls. There is no data for the following academic years because the students graduate within the usual period of duration of their studies.

The same table also shows that the dropout rate in the first year decreases, which means that students feel supported and more motivated to continue their studies.



MU in Computer Engineering	2016-17	2017-18	2018-19	2019-20
Performance rate	90.4%	96.7%	89.4%	95.6%
Efficiency rate	98.5%	92.1%	97.6%	96.8%
Average graduation time	2.4	2.7	2.9	2.4

Regarding the performance rate, the above table shows that it maintained an upward trend during the 16/17 and 17/18 academic years, standing at 95.6% in the last year evaluated. The efficiency rate indicates the number of credits enrolled in by graduate students with respect to the credits of the study plan. As can be seen in the table, this rate remains at 93% on average during the period evaluated. These results show the success of the enrolment tutoring and monitoring actions implemented, which allow adapting the workload to the needs and possibilities of each student, resulting in practically all the enrolled credits being passed.

Regarding the average duration of studies, the minimum time for graduation is a year and a half and the maximum time according to the regulations of permanence is double for students at TC and triple for students at TP. Most TC students complete their studies in approximately two years. This is so because they usually spend the second semester of the second year to finish the master's degree final project, thus distributing the workload of the second year. Students in the dual training modality who wish to do so are offered the option of dividing their first-year enrolment over two years and taking the TFM in a third. This allows them to spread the workload, helps them in the process of joining the company without affecting their academic performance, and allows them to adapt the pace to their own needs, completing studies in two or three years. There is also a large number of students who, without taking the dual-modality master's degree, combine their studies with work in the company and complete part-time enrolment. Bearing this in mind, the average duration of studies is between 2.5 and 3 years on average during the assessment period, and this indicator perfectly adjusts to the profile of the students.

The results obtained show not only the quality of the teaching, the new methodologies of which provide the student with: motivation, quality knowledge and added value; but also the application of a set of good practices in terms of enrolment guidance, student monitoring, the application of new methodologies focused on the student and their learning process, etc. This has allowed obtaining more-than-satisfactory results that demonstrate the degree's commitment to continuous improvement.

Improvements and good practices

- **Intensification of student recruitment tasks**

The tasks of attracting students, especially those coming from the bachelor's degree in Computer Engineering, but also former students and foreign students, have been intensified, with the ultimate aim of providing the master's degree with a stable source of incoming students.

To this end, some of the actions carried out are:

- Intensifying the promotion of the master's degree:
 - Specific activities for GEI students at the UdL: presentation of projects by MEInf students, talks by the Association of Computer Engineers, talks given by companies promoting higher degrees, etc.
 - Attendance at national and international fairs.
- Double International degree with the University of FACENS, to facilitate access by international graduates to the master's degree.
- Intensifying the promotion of dual training:



- Promotion for undergraduate students: presentation of projects in dual training, talks by companies, etc.
- Recruitment of new companies that offer positions in dual training.
- Promotion of dual training among ICT workers without higher training.

- **Intensification of tutorial action**

The main objective is to work for the continuous improvement of student satisfaction and avoid abandonment. Most of the students combine their master's degree studies with work in the company. Some of them through dual training, but there are students who are working and do not take the master's degree in dual mode because they want to study the Big Data major. Some students are working while doing dual training and choose to enrol full time. There have been situations of foreign students who want to enter the master's degree with a previous or ongoing master's degree. Sometimes this is so because they see dual training as a way to join a company without having the ultimate goal of completing the master's degree.

With this highly varied profile of students, tutorial action is very important. It aims to identify the reasons why a student wants to do the master's degree, their availability, and review their file in as much detail as possible in order to identify their efficiency and performance rate. This can give us information to help us tailor the workload to each individual student and avoid abandonment. This action translates into meetings between the coordinator and the students before enrolment and during the course of the master's degree.

- **Realization of a map of practicals**

All of the stakeholders involved in the MEInf (management, coordination, teachers, students, etc.) constantly strive to identify possible future imbalances in order to implement improvements to prevent them from occurring. In this case, the realization of an internship map of the degree stands out, which aims to analyse the students' workload during the year to avoid load peaks due to a large number of practicals and exams clashing. With this measure, possible future problems of excess load are prevented at specific times, which improves students' ability to manage their time to dedicate it to achieving their learning outcomes.

Values of job placement indicators

The analysis of job placement indicators is carried out based on the study of "2020 The Job Placement of Graduates and Master's degree holders from Catalan Universities" of the Agència de Qualitat del Sistema Universitari (AQU)¹. This study does not segregate the data by Universities, so it is difficult to carry out a comparative analysis. The data discussed below refer to the Industrial Technologies sub-area in an aggregate way for all Catalan universities.

According to this study, the Industrial Technologies area, which includes the Master's Degree in Industrial Engineering, has an occupancy level of 95%, higher than the average for the various areas and increasing with respect to the values of the 2017 study. ICT, which encompasses the Master's Degree in Computer Engineering, decreases to slightly below 95%, which is the value obtained in the previous survey.

The adequacy of functions with the studies carried out in the specific sub-area of industrial technologies exceeds 60%, which is higher than the average for the various areas and ranking among the top 5. These results place industrial engineering as one of the sub-areas with the best ratio between employability and suitability of the studies for the work carried out. It is followed by the ICT area, occupying sixth position with a similar value, although it presents a slight decrease in relation to the 2017 study.

Regarding the types of contracts, at 67.2% the field of Engineering is the field with the highest index of



permanent contracts by far. In terms of remuneration, the field of engineering is once again in first place, with an average salary of €2,673.

The specific field of Engineering has the highest percentage of graduates with responsibilities over other people. Likewise, this area obtains the best assessment in the Occupational Quality Index (ICO), with an average value of 70.3. This indicator reflects not only the high employability but also the quality of employment, types of contract and remuneration.

Moreover, in order to obtain indicative data for comparison between universities, the data yielded in the job placement study for 2020 graduates (<https://estudis.aqu.cat/dades/Web/Inici>) allow some conclusions to be drawn to place the University of Lleida with respect to the rest of the universities, although the values are also included in the Engineering area.

In general, the results are similar between Catalan universities, barring some differences that are usually a consequence of the socio-economic environment of each of them. Regarding the occupancy rate for graduates of master's degree studies, it is observed that it is very high (93.8%), above the average for the rest of the participating universities, and 80% of graduates carry out specific functions related to their training.

It should also be noted that 57% of UdL graduates have salaries of more than €2,000, and 93.5% work full-time. 69.5% are hired by private companies while 30.5% are hired by public enterprises.

Regarding satisfaction with their studies, 78.1% would repeat their master's degree and 93.8% would do it again at the UdL. These figures are well above the average for Catalan universities, which stand at 68.6% and 89.5%, respectively.

These data show that the socio-economic environment, the size of the city and the University facilitate contact networks. This is especially interesting since the contacts of the teaching staff of the degree with companies favours the immediate access of students to job offers, but also the contact of the School with the companies is fluid and close, fostering a continuous flow of job offers to through the services of the UdL.

Improvements and good practices

- **Promotion of companies, projects and offers**

Many companies consider that students do not know the company, the type of projects that students can carry out in them, the profiles required and the possibilities that they can offer them. That is why companies demand means to make themselves visible to students. In this sense, various actions are carried out by the EPS:

- Encouraging the participation of companies in the UdL job fair, Fira UdL treball. This fair is promoted by the University and is a meeting place between companies and students, where several conferences or workshops are held by companies, human resources professionals, staff from the UdL job bank, etc.
- *EPS Professional Gateway*. The main objective of this School programme is to prepare the student for job placement in companies in the sphere of influence of the UdL that require professionals from the field of engineering. In each session an activity is planned that allows the student to acquire a holistic vision of the job placement process, contact companies and learn about their future project.
- Promotion of joint School-Company activities in the field of ICT:
 - *Hackathon* programming where different companies and the School itself launch different challenges and students compete for the best solution

(<https://www.udl.cat/ca/serveis/oficina/agenda/Hackathon-de-IEPS-HackEPS-2020/>). The companies participate in the assessments and sponsor the event and the student awards. This activity is open even to students from other universities. It is worth noting that this activity is totally organized by the students themselves, both undergraduate and master's degree students, and they are in charge of establishing contacts with companies, as well as organizational details.

- Summer courses taught at the School by highly qualified professionals who work for the companies. For instance:
 - Mainframe programming
 - Video Game Programming
 - Programming in ERP environments

- **Improving the job placement of graduates**

The job placement of our graduates is the ultimate goal of the entire learning process. Hence, various actions are carried out such as:

- *Implementation of Dual Training.* The main objective of dual training is for the student to acquire certain skills in a real work environment. In this way the student learns based on real cases and gains professional experience. This modality includes an employment contract for students, who work part-time in the company during the academic year and full-time outside the academic year. This solves the students' need to gain experience and enter the world of work while they are studying one of the master's degrees.
- Student participation in Fira UdL treball is promoted.
- The Industrial Doctorate programme is promoted among ICT companies with an interest in MEInf graduates.



4. Resources

Criterion 4.1 Staff

The different positions for teaching staff (PDI) in the Spanish university system are classified according to being full- or part-time, and permanent or non-permanent, as follows:

- Full time
 - Permanent:
 - Professor / Contracted Professor (PhD)
 - Senior Lecturer (PhD), (also denoted as TU or Aggregate)
 - University School Senior Lecturer (also denoted as TEU)
 - Permanent Collaborating Lecturer (also denoted as Collaborator)
 - Non-permanent:
 - Assistant Lecturer (PhD).
 - Postdoc positions or visiting positions (PhD)
- Part time non-permanent:
 - Adjunct lecturer: external professionals from companies
 - Predoctoral fellow: PhD students are requested to give a few lectures in their area of study.

During recent years the University has made an effort to facilitate promotion to higher positions. In the case of the School, the following table shows the calls made since 2018:

Position	Year				Total
	2018	2019	2020	2021	
Aggregate		8	2	2	12
Professor		6	4	1	11
Assistant Lecturer	1	3	9	1	14
Total	1	17	15	4	37

This positions are related to the department and the area of knowledge that are detailed below:

Department/Area of Knowledge	Calls
Business Administration	1
Business Organization	1
Agroforestry Engineering	1
Agroforestry Engineering	1
Informatics and Industrial Engineering	25
Computer Architecture and Technology	3
Computer Science and Artificial Intelligence	5



Department/Area of Knowledge	Calls
Architectural Constructions	2
Chemical Engineering	4
Languages and Computer Systems	5
Thermal Machines and Engines	3
Electronic Technology	3
Mathematics	6
Applied Mathematics	6
Environment and Soil Sciences	4
Applied Physics	3
Applied Physics (Profile: Renewable Energies)	1
Total	37

In the case of Assistant Lecturers, they have 5 years to upgrade to Senior Lecturer. In order to apply for a promotion, candidates must pass an external assessment held by the government, and then pass a competitive selection process which is open to any candidate meeting the conditions.

Along their professional career, permanent teaching staff is submitted to periodic assessments:

- Research track (Six-yearly research increment/)
 - Every six years the teaching staff submits a report of the research activity he or she has done over that period: publications, conferences, projects etc. The report is assessed by a committee. If the amount and quality of activity is regarded as sufficient, that period is approved or recognized, and the person gets a salary increase.
 - The concept “live/active research track” is used to denote that a teacher has passed all the possible research tracks at a given moment. Having an active research track is important, since it leads to a decrement in the teaching hours assigned.
- Teaching track (Five-yearly teaching increment)
 - Similarly, every five years the teaching activity is assessed, taking into account the completion of the guides of the subjects, teaching coordination, teaching and assessment methodologies, innovative teaching projects, teaching-related publications, opinion of students, and performance results. Each teacher must present a self-report detailing and analysing his or her teaching, and suggesting actions for improvement, which is completed with the data that the university collects. If this teaching track is passed, the person gets a salary increase.

MASTER'S DEGREE IN INDUSTRIAL ENGINEERING

The profile of the teaching staff of the Master's Degree in Industrial Engineering aims to establish a certain balance between academic staff and external expert staff and adjunct lecturers who are more directly in contact with the most innovative technologies used in industry. For this reason, 18.5% of the teaching hours are taught by adjunct lecturers or external personnel and the rest of the hours, 81.5% by teaching and research personnel. For this reason, the profile of the teaching staff is considered to be very appropriate to the characteristics of the degree to be taught.



Among the 34 teachers of the master's degree, 23 are PhDs (70%). By type, of the 22 full-time permanent staff, 21 are PhDs, as well as 1 assistant lecturer (in the process of consolidation). Adjunct lecturers and external expert staff, 11 in total, are mostly professionals who provide the vision of technology and the labour market in different subjects.

Regarding the qualification of said teaching staff, both in teaching and in research aspects, it should be noted that 60% of the teachers involved in the master's degree have been assigned with teaching tracks, as well as 45% of the PDI who teach have active research tracks.

The students' assessments reflect their evaluation of this teaching profile. In the latest available results (2019-20 academic year) the degree of satisfaction with the teaching staff, satisfaction with the TFM, and overall satisfaction with the master's degree scored 4.3 (out of 5).

MASTER'S DEGREE IN COMPUTER ENGINEERING

The profile of the teaching staff of the Master's Degree in Computer Engineering is considered very appropriate for the characteristics of the degree. Of the 33 teaching staff of the master's degree, 21 are PhDs (63%). By type, of the 18 full-time permanent teachers, 16 are PhDs, as well as 4 assistant lecturers (in the process of consolidation). Among adjunct lecturers, mostly expert professionals who provide market insight into different subjects, 1 of the 11 is a PhD. This percentage increases if we consider the number of teaching hours, since 75% of the teaching is given by PhD teaching staff.

As can be seen from the absolute numbers of teachers, the ratio of teachers per student is high, with a level of personal attention to students that is reflected in their assessment, 4.7 out of 5.

Regarding the qualification of said teaching staff, both in teaching and research aspects, it should be noted that 66% of the teachers have active teaching tracks while 58% of the PDI that teach have active research tracks.

Regarding teaching assignments to subjects, it should be noted that, only on rare occasions is a significant percentage (greater than 50%) of a subject assigned to non-doctoral lecturers. This exceptional assignment only occurs in subjects where these external adjunct lecturers contribute significantly through their professional experience, as for example, in the subject of TECHNOLOGICAL BUSINESS MANAGEMENT AND ENTREPRENEURSHIP, where the business world perspective can provide students with much greater value than the academic world perspective.

This teaching profile is reflected in the students' evaluations, obtaining a score of 4.7 in the questions related to the suitability of teachers in the period 2017/18 to 2020/21, as well as a score of 4.7 of the master's degree thesis.



Criterion 4.2 Staff development

In the 2019 accreditation, the support and opportunities offered by the institution to improve the quality of the teaching and research activity of the teaching staff were valued positively. It was considered that the teaching staff has considerable institutional support for carrying out its functions and for the improvement of the quality of its teaching and research activity.

The University and the EPS are interested in collecting the opinion of the teaching staff in relation to the degree. Based on a survey shared by AQU and all Catalan universities, the UdL organizes a survey every two years.

In the following table, it is observed that the most valued aspects of the EPS faculty are:

- Degree of teaching dedication
- The teaching methodologies
- The evaluation strategies
- The organization of the curriculum deployment (groups, schedules, etc..)

	Academic Year	
	2017-18	2019-20
Questionnaires	Average	Average
Degree survey - Teaching staff	3.88	4.07
0. Degree of teaching dedication:	4.24	4.39
1. Degree of teaching dedication in the bachelor's/master's degrees in which you participate (as a % of your overall dedication as a teacher in teaching, research and management).	4.24	4.39
1. General aspects:	3.83	4.12
1. The institutional support (training/consultation/contributions of the central units) for carrying out the teaching activity.	3.65	4.23
2. Teaching coordination in the degrees in which you participate.	3.86	4.10
3. The relevance of internal information mechanisms / systems.	3.90	4.05
4. The relevance of the request to provide evidence that you have received in order to prepare the follow-up reports and the self-report for accreditation.	3.93	4.09
2. Indicate your satisfaction with:	3.87	4.03
1. The admission profile of students	3.44	3.45
2. The structure of the curriculum (subjects and their weight)	3.64	3.94
3. The profile of competences (expected learning outcomes) in the degree	3.82	4.19
4. The organization of the deployment of the curriculum (groups, schedules, etc.)	4.24	4.31
5. The teaching methodologies you have used	4.21	4.37
6. The evaluation strategies you have used	4.26	4.32
7. The work and dedication of students	3.11	3.47
8. The adequacy of the approach, organization and evaluation of the TFG / TFM	3.83	3.92
9. Adequacy of the approach, organization and evaluation of External Internships (if applicable)	4.29	4.17
10. Available teaching resources	4.05	4.20
11. The learning outcomes obtained by the students of the subjects you teach	3.73	4.00



12. Overall assessment of the level of training of the graduate student of the degree in which you participate	3.92	4.04
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The institution continues to offer significant support to teaching and research activities. Each year, the University Teacher Training Service offers a Comprehensive University Teacher Training Plan with the aim of improving the activity of university teaching staff as a whole, taking into account that it includes teaching and tutorial action but also research and management. Its website is: <http://www.formacioprofessorat.udl.cat/>. It is worth mentioning, that these courses also include teacher training in gender perspective. In this sense, three of the courses organized last year were:

- Applying gender perspective to engineering and building programmes.
- The gender perspective as a guarantee of quality and equity of university teaching
- Situation and approach to sexual harassment in universities

Also notable is the support received by the teaching staff from the Unit of Support and Advice for Teaching Activity, the structure responsible for advising and supporting the UdL's face-to-face and online teaching-learning processes. This unit promotes teaching innovation processes and the use of information and communication technologies in face-to-face and non-face-to-face teaching-learning processes, focusing efforts on achieving high levels of pedagogical quality. Its website is: <http://www.saad.udl.cat/ca/>. The support that the teaching staff receives from this unit in the use of the Sakai virtual campus is noteworthy, this being an essential tool in the day-to-day of the subjects. Likewise, it is worth highlighting the language training offered by the UdL Institute of Languages (<http://www.udl.cat/serveis/il.html>). Given that our Centre makes a clear commitment to the internationalization of our degrees, having these courses is a basic tool for improving the language skills of the teaching staff.

Concerning research, the Vice-Rector's Office for Research and Transfer (<https://www.udl.cat/ca/organs/vicerectors/vrt/>) has research competencies and is responsible for the different actions (<http://www.udl.cat/ca/recerca/>).

Each year, the UdL announces competitive grants for the implementation of innovation and teaching improvement projects (<https://www.udl.cat/ca/organs/vicerectors/voa/innovacio-docent/>). Specifically, in the 20/21 academic year, grants were offered, 5 of which were awarded to professors or EPS teams, who will carry out their project during the 21/22 academic year. (4_03_MilloraDocencia_202021.pdf).

Teachers have the possibility, through the Erasmus + KA107 Scholarships for teacher mobility, to spend a week at a foreign university with which the UdL has signed an inter-institutional agreement in which they will teach classes and become familiar with the pedagogical experiences that are being developed in the host centre. The grants also offer the opportunity to build international networks of contacts.

On its website, the Vice-Rector's Office for Research publishes all the available grants that teachers and doctoral students can apply for in order to encourage their research. It is worth mentioning calls devoted to the promotion of research, mobility for research or even for setting up outstanding research project proposals (<http://www.udl.cat/ca/recerca/convoca/>).

Besides, the UdL has several research support services such as:

- The R&D&I Support Office is a service of the University of Lleida whose main objectives are to promote research activities and services to companies, respond to the needs of researchers and respond to the needs of public and private institutions belonging to the research and innovation system (<http://www.udl.cat/ca/recerca/oficina/>).
- The GREC (<http://www.udl.cat/ca/recerca/grec/>) is a research management tool to locate, consult and update the data and curricula of research groups and researchers. The GREC



- application also offers information on calls for internal and external research grants, that may be of interest to both teachers and students (<http://www.udl.cat/ca/recerca/convoca/>).
- The European Projects Unit (<http://www.udl.cat/ca/recerca/oficina/projectes/>) is a support and advice tool for the provision and management of projects.
 - Scientific-technical Services (<http://www.udl.cat/ca/recercaNew/serveis-cientific-tecnics/>) are the scientific resources (human and technological equipment) that the UdL makes available to its researchers, other public and private institutions, and companies.
 - The Technological Springboard (<http://www.trampoli.udl.cat/>) supports the creation of technology-based companies and innovative businesses, and the exploitation of intellectual and industrial property.
 - The University of Lleida Foundation (<http://www.fundacio.udl.cat/>) is a non-profit organization that sets out to achieve objectives of general interest where the beneficiaries are the university community and society. The Foundation's objectives of general interest include promoting relations between the University of Lleida and the socio-economic and cultural environment, foster scientific, humanistic and technical research; as well as technological innovation, in relation to companies and the development of society
 - The TECNIO Network (http://www.trampoli.udl.cat/centres_tecnio) supports the creation of technology-based companies and innovative businesses, and the exploitation of intellectual and industrial property.

The research structures of the UdL are the Departments (<http://www.udl.cat/ca/centres/>), Research Groups (<http://www.udl.cat/ca/recerca/oficina/grups/>) and the UdL Research Network (<http://www.udl.cat/ca/recerca/anella/>).

As part of this network, the INSPIRES centre (<http://inspires.udl.cat/>) brings together all EPS research groups, setting up a multidisciplinary team specialized in the fields of energy management, efficiency, usability, high-performance computing, and solving optimization problems, among other topics related to the field of sustainability and technology. The INSPIRES centre has an administrative support technician for researchers, to facilitate all administrative procedures concerning related research projects, which complements the support of the departments for research. In addition, the INSPIRES centre regularly organizes seminars open to the entire EPS and UdL community in which the research carried out in the different research groups is presented, especially by doctoral students, as well as taking advantage of the opportunity offered by visiting professors and researchers to be able to explain their scientific production and the training programmes of their universities of origin, and thus explore possibilities for future collaborations.

The improvements and good practices implemented as a result of the internal evaluation process since the 2015 accreditation are described below.

- **Actions to improve interaction with the business environment:**

The School has substantially increased its relationship with the business fabric of its environment by promoting the following mechanisms:

- **Implementation of Dual Training**

Dual training has made it possible to further strengthen ties between the Polytechnic School and the surrounding companies thanks to continuous contact, since this training involves periodic meetings between academic tutors and company tutors, facilitating communication and enabling collaboration in other fields. such as research, participation in degree subjects, joint research projects, etc. Throughout the period considered, numerous visits have been made to companies to explain the dual training project, which have resulted in a total of 24 offers of dual training places for the master's degree in Industrial Engineering and 52 for the master's degree in Computer Engineering.

At the same time, the early introduction of Dual Training in the EPS has allowed getting involved in the Working Group for the Promotion and Development of Dual Training in the University System of Catalonia. The recent challenges of the Government of Catalonia to build a future based on the Knowledge Society that materialized in the National Pact for the Knowledge Society (PN @ SC: Pacto Nacional para la Sociedad del Conocimiento) calls on universities to develop strategies and actions that promote collaboration between the higher education system and enterprise. More specifically, the Pact suggests the promotion and development of dual training in the Catalan university system, for which it is necessary to:

- Promote dual training in university degrees with a professional profile through a closer relationship between the university and companies and other organizations, to improve the skills of university students.
- Develop and apply policies for higher-level dual training, based on the specific context (productive sector - prioritization).
- Establish a university-company relationship mechanism, to bring together the needs of the professional profiles on the part of the industrial fabric and the productive fabric, characteristic of each territory, and those of the dual study plans.

In this framework, and to consolidate a Catalan university model of dual training, the Academic Programming and Organization Committee considered the creation of a Working Group, within the framework of the Interuniversity Council of Catalonia (CIC), with the main objective of drawing up and agreeing to the proposals for actions to develop dual training, at the level of the Catalan university system, in order to provide it with mechanisms that facilitate its implementation, both face-to-face and virtual, as an innovative training option to improve employability and the individual development of students, by increasing the suitability and continuity between the professional world and the academic training of students and streamlining the use of economic resources and enhance social integration.

The Working Group for the Promotion and Development of Dual Training in the University System of Catalonia is made up of a representative of each University of the Catalan university system, representatives of the General Directorate of Universities and the General Secretariat of the Interuniversity Council of Catalonia, from the Department of Business and Knowledge and a representative from AQU Catalunya. This group is coordinated by Margarita Moltó Arribau, a professor at the Polytechnic School of the University of Lleida.

- **Promotion of Industrial Doctorates**

The Industrial Doctorate Plan aims to contribute to the competitiveness and internationalization of the Catalan industrial fabric, attract talent, and train doctors for companies within R&D&I projects. The essential element of the Industrial Doctorate process is the strategic research project of the company where the doctoral student conducts his or her research training in collaboration with a university, and is the subject of a doctoral thesis. For universities, industrial doctoral projects are an opportunity to transfer their technology and knowledge to the productive environment and thus strengthen ties with the business world. The EPS has not been left out of this great opportunity and has participated since its inception. So far, three industrial doctoral theses have been presented (in the companies Scytl, Ilerfred and Sallen) and another three are in progress, two in the computer company Lleida.net and one in the industrialized building company PMP Prêt-à-Porter casas.

[Link to Industrial Doctorates.](#)

<http://www.udl.es/ca/serveis/oficina/Noticies/La-UdL-inicia-els-seus-primers-cinc-doctorats-industrials/>



<http://www.eps.udl.cat/ca/noticies/LEPS-present-en-lacte-de-reconeixement-als-Doctorants-Industrials/>

- **Renewal of chairs with companies (INDRA)**

The University of Lleida, through the Indra-Adecco Foundation chair, has developed a set of accessibility tools that facilitate the access of people with motor disabilities to new technologies. Within the framework of this Chair, successful technological solutions such as the HeadMouse virtual mouse and the VirtualKeyboard virtual keyboard have been developed, which have been downloaded nearly 400,000 times worldwide. In addition, REM and APR projects are being developed that can transform the way people interact with computers. The REM project consists of a hardware device that is connected to a computer with a USB connector that will allow controlling the movement of the cursor with the movement of the eyes. This project is designed as an accessibility tool for users who cannot move with their head and, therefore, cannot use HeadMouse. And finally, the APR concept arises from the need for a worker with a disability to be able to carry out their work electronically, attending meetings or enjoying moments of relaxation with their colleagues.

- **Strengthen the relationship with companies in the Gardeny Technology Park**

The Lleida Agrifood Science and Technology Park, located in Gardeny, is an ambitious and strategic commitment of the territory in order to promote innovation and technological quality in Lleida companies, favouring the transfer of knowledge and improving the competitiveness of the companies. It is a public consortium owned 50% by the University of Lleida and 50% the City Council.

According to 2016 figures, the park houses 1,410 workers and researchers (mainly engineers and university graduates), with a joint turnover of € 124.1M and a total investment of € 85M.

Since its inception, the EPS has collaborated closely with the companies of the Park (INDRA, GFT, Eurecat, IFR, Semic, Lleida.net...), both for the relationship of curricular or extracurricular internships of our students and for the development of bachelor's or master's degree' theses within these companies. In recent times, these relationships have intensified yet further due to the necessary complicity for the implementation of Dual Training, as well as for the implementation of industrial doctorates in some companies.

This close relationship with the productive sector is a strength of the EPS that should undoubtedly continue to be consolidated.

- **Specific programme to improve teaching infrastructures and laboratories**

The Campus Vice-Rectorate launched a Call for Teaching Teams (4_04_UdL_Convocatoria_Equipos_Docencia.pdf) during the 2016-2019 period, with the aim of updating, renovating, expanding or even creating new teaching laboratories in the different faculties. In the case of the EPS, the budget allocation has been significant, as shown in the following table:

Year	2016	2017.	2018	2019	Total
Endowment €	72,884	86,663	98,094	44,570	302,211

This call has made it possible to equip the EPS with laboratories with very up-to-date technological equipment, in the fields of industrial engineering, computer engineering and technical architecture.

The improvement of the facilities has continued throughout the 2019-2021 academic years. Section 2.4 offers a detailed list of the improvements in infrastructures, laboratories and software.

- **IMPULS programme to promote strategic teaching projects**

The UdL has a Teaching and Training Strategy, approved by the Governing Council in February 2014 and updated in July 2020 (2_09_UdL_TeachingStrategy) that aims to build a differentiated teaching



model with its own identity, within the Catalan and Spanish university system. A model whose distinguishing features lie in academic and social prestige, the integral quality of the teaching, and in the guarantee of employability of the training. Among the different actions that this strategy contemplates, the annual Programme of Actions to Promote the Academic and Social Prestige of Official Studies (Programme IMPULS) stands out. This programme addresses the seven faculties, and its main objective is for the faculties to develop a series of actions aimed at strengthening the academic prestige and social prestige of the different undergraduate and master's degrees. In the EPS, this programme has allowed financing actions such as:

- Promotion of internationalization: international double degrees, WWPEPS event of international partners, institutional visits to partner universities, increasing the number of mobility destinations...
 - Promotion of scientific-technological vocations: organization of workshops for secondary schools, participation in activities to promote and disseminate technology such as the First Lego League, Ciència al Carrer (science in the street), Mercat de la Tecnologia technology market, etc.
 - Invite international teachers to carry out stays and conferences at the EPS.
 - Promote the mobility of teachers.
 - Improve the School's promotional resources: prepare a promotional video, new brochures, improve its presence on social networks, etc.
- **Administrative support for the INSPIRES Research Centre and its researchers.**
 - The INSPIRES research centre has hired an administrative support technician, whose functions are: to help research groups attract research resources.
 - Collaborate in the process of contacting companies interested in carrying out innovation and research with the INSPIRES research groups.
 - Administrative support to the INSPIRES own research centre.
 - Support to research groups in the financial rationale of the research projects developed by the centre itself.

Analysis of changes due to the pandemic: The EPS has kept teachers informed of the updates made by the SIC (Information and Communication Systems) to provide all kinds of tools and services to facilitate the remote monitoring of subjects (recorded classes, videoconferences, questionnaires, forums, tests), as well as the Instructions for the preparation of assessment tests using the test tool and questionnaires of the virtual campus, with the aim of guaranteeing the proper implementation of tests and avoiding incidents or possible system overloads.

Since the beginning of the pandemic, the UdL has offered various online courses to learn about virtual teaching methodologies, as well as the use of the tools available on the virtual campus. The follow-up of the courses at the Polytechnic School has been as follows:

Academic year	2019-2020
Course Name	Course Attendees
Virtual teaching	39
III CONFERENCE ON UNIVERSITY AND ICT TEACHING ACTIVITY # ADUTIC20: THE MANAGEMENT OF NON-FACE-TO-FACE TRAINING	15
THE VIRTUAL CAMPUS TOOLS TO CARRY OUT BLENDED TEACHING	20
USING THE UDL VIRTUAL CAMPUS TEST TOOL	3
USING THE VIRTUAL CAMPUS VIDEOCONFERENCING TOOL	1
Other courses	68



Academic year	2019-2020
Course Name	Course Attendees
WE LEARN AND TEACH WITH COMMUNITY RESOURCES AND THROUGH ART. HOW WE CAN INCORPORATE IT IN OUR UNIVERSITY	1
CHALLENGE-BASED LEARNING IN THE CONTEXT OF DUAL TRAINING I	1
OPEN SCIENCE: OPEN PUBLICATIONS (IGUALADA CAMPUS)	8
HOW TO WRITE AND PUBLISH A SCIENTIFIC ARTICLE	1
HEALTH AND WELL-BEING EDUCATION	4
TOOLS FOR INTERVENTION IN GENDER-BASED VIOLENCE IN THE ACADEMIC SETTING	1
INTRODUCTION TO MINDFULNESS	2
INDEST SCIENCE DAY OF: INSTERDISCIPLINARITY IN THE SOCIAL SCIENCES AND THE HUMANITIES	3
CONFERENCE ON ACTIVE TEACHING TECHNOLOGIES AND METHODOLOGIES AT THE POLYTECHNIC SCHOOL AT THE IGUALADA-UdL UNIVERSITY CAMPUS 19/20	17
CONFERENCES FOR COORDINATORS OF TRAINING PROGRAMMES (DEGREES)	6
CONFERENCES FOR COORDINATORS OF TRAINING PROGRAMMES (MASTERS)	1
EUROPEAN PROJECTS. HOW TO WRITE A HORIZON 2020 PROPOSAL FOR RESEARCHERS WITH PREVIOS EXPERIENCE IN COMPETITIVE PROPOSALS	6
EUROPEAN PROJECTS. FUNDING, HORIZON 2020 PROGRAMME AND ADMINISTRATIVE AND FINANCIAL ASPECTS FOR BEGINNERS	4
WHAT CAN THE LIBRARY OFFER TO THE NEW EPS TEACHERS ON THE IGUALADA CAMPUS	2
COMPETECS SEMINAR: APPLICATION OF THE OBSERVATIONAL METHODOLOGY IN COMPETENCE-CENTRED RESEARCH	1
EMOTIONAL EDUCATION WORKSHOP FOR HEALTH AND WELL-BEING	1
ROUND TABLE: FLIPPED CLASS USE EXPERIENCES AT UDL	9
Total	107

Academic year	2020-2021
Course Name	Course Attendees
Virtual teaching	101
ONLINE TEACHER TRAINING ACCORDING TO THE UNADISTA FRAMEWORK	8
STRATEGIES TO IMPROVE ONLINE ASSESSMENT	4
II TRAINING SEMINAR BLENDED CLASSROOMS PROJECT: RESOURCES AND ORIENTATIONS AFTER AN ACADEMIC YEAR OF BLENDED TEACHING. EDUCATION AND ADOLESCENCE CHAIR	1
IMPLEMENTATION OF A TEACHING VIRTUALIZATION PROJECT: USE OF THE VIRTUAL CAMPUS, INTERACTIVE TOOLS AND MOBILE DEVICES	1
IV CONFERENCE ON UNIVERSITY AND ICT TEACHING ACTIVITY # ADUTIC21: THE EVALUATION OF LEARNING IN TIMES OF CONFINEMENT	5
CONFERENCE ON ACTIVE TEACHING TECHNOLOGIES AND METHODOLOGIES AT THE HIGHER POLYTECHNIC SCHOOL AT THE IGUALADA-UdL UNIVERSITY CAMPUS 20/21	17
THE VIRTUAL CAMPUS LESSON TOOL	2



Academic year	2020-2021
Course Name	Course Attendees
THE KALTURA TOOL, VIDEO STREAMING ON THE VIRTUAL CAMPUS	16
LET'S TALK ABOUT VIRTUAL CAMPUS TOOLS: LESSONS, FORUMS AND TESTS	3
USE OF THE TEST TOOL OF THE UdL VIRTUAL CAMPUS	3
VIRTUAL WORKSHOP ON TEACHING IN TIMES OF COVID AT EPS-UdL 20/21	41
Gender perspective	19
APPLICATION OF THE GENDER PERSPECTIVE IN TEACHING: FIELD OF ENGINEERING AND ARCHITECTURE	9
THE GENDER PERSPECTIVE AS A GUARANTEE OF QUALITY AND EQUITY OF UNIVERSITY TEACHING	4
SITUATION AND APPROACH TO SEXUAL HARASSMENT IN UNIVERSITIES	6
Others	104
COMPOSITIONAL DATA ANALYSIS IN SOCIAL SCIENCES	1
ACTIVE LEARNING IN LARGE GROUPS	2
OPEN SCIENCE: PUBLICATIONS AND OPEN RESEARCH DATA	1
HOW TO WRITE AND PUBLISH A SCIENTIFIC ARTICLE	1
HOW TO CARRY OUT PATENT SEARCHES IN FREE DATABASES	6
COMPETENCES AND PEDAGOGICAL TRAINING OF UNIVERSITY TEACHERS	1
MANAGEMENT, CORRECTION AND ASSESSMENT OF TFG AND TFM	4
THE FLIPPED CLASS MODEL: AN ALTERNATIVE TO ONLINE TEACHING	2
THE PROCESSES OF TEACHER ACCREDITATION AQU CATALONIA: READER, AGGREGATE AND PROFESSOR	10
CONTINUOUS ASSESSMENT STRATEGIES FOR LARGE GROUPS	6
STRATEGIES FOR IMPROVING THE WRITING OF SCIENTIFIC ARTICLES IN THE FIELD OF THE SOCIAL SCIENCES	1
STRATEGIES TO IMPROVE PROGRAMMING LEARNING IN ENGINEERING	12
ACADEMIC AND TEACHING MANAGEMENT AT THE HIGHER POLYTECHNIC SCHOOL (EPS) II - DDTEC	3
MENDELEY BIBLIOGRAPHY MANAGER - ADVANCED	1
MENDELEY BIBLIOGRAPHY MANAGER - BASIC	1
MENDELEY BIBLIOGRAPHY MANAGER (IGUALADA CAMPUS)	1
IMPLEMENTATION OF UNIVERSAL SUPPORT MEASURES FOR INCLUSIVE LEARNING WITH ALL STUDENTS	1
INDICATORS AND METHODS FOR EVALUATING SCIENTIFIC PRODUCTION: SCIENCES	1
INTRODUCTION TO THE USE OF ARCGIS FOR THE PRESENTATION AND ANALYSIS OF SPATIAL DATA	2
THE FLIPPED CLASS AS AN ALTERNATIVE TO DISCONTINUOUS PRESENCE	5
TEACHING DIGITAL COMPETENCES: CHALLENGES AND OPPORTUNITIES IN THE DIGITAL CONTEXT	1
TEACHER-CENTREED TEACHING: IMPROVING EXPOSITORY TEACHING	2
STUDENT-BASED LEARNING	4



Academic year	2020-2021
Course Name	Course Attendees
LEARNING SERVICE AT THE UNIVERSITY AND THE OPTIMIZATION OF QUALITY IN HIGHER EDUCATION	2
LEARNING-ORIENTED ASSESSMENT: WHAT CAN WE DO TO GO BEYOND QUALIFICATION	2
OPTIMIZATION OF TIME AT WORK	3
EUROPEAN PROJECTS. HOW TO WRITE A HORIZON EUROPE PROPOSAL FOR RESEARCHERS WITH PREVIOUS EXPERIENCE IN COMPETITIVE PROPOSALS	2
EUROPEAN PROJECTS. STRUCTURE OF THE NEW HORIZON EUROPE PROGRAMME, TECHNICAL, ADMINISTRATIVE AND FINANCIAL ASPECTS FOR BEGINNERS	7
DATA PROTECTION	2
PROTECTION, VALORIZATION AND TECHNOLOGY TRANSFER. KEY STRATEGIES AND FACTORS TO KNOW	3
TEACHING RESOURCES IN THE FIELD OF ENGINEERING: INFORMATION RESOURCES AND TEACHING SUPPORT SERVICES (IGUALADA CAMPUS)	3
ROUND TABLE: INTERACTIVE TOOLS TO DYNAMIZE TEACHING	5
ROUND TABLE: EXPERIENCES OF USING GRAPHIC TABLES FOR THE DEVELOPMENT OF TEACHING AT THE UdL	4
EMOTIONS, FEELINGS AND STRESS MANAGEMENT TECHNIQUES	1
NEGOTIATION TECHNIQUES	1
Total	224



Criterion 4.3 Funds and equipment

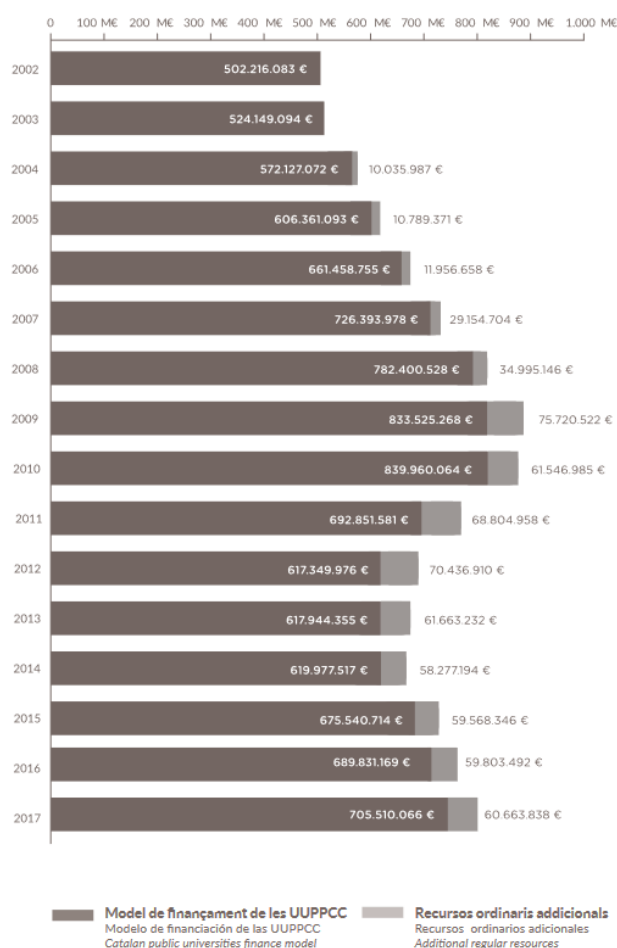
Financial resources

The University of Lleida is one of 7 Catalan public universities that receive funding from the Generalitat de Catalunya. The Catalan government annually sets the public prices for university studies and therefore the basic source of income for public universities. Apart from income from fees, Catalan public universities receive public resources from the Administration of the Generalitat:

- for running costs
- to achieve strategic objectives
- for investments and equipment

The Generalitat of Catalonia, which from 2003 to 2010 had notably increased public funding for university activity, applied significant restrictions during the hardest years of the financial crisis, from 2011 to 2013. As of 2015, it has risen slowly, in 2017 reaching similar levels to 2007.

Figure 1. Evolution of funding in Catalan public universities



Source: Training and teaching indicators of Catalan public universities. Report 2018. ACUP.
https://indicadorsuniversitats.cat/wp-content/uploads/2020/08/informe_docencia_2018.pdf .

The evolution of the funding of Catalan universities is reflected in the evolution of the budget of the University of Lleida, which is shown in the following table.

Evolution of the UdL budget. Period 2016-2021

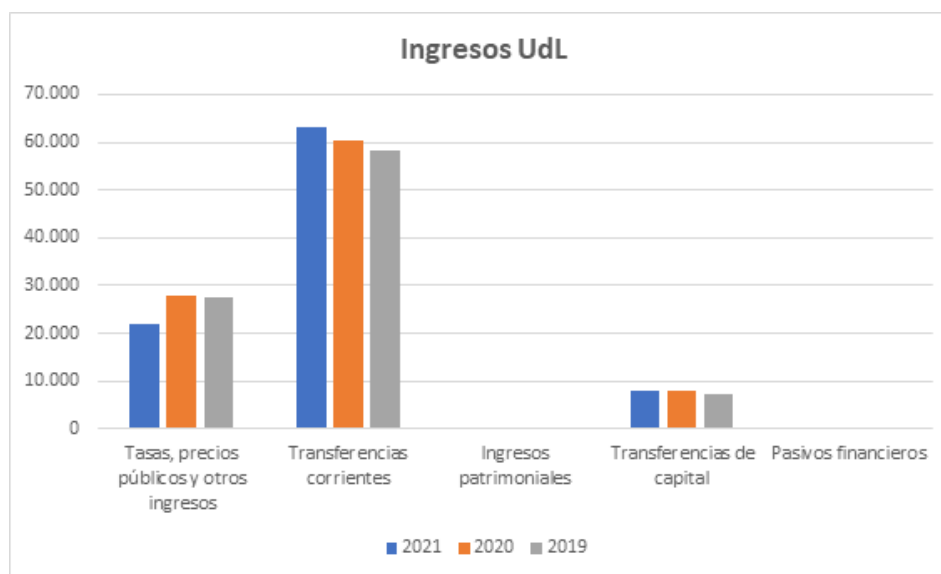
Year	UdL general budget	% Variation
2016	81.351 M (€)	
2017	83.073 M (€)	2.12%
2018	84.871 M (€)	2.16%
2019	93.756 M (€)	10.47%
2020	96.304 M (€)	2.72%
2021	93.180 M (€)	-3.24%

Source: Authors' own taken from UdL budgets

The budget increment that occurred in 2019 was due to the incorporation into the university of a new Campus located in Igualada.

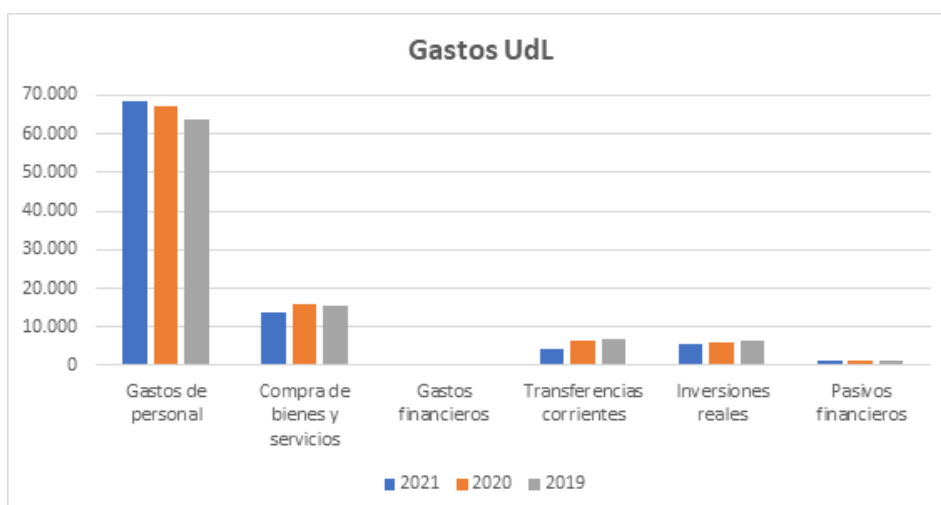
Figure 2 shows the total income corresponding to the UdL for the periods 2019, 2020 and 2021, where it can be observed that more than 60% of the budget comes from transfers from the Generalitat (Current Transfers), while 25% comes from tuition fees.

Figure 2: UdL revenue 2019-2021.



Source: Authors' own based on the UdL budgets for 2020 and 2021.

Figure 3: UdL expenses 2019-2021.



Source: Authors' own based on the UdL budgets for 2020 and 2021.

With this general budget, the University of Lleida covers personnel expenses, ordinary expenses and infrastructures associated with the 7 teaching centres and the different departments and services of the University, as can be seen in Figure 3. Likewise, Figure 3 shows the expenses corresponding to the years 2019, 2020 and 2021. This same Figure shows how the personnel costs account for 74% of total expenditure. On the other hand, and in addition, it also distributes the budget, basically for the goods and services chapter, by teaching centre and by department that allows the directorates and deans to draft university policy and undertake strategic actions.

The amount of the budget that is distributed among the centres of the University is divided into three blocks:

- Block A (55%): size
- Block B (35%): funding by objectives
- Block C (10%): funding by programmes

Block A: An amount that the University of Lleida assigns to the different centres according to their size, where the key variables are the number of students at the Centre, the number of teachers and the demand for teaching hours.

Block B: Assigned based on the year-on-year evolution of the School performance indicators, which are:

- Efficiency rate
- Dropout rate
- Performance rate
- Number of degrees with more than 30 new students per year

Block C: The result of an agreement reached between the Centre and the vice-rectorate, based on the definition of a series of strategic improvement actions that must be achieved throughout the year. The origin of these strategic actions lies both in the monitoring reports of the degrees, and in the monitoring of the Centre's Improvement Plan.

In this way, Blocks A and B will be assigned and transferred at the beginning of the budget period, while Block C will only be transferred at the end of the year in the event that the Centre complies with the



agreements reached.

In the case of the Polytechnic School, the annual budget allocation received from the University of Lleida is shown in the following table:

Budget Allocation to the Polytechnic School. Period 2016-2021

Year	Block A	Block B	Block C	TOTAL
2016	€25,277.68	€14,383.91	€4,513.00	€44,174.59
2017	€24,722.72	€14,563.41	€5,050.00	€44,336.13
2018	€25,947.93	€12,783.43	€6,064.42	€44,795.78
2019	€26,746.71	€15,167.38	€3,182.73	€45,096.82
2020	€26,746.71	€15,167.38	€5,347.00	€47,261.09
2021	€25,747.80	€11,375.54	€4,760.10	€41,883.44

Source: Authors' own based on data supplied by the UdL

This budget is basically dedicated to the chapter of goods and services of the School, such as the rental of equipment (photocopiers and printers), hardware maintenance, the procurement of office supplies, advertising and promotional expenses, conferences, training of faculty, formalities, registrations with professional associations such as deans' conferences, etc.

Apart from this ordinary budget, the Polytechnic School has other sources of funding that are irregular in nature and come from:

- EPS participation in the enrolment of the master's degrees, set at 20% by UdL management
- Fee for extracurricular internship agreements signed at the School and for calls
- Announcements or programmes undertaken by the University rector's team to promote strategic actions.

Additional income for the Polytechnic School. Period 2016-2020

Year	2016	2017.	2018	2019	2020
Master's degree enrolments	€1,915.65	€46,866.23	€10,861.75	€69,171.61	€19,860.91
Extracurricular agreements	€2,827.30	€4,636.41	€5,363.58	€6,000.06	€3,843.66
Special programmes	€25,000.00	€14,266.86	€0.00	€26,333.33	€17,658.00
Cross-disciplinary subject	€1,541.67	€3,843.18	€1,428.40	€2,253.24	€395.30
Repeated teaching	€26,982.82	€26,079.83	€35,598.19	€31,959.82	€33,679.31
Zero courses	€2,853.98	€6,423.30	€4,249.26	€7,905.60	€6,120.00

Source: Authors' own elaboration based on EPS budgets.

These additional resources allow the management of the School to carry out strategic actions such as: internationalization, the promotion of scientific-technical vocations, publicizing the Centre and the improvement of teaching infrastructures.

During the 2016-2019 period, the Infrastructures Vice-Rectorate launched a Call for Teaching Facilities, with the aim of updating, renovating, expanding or even creating new teaching laboratories in the



different faculties. In the case of the EPS, the budget allocation has been significant, as shown in the following table:

Calls for teaching facilities 2016/19 EPS

Year	2016	2017.	2018	2019	Total
Endowment €	72,884.00	86,663.00	98,094.00	44,570.00	302,211.00
Centre contribution	25,168.91	13,854.87	14,714.10	6,685.50	60,423.38

Source: Authors' own taken from the calls of the EPS

This call has made it possible to equip the EPS with laboratories with very up-to-date technological equipment, in the fields of industrial engineering, computer engineering and technical architecture. A detailed account of the improvements in infrastructures, laboratories and software during this period can be found below.

In this sense, from the 16/17 academic year, the EPS management undertook a policy of adapting the School's teaching laboratories to the new undergraduate and master's degrees, as a result of the process of adaptation of the UdL to the EHEA. This was possible, despite the reduction in the budget allocations of the School by the UdL, due to the application of the additional financial resources shown in Table 11 and the remnants of different budgetary years that had been accumulated for this purpose. This has meant an investment in recent years of more than € 146,958.24

The funding of the centre, which originates from public resources, is complemented by contributions from the private sector companies, in the form of sponsorships, or institutions (Lleida City Council, Lleida Provincial Council, Social Council of the UdL, the UdL Culture Committee and Igualada City Council in 2020).

Income from sponsorships by companies and institutions

Year	Income from public entities	Private sector income	Total Sponsorship Income
2016	€ 13,844.51	€ 7,300.00	€ 21,144.51
2017	€ 14,373.67	€ 8,000.00	€ 22,373.67
2018	€ 13,959.60	€ 9,500.00	€ 23,459.60
2019	€ 13,513.22	€ 9,500.00	€ 23,013.22
2020	€ 20,244.67	€ 9,000.00	€ 29,244.67

Source: Authors' own taken from EPS budgets

These contributions make it possible to undertake extraordinary activities complementary to the strategic actions of the School such as: The First Lego League (<http://www.firstlegoleague.udl.cat/ca/>), "Technology Market" (<http://www.ice.udl.cat/ca/activitats/tecnologia/>) and the World Robot Olympiad (<http://www.eps.udl.cat/ca/noticies/Emocio-i-Robotica-en-la-5a-edicio-de-la-WRO-Lleida/>). It must be said that these activities are basically aimed at promoting a scientific-technical vocation among secondary and high school students.

Regarding the two departments that are attached to the Polytechnic School, which are the Department of Informatics and Industrial Engineering (DIEI) and the Department of Mathematics, they also have a budget allocation that is presented in the following table:

**Budgetary allocation of departments attached to the EPS. Period 2016-2021**

Year	TOTAL BUDGET	
	DIEI	Math
2016	32,798.87	17,005.78
2017.	33,716.48	17,403.99
2018	34,204.23	17,338.87
2019	35,108.83	18,382.87
2020	34,531.11	18,923.30
2021	31,298.33	14,192.48

Source: Authors' own taken from UdL budgets

This allocation is distributed among their professors and is devoted to expenses related to teaching, the purchase of bibliography, renovation of IT personnel infrastructure, ordinary expenses and supplies or assistance to conferences

Finally, it should be noted that the 9 research groups of the School, all of them classified as Consolidated Research groups by the Generalitat de Catalunya (<http://www.eps.udl.cat/ca/recerca/grups-de-recerca>), have their own funding sources, obtained from competitive research calls, which allow them to fund the expenses associated with the research field.

Inputs		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	TOTAL
Special actions	34	2	1	1	0	1	0	2	0	0	0	41
Research grants	225	26	22	19	19	34	21	16	13	10	2	407
Contracts	604	43	33	34	31	22	44	124	238	189	122	1484
Aid to Consolidated Groups	8	0	0	9	0	0	9	0	0	0	0	26
Infrastructures	10	0	0	0	0	0	0	0	0	0	0	10
European projects	12	2	4	2	1	2	2	1	0	2	0	28
Research projects	81	2	5	4	4	7	7	6	7	8	0	131

Source: GREC (<http://webgrec.udl.cat/>)

These groups belong to the INSPIRES Research Centre (Institut Politècnic d'Innovació i Recerca en Sostenibilitat), <http://inspires.udl.cat/>, which receives funding from the UdL, as shown in the following table:

Published INSPIRES funding budget. Period 2017 - 2020

Year	INSPIRES Budget
2017	40,000.00
2018	55,000.00
2019	50,000.00
2020	44,341.00

Source: Authors' own based on data from the Vice-Rectorate for Research.



The available material resources and teaching infrastructures of the centre and university were valued very positively as “in progress to excellence” in the previous accreditation of 2019.

The teaching classrooms, laboratories and offices, distributed mainly between the two EPS buildings, the EPS central building and the CREA (Centre for Research in Applied Energy) guarantee the proper functioning of the degrees taught. Complementary services such as the integrated Common Spaces Management system (GEC), the Information and Communications Systems Area (SIC), the Library and Documentation Service (SBD), Sakai Virtual Campus, among others, allow us to offer all stakeholders involved in the learning process all the necessary resources for its quality implementation. Detailed information on these resources was described in depth in the past Accreditation Report.

Both the 2015 and 2019 accreditation processes favourably appraised the infrastructures and resources of the faculty, such as the teaching facilities, laboratories and the SAKAI virtual campus. In particular, the integrated space management system GEC was positively valued, which remains active and is crucial to optimize room scheduling on a campus shared by three different faculties. Since the last accreditations, all these resources have been kept in place and improved.

The actions carried out to improve and expand the teaching and research laboratories since 2015 are set out below.

- **Renovation and updating of laboratory equipment:**

- **14/15 academic year**

- **Metallographic microscope. Mechatronics Laboratory (CREA).** In order to teach the practices of the new optional Energy block corresponding to the Master's Degree in Industrial Engineering (Electric machinery in Industry and Analysis of Industrial thermal equipment), a Flir E4 infrared thermographic camera was purchased, a bench with electric motor and brake hysteresis and a variable speed ACU 0.37KW. Likewise, a TECMICRO metallographic microscope was also purchased to improve the practicals of the GEI students and some analogue modules per automaton and a linear/isopercent regulation valve.
 - **Material for heat transfer practicals. Thermal Engineering Laboratory (-1.05).** In order to carry out heat transfer practicals for GEM, GEEIA and MEIND students, commercial equipment was acquired for this purpose.
 - **Mobile laboratory of embedded systems.** For the improvement and adaptation of the laboratory material of this laboratory used by the MEInf students, as well as in various promotional actions of the EPS, we proceeded to purchase 20 Arduino UNO boards, 20 ADXL335 accelerometers, 20 ultrasound sensors, 15 mice and 15 keyboards.
 - **Bending device for prismatic specimens. Materials Laboratory - Building (CREA).** In order to improve the equipment of CREA's materials-building laboratory, a bending device for prismatic 15x15x60 specimens, Model CONTROLES, was purchased, as well as a complete set of work tools for the workshop located in the Materials laboratory.
 - **Two Emotiv helmets. UsabiliLAB Laboratory (3.02).** In order to conduct new practicals with the discipline of Brain-Computer Interaction in the degrees of the GEI and the MEINF 2 Emotiv helmets have been acquired.
 - **Laboratory instruments. Mechanics Laboratory (-1.04).** Up to 5 3D printers with FDM technology have been acquired to carry out additive manufacturing practicals in the subject of “Advanced Manufacturing Systems”. In addition, these printers make it easier for students to produce prototypes that have been designed in their TFM. On the other hand, laboratory materials and instruments were also

purchased for the study and analysis of shaft balancing and also for the realization of an experimental equipment to analyse the flexibility of shafts and resonance speeds, and to be able to compare them with the results obtained by simulation. of finite elements using the CREO programme.

- **Computer material. Electronic Control Laboratory (2.06).** We proceeded to purchase 2 BEEP TLM0596 computers with LG 19.5 “screen with keyboard and mouse.
- **Computer equipment and improvement of facilities. Computer Laboratory (3.05).** Installation of 21 PCs with Windows 7 Professional 64-bit and Linux Ubuntu 12.04LTS operating systems and a 21” widescreen monitor, and a new 2.20 m electric screen to replace the old 1.80 m manual screen. The wiring of the classroom projector has been enhanced incorporating HDMI cable and a new connection box. Finally a sound system with self-amplified speakers was also assembled.
- **Improvement of facilities. Alcatel classroom (1.02).** The structured cabling of the extended workstations in the classroom was carried out so that the students of the GEI, GEEIA and MEINF can have access to the equipment of the different racks.
- **Stereo. Classroom 1.04.** Sound equipment was installed in classroom 1:04 of the EPS, which was the only classroom in the School where there was none.
- **Improve computer equipment. Degree Room (2.03).** The old monitor on the main table in the Graduation Room was replaced with a 19.5” reclining ACER LCD touchmonitor.

○ **15/16 academic year**

- **3D printing and hydraulic bench. Equipment for the mechanical laboratory.** Equipment for the manufacture of pieces for 3D printing was acquired, which allows students to produce their designs carried out in subjects such as Graphic Expression III and Machine Design, in addition to learning a leading technology. This equipment consists of a milling machine, a 3D printer and the parts of a second 3D printer to build it in the laboratory, as well as transportation to and from the supplier for defective ones. A hydraulics bench was also purchased to carry out hydraulics practicals. This equipment allows students to become familiar with real oleo-hydraulic equipment.
- **Experimental equipment (thermal power plant and linear heat conduction) for the Thermal Laboratory and facilities.** One of the most used cycles in the industrial world, both in thermal power plants and in cogeneration systems is the Rankine cycle. With the aim of learning about this cycle and so that our students can study it experimentally, a steam power plant with a steam engine was acquired. Along the same lines, the practice “Linear heat conduction” was purchased with which students can experience the phenomena of heat transfer by conduction in linear systems.
- **Total surveying station for the Building Laboratory.** Purchase of a Leica Robotized Total Station TRCP1203R100 with automatic prism search “Power Search”. The “Total Leica” station is robotic equipment to carry out surveying field practicals to be able to carry out topographic surveys with a single operator. This operation has been 50% co-funded with the ETSEA centre of the UdL and is used basically in the bachelor’s degree in Technical Architecture and Building.
- **Blower Door Test Equipment for the Building Laboratory.** Acquisition of equipment for the measurement of air infiltrations and thermofluxometric analysis. The practice “Air infiltration analysis” equipment was acquired to measure air infiltrations through doors and windows in an existing building, by means of the Blower Door Test. The Blower Door Test measures the tightness of a building, the

air tightness, that is, it measures the energy efficiency of buildings. It is used to carry out energy audits of buildings and is used both in the Technical Architecture and Building qualifications, as well as in Mechanical Engineering, specializing in Sustainable Construction.

- **Improvement of the material of the Electronic Teaching Laboratories 02.05 and -1.03 EPS.** To improve these laboratories, the following material was purchased:

- A high frequency oscilloscope with its corresponding analysis kits.
- A Nase-2B pencil soldering station with corresponding components and common parts.
- A compact CD-2SE soldering station with corresponding components and common parts.
- A TE 2QD hot air soldering station with corresponding components and common parts.
- A microscope attached to the DME-2A soldering station
- A welding source.
- An electronic component positioner.
- A solder paste applicator for the component plates.

To protect the tables where these soldering stations have been installed, table protectors were purchased. All this material is used in the bachelor's degree in Engineering in Electronics Industry and Automation.

- **Eyetracking Device for the Descriptive Technologies Laboratory.** The Eyetracking device has been purchased allowing usability studies to be carried out beyond the specific monitor that was available to date. Likewise, a cluster for Big Data processing was acquired, in order to have a Big Data computing platform that allows this new technology to be addressed in degrees in the computing branch.
- **Structural kits for the Building Laboratory.** Kits to model structures and moulds to manufacture concrete specimens. To improve the study of structures, 10 MOLA kits were acquired that enable simulating a large number of different structures quickly, thanks to the use of magnets and balls to make the joints and thus be able to observe their real behaviour.
- **Improvement of the computer set up in Classrooms 0.01 and 0.05.** Since this academic year, all the classrooms of the School have a monitor installed on the teacher's table in order to facilitate the teacher's monitoring of the classroom projection: It was also used to install an AV box embedded in the teacher's table. from where s/he can comfortably access the signal bypass, internet, USB port and HDMI.
- **Alcatel Room Adaptation.** The latest enlargement of the Alcatel Room (1.02) forced this academic year reinforcing the projection aimed at the back of the Room with a 42" TV, since the distance and the columns made it impossible to correctly visualize the images. Taking advantage of this intervention, the room was re-cabled with HDMI, an AV box was incorporated to be able to comfortably discriminate the output of the projection gun and the old projection gun was replaced by a modern one with HDMI input and better image quality.

○ **16/17 academic year**

- **Improvements in the Mechatronics Laboratory (CREA).** A KUKA six degrees of freedom industrial robot was purchased in order to analyse and visualize the three-dimensional kinematics of multibody systems. Currently, EtherCat, modules of both digital inputs and outputs and analogue inputs and outputs, are being integrated into the robot's own communication network in order to provide the robot with information about its operating environment and facilitate its

programming. Communication is also planned between the robot and the Siemens PLC, which is available in this laboratory, in order to be able to use a Siemens artificial vision camera to identify objects and program movements of the robot. With all this, it is intended for students to acquire skills in the control of processes in real time.

- **1.03 EPS laboratory adequacy for project-based work.** The furniture in the EPS 1.03 Project room was replaced. This replacement has been accompanied by a new redistribution of the classroom and the updating of computer equipment. Specifically, 24 new PCs have been installed.
- **Adaptation of the 2.06 EPS Signal Processing Laboratory and creation of a new teaching classroom.** In the summer of 2016, it was decided to divide the Signal Processing laboratory into two independent spaces, one with the same nature and purpose and the other transforming it into a teaching classroom with a capacity of 28 students.
- **Classroom adaptation 0.04 EPS for individual work in computer science degrees.** In classroom 0.04, a series of interventions were carried out to adapt it to the needs of Computer Engineering students. Specifically, a wifi signal repeater-amplifier was installed, as well as plugs in the tables to facilitate the use of laptops. The classroom was also equipped with a camera system to facilitate the monitoring of classes by a new student with severe visual impairment enrolled in the course.

○ **17/18 academic year**

- **Creation of the Design Lab.** Some spaces on floor 0 of the EPS were reorganized in order to build this laboratory, which will be equipped with furniture, teaching equipment and Macintosh-type computer equipment during the 18/19 academic year.
- **Ethernet cabling in EPS classroom 1.04.** To complement the improvements implemented the previous year (Wi-Fi and plugs in the laptop tables), several direct network connections for Ethernet cable have been installed.
- **Renovation of the Physics and Chemistry laboratory equipment (-1.02).** Various materials were acquired with the aim of improving the performance that the physics laboratory already has and replacing some equipment that was already at the limit of its service life. This material is used for the practicals of the subjects Physics I and Physics II of the bachelor's degrees in Mechanical Engineering, Industrial Electronics and Automation Engineering and Energy and Sustainability Engineering. List of purchased material:
 - 1 "Maxwell's wheel experiment, brand LD Didactic".
 - 2 1m lane dynamic system.
 - 2 PAStack curved rail system.
 - 1 Capstone Program, classroom licence.
 - 1 Capstone Program, Monopost lic.
 - 4 Airlink interfaces.
 - 2 Wireless force/acceleration sensor.
 - 6 Wireless temperature sensor.
 - 4 Motion sensor.
- **Teaching equipment for the generation of renewable energies and systems simulation.** Didactic equipment for the generation of renewable energies and systems simulation were purchased. In addition, work is being done on the purchase of a photovoltaic energy trainer with virtual instrumentation and a solar panel with a rolling mast and collector. A Synchronous Generator Trainer team was acquired for the practice of electrical machines. All this material is intended for specific, basically second and third year subjects, of the new bachelor's degree in Energy

Engineering and Sustainability.

- **Material for carrying out practicals in the Electricity laboratory (-1.03).** This material is basically intended for the subject of Fundamentals of Electrical Engineering that is taken in the second year of the common branch of the undergraduate degrees. The material purchased is as follows:
 - Automatic cable stripper.
 - Electrical analyser.
 - New bearings and o-rings to replace old bearings and seals (12x8).
 - Connection cables.
 - **Material for the Disruptive Techniques laboratory.** This material is used both in the bachelor's degree in Computer Engineering and in the master's degree in Computer Engineering. Specifically, 1 server was purchased with 2 Xeon E5-2620 v4 processors, 96 Gb RAM, 1 x 600Gb SAS. The detailed items acquired are:
 - 1 HP Proliant DL360 Jan 9, Intel Xeon E5-2620v4 processor, 16GB RAM (1x16GB Registered DIMMs, DDR4), HP Embedded 1GB Ethernet 4-port 331i Adapter network card, HP Flexible Smart Array P440ar / 2GB SAS 12G controller, SFF 2.5 "Hot Plug disks (no disks), DVD-RW, Power Supply (1) HP 500W Flex Slot Platinum Power Supply, Rack (1R) format, INCLUDES HP Easy Install Rails.
 - 5 HPE 16GB (1x16GB) Dual Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit.
 - 1 x HPE DL360 Gen9 Intel Xeon E5-2620v4 (2.1GHz- / 8-core / 20MB / 85W) Processor Kit.
 - 1 HP 600GB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3YR Warranty Hard Drive.
 - HP 3 Year Next Business day DL360 Gen9 Foundation Care Service.
 - **Material for the Mechatronics laboratory.** This material is used in the speciality of Mechatronics, shared between the bachelor's degree in Mechanical Engineering and the bachelor's degree in Industrial Electronics and Automation Engineering. A high temperature furnace, the chimney and the inert gas inlet were acquired to be able to work on the practicals of heat treatments and moulding castings, in the subject of Materials for Mechanical Manufacturing of the third year of the GEM. In the actions carried out during 2017, the KUKA robot was purchased by the Mechatronics laboratory, To improve its performance, a guidance system for the KUKA robot by artificial vision was purchased in 2018. Likewise, various laboratory consumables have been acquired such as a Hardware micro-controller, an interface module and pneumatic monostable valves.
 - **Material for the Thermal Laboratory.** A practice test kit was purchased. This material is used mainly in the subject of Thermal Engineering.
- **18/19 academic year**
- **Use of EPI (Personal protective equipment) in the teaching laboratories of the bachelor's degree in Technical Architecture and Building.** Implementation of a safety kit for each student and teacher and its use is compulsory in teaching laboratories. We worked together with the professors and the UdL health and safety service to develop the specific kit for the degree based on the practicals to be carried out and the spaces to be used. A protocol has been defined for its use and acquisition through the UdL store.
 - **Building laboratory equipment.** Acquisition of a Compressed Earth Block machine), providing a new teaching resource for the degree as well as at research and promotion level. The machine is used for the subject Materials 2. A universal traction-compression press was also acquired, along with an HP computer for the

universal press control.

- **Energy and Sustainability Laboratory.** The following materials have been acquired:
 - Edibon International solar thermal energy equipment with a specific computer for the management of the control system and display
 - Three-phase power line simulation equipment
 - Work bench
 - Diligent Testing Accessories
 - Sensor and actuator consumables

○ **19/20 academic year**

- **Robotics laboratory.** Acquisition of a high-performance 3D printer used as a teaching tool in various undergraduate and master's degree subjects, as well as in workshops for high school students.
- **Extended Reality Lab.** Two Virtual Reality devices were acquired, HP Z VR BACKPACK G2 and HP REVERB glasses, together with the docking stations, which allow the consolidation of the Extended Reality Laboratory of the EPS-UdL, in which immersion activities are carried out in virtual reality in the bachelor's degree in Technical Architecture and Building specifically in the subjects of Graphic Expression 2 and Graphic Expression 3, in which the 3D models made with the specific digital representation software are transformed into VR format and the students can immerse themselves in their own designs. In the field of Architecture and Design, Virtual Reality and Augmented Reality allow previewing projects before being executed, in order to detect possible errors, improvements, interact with the environment, etc. Furthermore these technologies provide the engineer/architect with an intuitive sense of scale and proportion of the building, so it can be shown to a potential client without the need for building a scale model.
- **Energy and sustainability laboratory.**
 - Purchase of two pneumatic benches to carry out didactic practicals.
 - Computer and screen for 1500 kN lab uniaxial compression testing machine. building the Solar Energy Team
 - Workbench for the Energy and Sustainability laboratory
- **Electronics Laboratory.**
 - Purchase of a test device: "Analog Discovery Studio" for laboratory practicals with students.
 - Purchase of 10 Mechatronics Laboratory multimeters
- **Mechatronics laboratory.**
 - Purchase of a workbench by the mechatronics laboratory.
 - Purchase of 4 Tinkerkit Braccio robotic Arduinos for the computer science master's degree practicals.

○ **20/21 academic year**

- **Building laboratory.** Acquisition of a 1500 kN uniaxial compression testing machine.
 Purchase of material for GATE expansion - EPS virtual reality equipment upgrade and 1 USB Qwerty keyboard and 3 Pavillon Gaming Mouse 200 and 1 HP E27 G4 27 "LED monitor and 1 LG 27UL650-W 27" LED monitor.
- **Renovation of the mobile computer lab.**
 - Purchase of 7 laptops to replace the damaged computers.
 - Co-funding with the vice-rector's office for infrastructure of a new mobile computer classroom (€13,500.00)
 - Acquisition of audiovisual and electronic material to implement virtual or



mixed teaching.

- **Thermal laboratory.** Purchase of a photovoltaic trainer mb solar panel, spotlights and didactic frame for teaching practices.

- **Acquisition of software**

The University of Lleida also centralizes the purchase of software licences, which are renewed each year. The software that has been acquired associated with EPS is:

- CYPE
- Matlab
- TCQ - Budgets. Technological Institute of Construction
- Labview
- Adobe Creative Cloud Suite
- Comsol
- VMWARE player
- SiemensSCE-Student
- SIMPLIFY 3D
- TRNSYS version 18
- Equation Engineering Solver (EES)

- **Actions for the maintenance of EPS services and infrastructures and thus offer the best service to the different groups**

- **14/15 academic year**

- **EPS Management meeting room.** A meeting room with capacity for 8-10 people has been set up in the EPS Management area. A projection cannon and sound equipment with self-amplified loudspeakers were installed to provide the space with complete multimedia equipment.
- **Panel sponsoring companies and collaborators.** In order to give visibility to the effort that many companies make towards the Polytechnic School and at the same time show the close collaboration links between the School and the industrial and business sector of western Catalonia, the idea was to incorporate a panel displaying collaborating and/or sponsor companies at the entrance to the centre.

- **15/16 academic year**

- **Information Screens EPS - CREA.** Updating and expansion of the EPS information screen system that fulfils the function of informing about events. Specifically, the following tasks were carried out:
 - Installation of new information management software.
 - Adaptation of the information desk in the EPS lobby.
 - Installation of a new information desk in the study area of the EPS basement.
 - Installation of a new information desk in the lobby of the CREA building.
- **Improvements in the corridors of the EPS.** With the aim of giving visibility to and enhancing the teaching activities that are carried out in the EPS in the different activities associated with the promotion and dissemination of the studies that the School carries out on a regular basis among high school and CFGS students, the MotoStudent Showcase and Estació de Dades IBM 3741 Showcase.

- **16/17 academic year**

- **Adaptation of the EPS management common area.** In order to complete the

comprehensive reform of the management area started in the 2015-16 academic year, during this year the “decorative” part and the furniture of this area were adapted. Basically the furniture was replaced (two armchairs and a side table) and two decorative vinyls were incorporated, one of them with the new EPS logo in relief.

- **17/18 academic year**
 - **Start of EPS vestibule adaptation.** In the first quarter of 2019, the adaptation and modernization of the EPS main lobby was scheduled to be completed. In 2018 the heating radiators were repositioned and the old carpet in the entrance was replaced.
 - **Basement floor information screen replacement.** The monitor, intended as an information point, located in the EPS basement study area, was damaged. It was replaced by a new monitor and the screen increased from 42” “to 55”.
- **18/19 academic year**
 - **Comprehensive revamp of the School lobby.** An interior design project in the lobby of the centre has been carried out. Two 44” interactive touch screens have been installed in order to allow browsing through the School’s website. Hence students can consult information related to the centre, degrees, timetables, exam calendars, etc. Besides, a video wall consisting of four 44” screens is also installed (offering a total projection surface of 215 x 120 cm) to disseminate various information such as new degrees, events, final master’s or bachelor’s degree projects, project presentation and promotional information about the School. Finally, an amplifier and speakers were installed that allow ambient sound in this area.
- **19/20 academic year**
 - The creative studio of Lleida, CactuSoup carried out the design and illustration, passing through a whole process of creation and development of the interior design and institutional image project for the new laboratory of the bachelor’s degree in Digital Design and Creative Technologies, installed in November 2019: the DissenyLAB. The installation affects the rear wall and the side glass of the classroom.
 - Enabling a “coworking” room. The spaces are adapted and the materials and technologies necessary for the performance of shared work are acquired.
 - The “vending” area on the ground floor of the EPS was fitted out with a sofa area.
- **20/21 academic year**
 - A 75” TV has been acquired for the meeting room in the management area. The projector in Classroom 2.01 has been replaced.
 - Calibration and updating of the anti-impact protection systems according to the current occupational risk regulations issued by the inspectors.

During the closure period due to COVID-19, the Library and Documentation unit disseminated the electronic resources offered to students: specifically, access to more than 200 databases, 15,000 journals and 24,000 books. Through the thematic biblioguies (<http://biblioguies.udl.cat/campusvirtual>) offer tips for finding information and using the virtual library.

The SIC (Information and Communication Systems) has been carrying out actions to expand the capacity of the virtual campus platform and eliminate performance problems on an ongoing basis. At the same time, it has provided the students with the tools and services to facilitate the follow-up of the subjects, such as the AppsAnywhere application, which gives access to the applications that are virtualized in the EPS laboratories. The Teaching Activity Support and Advice unit has advised the



teaching staff on the use of the most commonly used tools of the virtual campus in online teaching.

The UdL has provided equipment (computers and tablets) and has covered mobile data costs to students who did not have access to it so they could continue learning online.

For the 20/21 academic year the following improvements were implemented:

- Laboratory acquisition of laptops and audiovisual support equipment to cope with the distance and prevention measures imposed by COVID-19.
- Purchase of material to carry out virtual or blended teaching:
 - 8 professional HDMI cable installations from VISION
 - 10 USB extension cables
 - 6 Logitech C930 webcam - Colour webcam
 - 3 Blue Yeti micros - USB connection
 - 4 Advance RF- 31 tripods
 - 1 Compact 2-Port VGA Video Splitter Splitter Cable
 - Adaptation of spaces to guarantee distance measures and group reorganization.
 - Approach to schedules 50% face-to-face - 50% virtual, with the corresponding adaptation of schedules and grouping of groups for face-to-face activities.
 - Preparation of spaces for recording and / or conducting classes in virtual format
 - Creation of classrooms to be able to broadcast live classes in the event of confinement of the teaching staff or of any of the students during the academic year.



5. Transparency and Documentation

Criterion 5.1 Module descriptions

The main way to disseminate information is the School website and the websites of the degrees. On these websites, all the relevant information is specified, not only for each of the degrees, but for any aspect of interest to the stakeholders involved: students, former students (alumni), future students, families, teachers, collaborating companies, etc.

The Centre has various communication tools to facilitate and guarantee that the relevant information on bachelor's and master's degrees reaches all stakeholders. Among such we can highlight: communication spaces through the existing virtual campus on the SAKAI platform, intranet, the EPS website. Through all these means, due communication between the Centre and the groups interested in receiving this relevant information is guaranteed.

Attending to the different interest groups, the information is accessible specifically to:

- Future students: specific access to both the website of each degree and the EPS website.
- Current students:
 - a specific website for each degree and each master's degree, as indicated in the description of the previous sub-standard.
 - a communication channel by email addressed to all students of the School (Trobadà-EPS)
 - a communication channel per degree targeting all students of each degree
 - a communication channel incorporated in the virtual campus of each subject
 - a virtual space that allows each student to communicate with their tutor.
- Former students:
 - Specific access to the School's website,
 - Email,
 - Informative bulletin (Newsletter).
- Foreign students: specific access to the School's website.
- Employers:
 - As regards curricular and extracurricular internships and job offers, there is a specific section on the School's website.
 - Informative bulletin (Newsletter)
 - Regular meetings with the EPS management team.
- PDI:
 - Specific access to the School website and the degree website,
 - Regular meetings with the coordinator of the degree,
- PAS: Specific access to the School's website.

The large amount of information offered on the website of the University of Lleida (<http://www.udl.cat/>), which is perhaps the most natural access route for future students, should be noted. The UdL website provides access to the School website through the tab "The University: Centres and Departments" and the degree website through the "Studies" tab.

Likewise, for communication with and between the different groups that make up the EPS, there is a communication channel by email addressed to all EPS PDI and PAS (Tots-EPS). There is also a specific communication channel with the students of the School (Trobadà-EPS) through which information is disseminated to students; for example, the academic secretariat can send reminders of deadlines for the extension of enrolment, the enrolment for the TFG, the results of the curricular qualification, etc.



The University has a virtual campus, also called the SAKAI platform (<http://cv.udl.cat/>) that contains specific spaces for:

- Each subject. This facilitates the relationship between teacher and student.
- Each bachelor's or master's degree. The coordinator manages this space and allows the relationship with the teaching staff and/or students jointly.
- The tutoring plan. The relationship between the tutor and the student is streamlined through this tool.

The virtual campus has several communication tools such as email, a document repository, a list of notices and an agenda. Likewise, it allows students to submit activities for assessment and manage grades.

The websites of the programmes have recently been updated with the aim of offering homogeneous information across all the degrees, as well as in the teaching guides of the subjects, which are offered in three languages, Catalan, Spanish and English. To facilitate access by the various groups to the information, the website presents a tab called "information for ..." that filters and orders the contents of interest according to the user.

The following information can be consulted on the website of each degree:

- **Future students:**
 - Admission criteria and resolutions
 - Access and pre-registration
 - Address/Getting here
- **Syllabus:**
 - Objectives and competences
 - Syllabus structure and course guides
 - Course guides of previous courses
 - Master's thesis
 - Teaching staff
- **Dates and timetables:**
 - Academic calendar
 - Master's degree timetable
 - Examinations
- **Internships:**
 - External academic internships of the UdL
 - Degree regulations
- **Mobility:**
 - Academic mobility and programmes
 - Validation of credits
 - ECTS system
 - Degree mobility programmes
- **Scholarships and grants**
- **Regulations**
 - UdL academic regulations
 - Faculty/School regulations

Regarding the teaching guides, the following information can be consulted for each subject of the degree.

- Subject code
- Coordinator, teaching staff of the subject and contact address
- Number of credits
- Distribution of the teaching load face-to-face classes/individual work



- Theoretical/practical credit distribution
- Language in which the course is given
- Academic goals
- Competences
- Fundamental contents of the subject
- Methodological axes of the subject
- Course development plan
- Assessment system
- Bibliography and information resources
- Additional information

Also, on the degree website there is the tab “the degree in figures” where you can consult data and indicators of the degree, broken down by sex. More specifically, in the degree dossier, information can be obtained broken down by sex regarding:

- Registration and access route
- Access grade
- Teaching organization
- Teaching hours by type of teaching staff
- Performance rate
- Efficiency and graduation
- Cohort follow-up

Every June, there is an annual review of the School's websites and degrees. This review process comes under the SGIQ procedures and has been consolidated as a very useful and efficient means to ensure that the information appears complete and up-to-date, so that the quality office can make a detailed review of the School's websites and an Excel sheet is generated with all parameters checked. This Excel is later verified by the management team and coordinators of the EPS, so that, annually and before the enrolment process, the School's websites are set up so that all the information is truthful, complete, up-to-date and accessible. The team of coordinators and the management of the School work towards this purpose in a coordinated way, holding meetings to share the aspects for improvement, together with the communication technician for management support. This way of working allows detecting cross-cutting issues on the webs, which often depend on other services of the university and not on the School or the coordinator.



Criterion 5.2 Diploma and Diploma Supplement

Once the student has passed the university studies leading to obtaining a specific official qualification (bachelor's, master's or doctoral degree) and, in the case of degrees, having proven knowledge of a third language, the student must apply for the certificate via the Electronic Office of the University and pay the corresponding fees.

The fee is set for each academic year by the Official Pricing Decree of the Generalitat of Catalonia.

Once the application for issuance of the official certificate has been processed, all the documentation is checked by the Secretariat of the centre and a provisional degree certificate is issued to the interested party, also electronically. This provisional certificate along with payment of the fee will constitute the provisional documentation to prove that a bachelor's/master's degree has been obtained, once the certificate is definitely issued. Alternatively, the issuance of a replacement certificate of the degree may be requested. This certificate has the same validity as the official diploma and it is issued on a provisional basis at the express request of the student.

The secretary of the centre will inform the graduate when they can pick up the certificate.

Official degree certificates will be issued, on behalf of the King, by the Rector of the University of Lleida, in accordance with the requirements regarding their format, text and issuance procedure, as established in the current regulations.

The issuance of degrees is regulated by the [Royal Decree 1002/2010, of August 5](#), on the issuance of official university degrees.

Once your request for the issuance of an official degree qualification has been processed, the centre will proceed to generate the provisional degree certificate, which will be available in your electronic file.

According to current legislation, once issued, the certificate must be collected by the interested party in person, and they must submit proof of identification (DNI for a Spanish national, identity card, for a national of an EU country, or passport for persons of non-EU nationality).

If the holder cannot collect the title him/herself, s/he can authorize another person, always by means of a power of attorney, to collect it on their behalf.

The European Diploma Supplement (EDS) is the document that accompanies the official university degree and is valid throughout Spain with unified, personalized information for each university graduate, on the studies completed, the results obtained, the professional skills acquired and the level of their degree in the national higher education system. This document is issued by the centre according to current regulations.

The SET is regulated by [Royal Decree 1002/2010, of 5 August](#), on the issuance of official university degrees and by [Royal Decree 22/2015, of 23 January](#), establishing the requirements for issuing the European Supplement for the degrees regulated in Royal Decree 1393/2007, of 29 October, establishing the organization of official university education and amending Royal Decree 1027/2011, of 15 July, establishing the Spanish Qualifications Framework for Higher Education.

The Ministry has published some guides to regulate its issuance:

[Bachelor's degree SET Issuance Guide](#)

[Master's degree SET Issuance Guide](#)



Criterion 5.3 Relevant rules

All the regulations that affect EPS qualifications are:

- Academic regulations of UdL undergraduate and master's degrees (enrolment, permanence, assessment and qualification, curricular qualification)
- Regulations for Tutored in-company internships,
- Regulations for bachelor's and master's degree final projects',
- Academic Framework of the EPS,
- Regulations on double degrees,

All of above can be found in the Academic Information section of the School's website, in the specific section on Regulations

(http://www.eps.udl.cat/info_acad/normatives/normatives.html).

These regulations have been designed after analysing and considering the needs and requirements, so that they entail a positive impact on the implementation of the School's teaching.

Among the regulations mentioned, two are specific to the EPS and have a positive impact on the results of the qualifications: the curricular qualification and the Academic Framework of the EPS.

The **Curricular qualification** aims to determine whether:

- a student has globally acquired the knowledge necessary to pass each of the curricular blocks, and
- a student will be able to complete the programme within a reasonable period of time.

There are two curricular blocks in each bachelor's degree:

The Degree Start Curricular Block includes all the compulsory subjects of the first year

The Degree Completion Curricular Block includes all the compulsory subjects of the second, third and fourth years. Optional and specialization subjects, Internships and Bachelor's thesis will not be included.

The Evaluation Committee of the Start Curricular Block is responsible for applying the criteria approved in the Regulations, and assessing the level of training acquired by each student, taken from the analysis of the subjects that make up the curricular block. It will also establish which students pass the Start curricular block, what is the mark that must appear in the record and transcript of each student, and prepare a report with the results of the curricular evaluation, to be signed by the director of the Centre.

Students in the Completion Curriculum Block, who meet the conditions approved in the Regulations for this Block, may make a request addressed to the director of the Centre so that they can be compensated for the corresponding subjects. The Curricular Qualification of this block will be the result of applying the criteria established in the approved Regulations.

The student will be considered to have passed a block and will be compensated for the subjects not passed, as long as he / she meets the criteria established in the regulations or when the Curricular Committee of the Block so decides.

The **Academic Framework of Bachelor's Degrees and the Academic Framework of Master's Degrees** of the EPS (http://www.eps.udl.cat/info_acad/normatives/MarcAcademicEPS.html) intend to establish the general bases for organizing teaching. Currently, the versions approved by the School



Board in July 2014 are used, the result of an improvement on previous versions, started in the 2009/10 academic year. Among others, these documents establish the bases to set the academic calendar and how to carry out the sequence of the different assessment activities, from written tests to the submission of practical activities. Bases are also established on the number of assessment activities and their weight in the final grade of a subject. In this way, continuous assessment has been standardized in all EPS studies without overwhelming the student with these assessment activities.

All the above regulations are subject to periodical updates. The most significant changes and improvements introduced recently are:

- **Approval of the Methodological Framework of Dual Training.**

With the implementation of Dual Training in some programmes, a set of protocols and work standards have been defined and established that are currently included in procedure PC 008: management of dual training in the master's degrees of the Polytechnic School reinforced with the approval in 2021 of the Methodological Framework for Dual Training for bachelor's and master's degrees at EPS. The methodological framework of dual training includes aspects such as the organization, management, monitoring, assessment and qualification of Dual Training in the bachelor's, master's and double degrees taught at the EPS, following the general guidelines approved in the Regulations of the UdL.

In addition, with the collaboration of the legal services of the University of Lleida, the following documents have been drawn up, which are included in said protocols:

- A specific dual training agreement model that sets out the specificities of dual training with respect to the rest of the practices at the University of Lleida.
- The tutor's guide, which includes the obligations and duties of dual training.
- The learning notebook in three languages: English, Spanish and Catalan.

- **Adaptation of the Curricular Qualification Regulations**

In 2018 and 2019, two degrees of 180 ECTS were implemented. Therefore, the Curricular Qualification Regulations have been adapted to differentiate the maximum number of credits that a student can compensate in the overall degree depending on whether s/he is pursuing a degree of 180 ECTS or 240 ECTS.

- Due to the crisis caused **by COVID-19**, in April 2020 the centre Study Committee approved two documents in order to provide guidelines to adapt to lockdown:

- The Guidelines for the Adaptation of Online Assessment, following the indications of agreement No. 33/2020 of the Governing Council of 18 February, 2020, which approves the Regulations for the assessment and qualification of teaching in UdL undergraduate and master's degrees. The document includes all the adaptations made to maintain teaching and non-face-to-face assessment, the procedure for modifying the teaching guides to reflect the changes, as well as the criteria for alternative assessment.
- The EPS Procedure for the Defence of TFGs and TFMs online through the videoconference tool of the virtual campus, ensuring that the session is public and disseminated through the channels used by the Centre.

- **Introduction of gender perspective**

In relation to the gender perspective, Law 17/2015, of 21 July, on the effective equality of women and men, Article 28.1 therein requires universities to "introduce the gender perspective in a transversal manner and studies on the contribution of women throughout history in all areas of knowledge and in academic and research activities, which must be included in the curriculum of undergraduate and postgraduate programmes.



In implementing this law, and in accordance with the indications of AQU Catalonia to deploy the gender perspective in all degrees, the UdL, at the Governing Council of 17 December 2020, approved a transversal competence for undergraduate and master's degrees that incorporates this perspective proposing to: "Apply the gender perspective to the functions of the professional field".

The EPS included this competence in all bachelor's and master's degrees during the first term of 2021, incorporating the learning outcomes that will specify the deployment of the transversal competence. For the preparation of the learning outcomes, the documentation published by the Xarxa Vives committees and by the AQU Catalunya Guide has been used.



6. Quality Management: Quality Assessment and Development

Criterion 6 Quality management: quality assessment and development

The EPS has an Internal Quality Assurance System (SGIQ) that encompasses the activities carried out in the centre with the aim of guaranteeing the continuous improvement of the quality of the training offer of the centre, following the guidelines and standards for quality assurance in the European Higher Education Area (EHEA) and the AUDIT programme.

The document that serves as the basis for the SGIQ of the centre is the UdL Quality Manual and the documentation related to the government of the University (Statutes and general regulations) and the internal regulations of the Polytechnic School have been taken into account.

The student body, the teaching staff, and the administration and services staff are the main stakeholders in the School's SGIQ. Their participation is guaranteed since they are represented or are part of the collegiate bodies of the University, such as the University Senate, the Governing Council and the main committees, and of the collegiate bodies of the Polytechnic School, such as the School Board or the study committees.

Other interest groups such as employers, public administrations and society in general are represented within the structure of the university through the Social Council. Regarding participation in the School, the EPS organizes meetings with the different social agents involved in their degrees: companies, professional associations, business associations, public administrations ... These meetings therefore guarantee the involvement of society and future employers in the School's proposals, related to the training on offer. In addition, the external internship programmes, in which the UdL puts the students in contact with the companies in the surrounding area, allows companies from various sectors related to the studies taught at the centre to participate.

The director of the School is the main person in charge of the SGIQ of the EPS. The director of the EPS appoints the centre Quality coordinator, preferably a member of the team at the centre who represents the director or director in the follow-up of the SGIQ of the School.

During the 2019-20 academic year, the UdL requested the evaluation of the implementation of the transversal procedures of the Internal Quality Assurance System, which the centre adopts as its own. The result of the audit was favourable and opens the door to certification of the implementation of the SGIQ at the centre, scheduled for 2022. This first stage has also involved the deployment of a set of indicators that allow controlling the procedures and defining a specific Improvement Plan within the Programme Budget developed by the UdL Strategic Plan.

The SGIQ of the UdL follows the guidelines of the procedure "PG24 Define and develop the policy and objectives of improvement of the university" for the review of the SGIQ itself, as well as the associated improvement Plan.

The EPS adopts as its own the general procedures "PG02 Design training programmes", "PG03 Review and improve official training programmes" and "PG26 Accredit official qualifications", developed within the framework of the SGIQ.

These procedures are subject to periodic updates led and managed by the UdL's Teaching Quality and Planning Unit, with the aim of adjusting to changes in needs and regulations, thus establishing a system of continuous improvement of these SGIQ procedures. The history of the dates and reasons for these



reviews can be consulted at the beginning of each of the procedures.

The purpose of these procedures is to establish the guidelines for application in the design and approval of new undergraduate and graduate degrees adapted to the EHEA, as well as the subsequent monitoring and review of their results in order to guarantee the quality of official training programmes, and finally their accreditation.

In all of them, special emphasis is placed on the participation of all the agents involved. Thus, in the "Stakeholder participation" section, present in all these procedures, it is clearly and transparently defined how this requirement is met in each case.

- **Updating of procedures PG02, PG03 and PG26.** During 2020, the procedures were reviewed and updated by the Teaching Quality and Planning Unit together with the responsible Vice-Rectors.
- **Restructuring of the Improvement Plan.** Various changes have been introduced in the organization of the Improvement Plan: the year in which the improvement action is introduced is identified, it is related to the general procedure to which it is associated, it determines whether the action corresponds to the centre in general or to a specific degree and the origin of the action is indicated (monitoring report, accreditation, centre agreements, ..). In the same document, a tab has been created with the "Completed Actions" and their corresponding follow-up.
- **Indicator analysis.** Annually, the management of the centre together with the technicians of the Quality Office assess the indicators related to the procedures. Since 2020, the number of indicators has been expanded, which makes it possible to propose improvement actions based on the analysis of the information.

The gender perspective has been incorporated into the processes mentioned above, introducing the breakdown by sex in part of the information. The centre has participated in the deployment of the UdL Equal Opportunities Plan. Through procedure PG03 Review and improve the training programmes, the transversal competence "Applying the gender perspective to the functions of the professional field" has been introduced, approved by the UdL Academic Organization Committee on 17 December, 2020 in all degrees.

Regarding the impact of the COVID-19 pandemic, from the beginning the Directorate of the EPS, following the indications of the Vice-Rectorate for Academic Planning, adapted to:

- Plan again all pending teaching, as far as possible using online methodologies, offering virtual classes respecting the original timetables and the timeframes established for each subject.
- Sizing and coordinating academic activities taking into account the workload of each subject and the set of subjects being studied.
- Maintain regular contact with the students to ensure that they were aware of the proposed novelties and allowing their observations to be collected in order to help improve the planning of changes and avoid possible overlaps.

In the case of external internships, as of the declaration of the State of emergency, the face-to-face internships by students of all EPS degrees were suspended. Only in the cases that the type of functions to be performed so allowed, were they replaced by teleworking. The external internships were restarted with the lifting of the state of emergency. Before resuming the activity, a COVID declaration had to be signed by the student, the company tutor and the University tutor where the agreement of the parties was recorded to return to the face-to-face modality of the internships.

Since 13 March 2020, no face-to-face meetings have been held with students and all communications have been by mail or videoconference through a new space on the virtual campus called "Meetings with PTE students".



The Study Committee of 16 April 2020 approved the document “Guidelines for the adaptation of the online assessment” which included all the changes applied taking into account the procedures PG22 Program the Annual Teaching Plan, PG29 Manage external academic internships and PG30 Plan and develop learning methodologies.

At the same Study Committee, the “Procedure for modifying the teaching guides” was approved, which included how to introduce addenda to reflect the changes made and to be able to monitor them.

Qualifications are monitored on an ongoing basis each academic year and the process is articulated mainly through the following mechanisms:

- Monthly meetings of all the coordinators of bachelor's and master's degrees with the heads of studies.
- Meetings of the coordinator with the teaching staff of each degree at the end of each academic year.
- Periodic meetings between the coordinator and the students.
- Meetings of the EPS management team with different representative groups of the Centre such as: the Student Council, the Heads of the Departments attached to the EPS, representatives of the industrial sector and the person in charge of the Academic Secretariat of the EPS, among others.
- Contributions and suggestions from the tutors of the UdL Tutoring Plan (Néstor Plan) based on individual or group tutorials with the students.
- Weekly meetings of the Centre's Management Team.
- Specific sessions of the management team for the review and evaluation of the completed year (month of July), in which the objectives of the following year are defined.

This constant work throughout the course allows the EPS to carry out continuous management in which the aspects for improvement can be precisely detected and can diligently addressed, thus contributing to the continuous improvement of all processes.

In addition, and specifically for the preparation of the degree monitoring reports, during the months of June/July of each year, the monitoring data of each of the degrees is evaluated, which the Quality and Planning unit makes available through DATA, the results are analysed and discussed at the meetings of the Coordinators Team, then the improvement actions that they want to carry out for the following year are proposed. The result of this process is the preparation of an annual Improvement Plan in which all actions for improvement that are intended to be implemented during the following academic year are specified. This document is discussed and approved by the Studies Committee and by the Studies Committee of the corresponding Official Postgraduate Programme (POP).

Since the 16/17 academic year, the Quality and Teaching Planning unit has established the monitoring of the SGIQ through indicators, which have been expanded during the 19/20 academic year, in such a way that the quality technicians have been brought together with the EPS management team. the results obtained for the various defined indicators are discussed and evaluated and specific proposals for improvement are established. This procedure is valued very positively as it encourages participatory and consensual decision-making, as well as allowing the detection of strong points and areas for improvement.

Finally, it should be noted that annually, the School management meets with the Vice-Rectorate for Academic Organization and Planning, as well as with the technicians of the Quality and Planning unit, with the aim of defining the strategic improvement actions that will be linked to the Budget of the School in the following academic year, through the signing of the Centre Agreements.



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The Improvement Plan systematically includes the process and timing of the achievement of the different planned actions and is approved by the Undergraduate Studies Committee and the Official Postgraduate Programme Studies Committee. The constitution of these committees is defined by the SGIC and all stakeholders are represented.

All the information is available in the Centre's Portfolio, a document repository that contains all the information and documents generated in the quality assurance process of all the centre's degrees.

IMPROVEMENT PLAN

Improvement plan for Master's degrees submitted for evaluation

The following Improvement Plan includes the monitoring of the actions that are currently being carried out and the proposal of new actions that arise from the analysis carried out in this report.

Proposed Origin	Year Proposal	TITLE / CENTER	PC	Objectives Achieved	Improvement Actions	Modification. Memory of the title Yes / No	Responsible for the action	Implementation calendar	Follow-up of the action
Accreditation report / IDA	2019	Center	PG 30 Plan and develop teaching methodologies	Regulate and organize the new procedures originated by the implementation of Dual Training	Develop regulations for Dual Training that regulate the process in all its areas	No	Heads of Studies	1st Semester 2020 Course 20/21	Approval by Commission of Studies (12/07/2021) of the Methodological Framework of the Dual Formation of the titulaciones of degree and máster of the Upper Polytechnical School.
Follow-up report	2019	Center	PG 02 Design training programs	Increase the offer of double degrees	Explore the feasibility of a double degree for the Degree in Engineering in Industrial Organization and Logistics and for the Degree in Chemical Engineering	No	Head of Studies / Degree Coordinators	Course 19/20 Course 20/21 Course 21/22	Contacts were established with Esslingen by GEOIL and are to be continued during the 21/22 academic year. The new Double Degree in Chemical Engineering and Energy Technology begins with the University of Novia (Agreement approved by the Governing Council July 2021)
Follow-up report	2019	Center	PG 06 Capturing future students	Consolidate the single entry into undergraduate degrees in the industrial branch	Consolidation of the unification of criteria and contents in the common subjects of the five branches of Industrial Engineering.	No	Head of Industrial Studies	Course 19/20 Course 20/21	Agreement no. 159/2018 of the Governing Council of 19 June 2018, approving the common core between the degrees in the field of Industrial Engineering in Lleida and Igualada.
Follow-up report	2019	Center	PG 06 Capturing future students	Give visibility to the Igualada Campus	Send the School Newsletter to the addresses of secondary schools	No	Management of the Center	Course 19/20 Course 20/21	From this 20/21 academic year, the EPS Newsletter (Campus Igualada) is sent to high schools in the area.

Proposed Origin	Year Proposal	TITLE / CENTER	PC	Objectives Achieved	Improvement Actions	Modification. Memory of the title Yes / No	Responsible for the action	Implementation calendar	Follow-up of the action
					and institutions in the Igualada area				
Accreditation report	2019	MEInd	PG 06 Capturing future students	Promote actions to attract both national and international students	Establish leveling electives for students of the degrees of the industrial field that the EPS is launching that are enrolled in the MEInd: GEES, GEOIL, GEQ	Yes	Director of Studies	2nd Semester 2020	Substantial modification of the MEInd presented for evaluation at AQU Catalunya.
Accreditation report	2019	MEInf	PG 06 Capturing future students	Promote actions to attract both national and international students	Promote access to MEInf for students in new ICT degrees at EPS. The aim is to study and establish the necessary training complements to give access to the MEInf, for the new degrees that have been created GTIDIC, GDDTEC	No	Director of Studies	2nd Semester 2020 Course 20/21	Approval by Commission of the POP (17/06 // 2021) of the Table of formative complements to cursar by students of the GTIDIC
Follow-up report	2020	Center	PG 28 Welcoming and guiding students	Improve student representation	Consolidate the Student Council of the Igualada campus and renew the Board of the Lleida Campus Council.	No	Management of the Center	2nd Semester 2020	Renewal of the EPS Student Council. (Elections 2020) and commissions at the center
Follow-up report	2020	Center	PG 06 Capturing future students	Give visibility to the Igualada Campus	Improving the promotion campaign for the Igualada Campus; including the centers of cycles of formative degrees and intensifying the actions in the	No	EPS address	Course 20/21	In order to improve the promotion of the Campus, a new action is proposed (2021): to carry out a market study to determine efficient actions.

Proposed Origin	Year Proposal	TITLE / CENTER	PC	Objectives Achieved	Improvement Actions	Modification. Memory of the title Yes / No	Responsible for the action	Implementation calendar	Follow-up of the action
					counties of Osona, Baix Llobregat, Penedès and Conca del Barberà.				
Follow-up report	2020	Center	PG 06 Capturing future students	Disseminate degrees in the area of influence	Promote the school and its degrees through the presentation of projects.	No	Deputy Director of Students, Promotion and Quality	Course 20/21	Recording short videos where students present award-winning TFM
Follow-up report	2020	Center	PG 28 Welcoming and guiding students	Improve student representation	Improve student representation; promote classroom delegates of all degrees and courses.	No	Deputy Director of Students, Promotion and Quality	Course 20/21	In the 20/21 academic year, delegates joined all the courses for all the degree programs
Follow-up report	2020	Center	PG 23 Publish information and report on training programs	Increase participation in surveys	Send emails to graduates to fill out satisfaction surveys	No	Management of the Center	November 2020	Sent mail to all graduates (13/11/2020) from the mail of Secretary of Management.
Follow-up report	2020	Center	PG 06 Capturing future students	Promote technological vocations	Start a Talent Program. It is a program aimed at high school students with good academic results and aims to expand their training.	No	Deputy Director of Students, Promotion and Quality	Course 20/21	First presentation of TalenTECH (27/05/2021) by Nacho López, on social networks and mathematics. It could be followed simultaneously in face-to-face and virtual format.
Follow-up report	2020	Center	PG 06 Capturing future students	Disseminate the degrees of the School in the area of influence	Look for an EPS promotion coordinator.	No	Management of the Center	Course 20/21 Course 21/22	It is maintained for the 21/22 academic year
Follow-up report	2020	Center	PG 29 Manage external academic internships	Promote actions that enhance the level of interaction with the business environment generating new synergies	Analyze the desirability of activating a business advisory board.	No	External Internship Coordinator	Course 20/21 Course 21/22	It is maintained for the 21/22 academic year

Proposed Origin	Year Proposal	TITLE / CENTER	PC	Objectives Achieved	Improvement Actions	Modification. Memory of the title Yes / No	Responsible for the action	Implementation calendar	Follow-up of the action
Follow-up report	2020	Center	PG 28 Welcoming and guiding students	Improving the sub-standard 5.1 Academic guidance services adequately support the learning process and vocational guidance services facilitate incorporation into the labor market	Promote the Progateway program and incorporate GATE into the program	No	Management of the Center	Course 20/21	23/02/2021. Open enrollment in the EPS Transversal Subject: "EPS Professional Gateway"
Follow-up report	2020	Center	PG 28 Welcoming and guiding students	Improving the sub-standard 5.1 Academic guidance services adequately support the learning process and vocational guidance services facilitate incorporation into the labor market	Promote a monograph on employability for students of 4t.	No	External Internship Coordinator	2nd Semester 2020	Discarded
Follow-up report	2020	Center	PG 08 Manage outgoing mobility students	Encourage the internalization of our students	Perform WWEPS virtually.	No	Deputy Director of International Relations	Course 20/21	4th edition of the World Wide EPS Meeting WWEPS (from 24 to 27/11/2020) in virtual format. http://www.wwepsmeeting.udl.cat/en/program/Program/
Follow-up report	2020	Center	PG 32 Manage complaints and suggestions (centers)	Consolidate the relationship between the school, students and alumni	Explore the possibility of using LinkedIn to consolidate the relationship between students and school	No	School Management	Course 20/21	EPS's LinkedIn profile opened in July 2021
Follow-up report	2020	Center	PG 06 Capturing future students	Disseminate degrees in the area of influence	Improve the number of followers on the networks.	No	Management of the Center	Course 20/21	Increase in followers on Facebook, Twitter, Instagram and networking activity, according to the 2020-21 communication report conducted by the Management Support Technician.

Proposed Origin	Year Proposal	TITLE / CENTER	PC	Objectives Achieved	Improvement Actions	Modification. Memory of the title Yes / No	Responsible for the action	Implementation calendar	Follow-up of the action
Follow-up report	2020	Center	PG 32 Manage complaints and suggestions (centers)	Systematize the collection of complaints and suggestions	Review procedures and protocol for handling student complaints.	No	Head of Studies / Coordinators	2nd Semester 2020	During this 20/21 academic year, regular meetings have been established between coordinators and students to collect student complaints. A model report has been designed which includes the number of attendees, issues to be addressed and agreements reached.
SIGQ monitoring	2020	Center	PG 26 Accredite the qualifications	Highlight the quality of the degrees taught and give it international recognition	Renewal of ASIIN labels: EUR-ACE for GEM, GEEIA, GEES and MEInd degrees EURO-INF for GEI and MEInf degrees	No	Management of the Center	Course 20/21	Scheduled visit of the ASIIN External Committee in December 2021
SIGQ monitoring	2020	Center	PG 26 Accredite the qualifications	Prepare the institutional accreditation of the center	Formalize the quality policy of the center in a document	No	Management of the Center	1st semester 2021	Approval of the Quality Policy of the EPS by the CAU (07/07/2021)
SIGQ monitoring	2020	Center	PG 15 Develop and execute the training plan for academic staff	Encourage teaching improvement and innovation actions by applying teaching methodologies and sharing good practices adapted to teaching on the occasion of the changes brought about by COVID-19	Organize seminars for teachers to apply new teaching methodologies and share teaching experiences related to the transition to virtual teaching	No	Heads of Studies	February 2021	04/02/2021. Virtual workshop on teaching in COVID time at EPS-UdL 2021 03/02/2021. Conference on active teaching technologies and methodologies of the EPS at the university campus Igualada-UdL 2021
Follow-up report	2020	Center (COVID-19)	PG 22 Schedule the annual teaching plan	Report on adaptations in the curriculum resulting from the pandemic	Coordinators-students meeting to explain the measures taken due to the pandemic and the adaptations of	No	Head of Studies / Coordinators	September 2020	Action taken. Meetings were held at the beginning of the course

Proposed Origin	Year Proposal	TITLE / CENTER	PC	Objectives Achieved	Improvement Actions	Modification. Memory of the title Yes / No	Responsible for the action	Implementation calendar	Follow-up of the action
					schedules and teaching activity.				
Follow-up report	2020	Center (COVID-19)	PG 22 Schedule the annual teaching plan	Provide the center with tools and resources to maintain the quality of teaching during the COVID-19 situation	The teaching guide will reflect the specific safety measures of each subject for the realization of the practices in the laboratory.	No	Management of the Center	September 2020	Action taken. The guides were exceptionally open to pick up changes and measures
Follow-up report	2020	Center (COVID-19)	PG 27 Manage material resources for teaching	Provide the center with tools and resources to maintain the quality of teaching during the COVID-19 situation	Acquisition of a laboratory for laptops and audiovisual equipment to support the exceptional situation experienced as a result of the Covid-19	No	Management of the Center	September 2020	Acquisition of a new mobile computer room (equipped with 30 computers) co-financed with the Office of the Vice President for Infrastructure / Purchase of material for virtual or mixed teaching: 8 HDMI cables for professional VISION installation, 10 USB extension cables, 6 Logitech C930 webcams - Webcam color, 3 micro Blue Yeti - USB connection, 4 Advance RF-31 tripods, 1 duplicator cable 2-port VGA video splitter Compact outputs
Follow-up report	2020	Center (COVID-19)	PG 27 Manage material resources for teaching	Implement protection measures against COVID-19	Adequacy of spaces to ensure distance measurements.	No	Management of the Center	September 2020	Action taken.
Follow-up report	2020	Center (COVID-19)	PG 06 Capturing future students	Implement protection measures against COVID-19	Carrying out workshops and promotional activities in virtual format.	No	Management of the Center	Course 20/21	A new catalog of activities is being carried out for the 2020/21 COVID-19 academic year. Adaptation to virtual format of some workshops (Cryptography, Manufacture of parts with 3D printers, Computers. LEST'S Code, ..)

Proposed Origin	Year Proposal	TITLE / CENTER	PC	Objectives Achieved	Improvement Actions	Modification. Memory of the title Yes / No	Responsible for the action	Implementation calendar	Follow-up of the action
IDA	2020	MEInd	PG 03 Review and improve training programs	Improve the quality of the training program	Ensure that the competency profile of the MEInd program is the same for students with dual training as traditional training	No	Head of Industrial Studies / Degree Coordinator	Course 20/21	Non-substantial modification approved by Agreement no. 140/2020 of the Governing Council of 18 June 2020
IDA	2020	MEInd	PG 30 Plan and develop teaching methodologies	Improve the quality of the training program	Make available to students in dual training the materials that are worked on in class subjects	No	Degree coordinator	Course 20/21	Action taken. They have access to SAKAI
IDA	2020	MEInd	PG 03 Review and improve training programs	Improve the quality of the training program	Review the timing of the acquisition of skills, in the case of compulsory subjects in dual training	No	Degree coordinator	Course 20/21	The skills timed in the semester appear in the learning notebook
Follow-up report	2020	MEIND / MEINF	PG 03 Review and improve training programs	To promote the prestige of the master's degrees in Industrial Engineering and Computer Engineering	Promote meetings with teachers to determine actions that increase the prestige of master's degrees	No	Degree coordinator	Course 20/21	Action taken. It has manifested itself in the increase in enrollment in the MEIND
Follow-up report	2020	MEIND / MEINF	PG 13 Identify needs and select academic staff	Increase the prestige of master's degrees	Call to attract the participation of international teachers online.	No	Management of the Center	Course 20/21	Call made at UdL level.
IDA	2020	MEInf / MEInd	PG 03 Review and improve training programs	Improve the quality of the training program	Ensure that the competencies and learning outcomes indicated in the teaching guide of the subjects (especially those compulsory in the MEIND) are	No	Head of Industrial Studies	Course 20/21	Non-substantial modification approved by Agreement no. 140/2020 of the Governing Council of 18 June 2020

Proposed Origin	Year Proposal	TITLE / CENTER	PC	Objectives Achieved	Improvement Actions	Modification. Memory of the title Yes / No	Responsible for the action	Implementation calendar	Follow-up of the action
					100% covered in the training				
IDA	2020	MEInf / MEInd	PG 03 Review and improve training programs	To guarantee the adequacy of the teaching staff without university ties who teach in dual training	Intensify actions to ensure that companies involved in dual training are aware of their role as co-trainers (along with the university) and not just as employers	No	Management of the Center	Course 20/21 Course 21/22	Action planned to be completed by 21/22 as due to the health situation the planned training could not be carried out
Center agreements	2021	Center	PG 03 Review and improve training programs	Design measures to improve student permanence.	Perform an analysis of the results of the dropout rate of the degrees with the highest rates	No	Deputy Director of Students, Promotion and Quality	In 2021	The document / report is being prepared
Center agreements	2021	Center	PG 03 Review and improve training programs	Identify the extreme cases of student dissatisfaction with the subjects	Analyze the information of the subjects with values lower than 2.5 and propose measures	No	Center address	In 2021	The document / report is being prepared
Center agreements	2021	Center	PG 08 Manage outgoing mobility students	Design an administrative mobility management procedure.	Write the center procedure	No	Deputy Director of International Relations	In 2021	Drafted the Operating Instruction in September 2021
Center agreements	2021	Center	PG 31 Review and improve the internal quality assurance system	Review the IQAS Manual of the centers	Approve the revision of the centre's IQAS Manual	No	Deputy Director of Students, Promotion and Quality	In 2021	Approval of the revision of the Manual of the IQAS of the EPS by the CAU (07/07/2021)
Center agreements	2021	Center	PG 32 Manage complaints and suggestions (centers)	If the confinement is maintained, set up virtual meetings with students to collect complaints and	Organize meetings with students in 6 degrees of the center (degree and master)	No	Deputy Director of Students, Promotion and Quality	Course 20/21	Meetings with students of the degrees: GEOIL / GEQ / GATE / GDDTEC / GTIDIC / GEEIA / GEES

Proposed Origin	Year Proposal	TITLE / CENTER	PC	Objectives Achieved	Improvement Actions	Modification. Memory of the title Yes / No	Responsible for the action	Implementation calendar	Follow-up of the action
				suggestions regarding the quality of the degrees.					
Follow-up / accreditation report	2021	Center	PG 06 Capturing future students	Give visibility to the Igualada Campus	To improve the promotion campaign of the Campus of Igualada, carrying out a market study that allows to determine effective actions and involving the students	No	EPS address	Course 21/22	
Follow-up / accreditation report	2021	Center	PG 28 Welcoming and guiding students	Improve student representation	Achieve representation of all degrees in the Student Council	No	Deputy Director of Students, Promotion and Quality	Course 21/22	
Follow-up / accreditation report	2021	Center	PG 06 Capturing future students	Improve student representation	Achieve representation of all degrees in the Student Council	No	Deputy Director of Students, Promotion and Quality	Course 21/22	
Follow-up / accreditation report	2021	Center	PG 06 Capturing future students	Disseminate degrees in the area of influence	Make efforts to link schools of training cycles and link them to the Campuses of Lleida and Igualada	No	Deputy Director of Students, Promotion and Quality / Degree Coordinators	Course 21/22	
Follow-up / accreditation report	2021	Center	PG 30 Plan and develop teaching methodologies	Establish project work in degrees	Promote integrative projects in industry (proposed by companies) on the Igualada campus	No	Head of Studies / Degree Coordinator	Course 21/22	



Proposed Origin	Year Proposal	TITLE / CENTER	PC	Objectives Achieved	Improvement Actions	Modification. Memory of the title Yes / No	Responsible for the action	Implementation calendar	Follow-up of the action
Follow-up / accreditation report	2021	Center	PG 06 Capturing future students	Promote technological vocations	Consolidate the TalenTECH Program (Project aimed at joining forces between the EPS and the secondary schools of the western counties and Anoia in order to provide teaching, resources and advice to boys and girls with good academic records who have concerns to learn and get to know the university academic world first hand)	No	Deputy Director of Students, Promotion and Quality	Course 20/21	
Follow-up / accreditation report	2021	Center	PG 32 Manage complaints and suggestions (centers)	Consolidate the relationship between the school, students and alumni	Promote the School's LinkedIn with the publication of articles of interest (World Day of the Information Society, World Day of Architecture, World Day of Energy Saving, World Day of Usability, World Day of Urbanism...)	No	School Management	Course 21/22	
Follow-up / accreditation report	2021	Center	PG 27 Manage material resources for teaching	Improving sub-standard 5.2 The material resources available are appropriate to the	Creating an OpenLab	No	School Management	Course 21/22	



Proposed Origin	Year Proposal	TITLE / CENTER	PC	Objectives Achieved	Improvement Actions	Modification. Memory of the title Yes / No	Responsible for the action	Implementation calendar	Follow-up of the action
				number of students and the characteristics of the degree.					
Follow-up / accreditation report	2021	Center	PG 29 Manage external academic internships	Promote actions that enhance the level of interaction with the business environment generating new synergies	Create a Dual Training Monitoring Committee	No	External Internship Coordinator	Course 21/22	
Follow-up / accreditation report	2021	Center	PG 28 Welcoming and guiding students	Encourage the internalization of our students	Update videos of degrees / international mobility videos	No	Deputy Director of International Relations / Deputy Director of Students, Promotion and Quality	Course 21/22	
Follow-up / accreditation report	2021	Center	PG 13 Identify needs and select academic staff	Increase teaching in English in degrees	Assess with the Office of the Vice President for Academic Planning and Quality how to promote teaching in English at the UdL	No	Center Management	Course 21/22	
Follow-up / accreditation report	2021	Center	PG 27 Manage material resources for teaching	Improving sub-standard 5.2 The material resources available are appropriate to the number of students and the characteristics of the degree.	Enable a student area in the hall on the -1 floor	No	Center Management	Course 21/22	

Proposed Origin	Year Proposal	TITLE / CENTER	PC	Objectives Achieved	Improvement Actions	Modification. Memory of the title Yes / No	Responsible for the action	Implementation calendar	Follow-up of the action
Follow-up / accreditation report	2021	MEIND	PG 06 Capturing future students	Promote actions to attract both national and international students	Consolidate the registration for the Master in Industrial Engineering	No	Head of Studies / Degree Coordinator	Course 21/22	
Follow-up / accreditation report	2021	MEINF	PG 02 Design training programs	Improve the quality of the training program	Restructuring of the Master's Degree in Computer Engineering	Yes	Head of Studies / Degree Coordinator	Course 21/22	
Follow-up / accreditation report	2021	MEINF	PG 30 Plan and develop teaching methodologies	Promote actions to attract both national and international students	Offer in hybrid format some subjects of the Master	No	Head of Studies / Degree Coordinator	Course 21/22	

EVIDENCES

The evidences are organized in folders according to the criterion. All documentation is available on the UdL virtual campus. Route and access codes will be sent by email

EVIDENCE	DESCRIPTION
General	
0_01_EPS_Reunió acreditacions 2021.pdf	Call to the meeting to prepare the self-assessment report
0_02_Cronograma.pdf	Work schedule
0_03_EPS_Acta 2021-06-17.pdf	Act of constitution of the Internal Evaluation Committee
0_04_EPS_Conv_CAI.pdf	Self-report approval
0_05_EPS_ExPublica.pdf	Public exhibition of the self-assessment report
Criterion 1	
1_00_RD1393-2007.pdf	Royal Decree 1393/2007, of October 29, which establishes the organization of official university education
1_00_ResolInformatica.pdf	Resolution of June 8, 2009, which establishes recommendations for the proposal by universities of reports of application for official degrees in the fields of Computer Engineering, Computer Technical Engineering and Chemical Engineering.
1_00_Orden CIN351_2009BOE.pdf	Order CIN / 351/2009, of February 9, which establishes the requirements for the verification of official university degrees that enable the exercise of the profession of Industrial Technical Engineer
1_00_Orden CIN_311_2009.pdf	Order CIN / 311/2009, of February 9, which establishes the requirements for the verification of official university degrees that enable the exercise of the profession of Industrial Engineer
1_01_(name_degree)_MemActVerificacio	Document that collects all the information related to the degree.



EVIDENCE	DESCRIPTION
1_02_(name_degree)_InfVerificacio-AQU.pdf 1_02_(name_degree)_InfVerificacio-CU.pdf	Validaton (exante assessment). AQU report for the validation of recognised degree in Catalonia. Universities Council (CU) resolution with the outcome of the validation process.
1_03_EPS_InfSeguiment	Link to program monitoring reports
1_04_(name_degree)_CompSubject.pdf	Table showing the relationship between the competences of the degree and their distribution by subjects
1_05_(name_degree)_CompTit_SSC_ASIIN.pdf	Table showing the relationship between the competences of the degree and ASIIN Subject-Specific Criteria
1_06_(name_degree)_Module	Module descriptions as they are available to students and the teaching staff
1_07_EPS_Stakeholders	
1_07_EPS_ComElab.pdf	Composition of the committees for the preparation of the study plans
1_07_EPS_DesignRecords	Minutes of the School Board regarding the design of the study plans
1_07_UdL_Teaching strategy	Document prepared by the UdL on teaching strategy
1_07_UdL_PlanTeachingStrategy	Framework for Planning of Teaching at the UdL
1_07_EPS_SampleSurveyGEI 1_07_EPS_SampleSurveyGInd	Sample of surveys conducted on entrepreneurs, institutions and faculty involved in the design of program competencies
1_07_EPS_ResultsSurvey	Presentation of the results of the surveys carried out
1_07_EPS_SocialAgents_03-02-2007 1_07_EPS_SocialAgents_18-05-2009	List of the social agents that participated in the commissions of elaboration of the plans of study of the degrees adapted to the EEES.
1_08_UdL_AcademicRegulationsBacDegrees 1_08_UdL_AcademicRegulationsMastDegrees	Academic Regulations for Bachelor's and Master's Degrees
1_09_UdL_ExaminationRegulations	Regulations for the assessment and grading of student learning in UdL Bachelor's and Master's Degrees
1_10_UdL_Enrollment 1_10_EPS_Enrollment	Link to UdL and EPS enrollment information
Criterion 2	
2_00_EPS_Framework	EPS Academic Framework for Bachelor's and Master's degrees



EVIDENCE	DESCRIPTION
2_00_EPS_Framework BD.en.pdf	
2_00_EPS_Framework MD.en.pdf	
2_01_(name_degree)_CompSubject.pdf	Table showing the relationship between the competences of the degree and their distribution by subjects
2_02_(name_degree)_CompTit_SSC_ASIIN.pdf	Table showing the relationship between the competences of the degree and ASIIN Subject-Specific Criteria
2_03_(name_degree)_Web	Link to the Bachelor's/Master's degree website
2_04_UdL_Mobility 2_04_EPS_Mobility	Link that inform about the regulations about mobility
2_05_UdL_PG29	SGIQ procedure: PG29 Manage external internships
2_06_UdL_Internships	Regulation of the external internships
2_08_EPS_PC008	Procedure PC008: Management of dual training in the masters of the Polytechnic School
2_08_EPS_Dual training	Methodological Framework of the Dual Training of the Bachelor's degree and master's degrees of the Polytechnic School
2_09_UdL_TeachingStrategy	Teaching and training strategy of the UdL
2_10_UdL_PG28	Link to procedure PG28 Welcome and guide students
2_11_UdL_AcompanyaNestor	Link to the page AcompanyaUdLNestor where information is provided on the institutional program to accompany and guide students during their stay at the university
2_12_UdL_ManualFormEstu_PE.pdf	Institutional action plan to facilitate job placement: Internships
2_13_UdL_ProfOrientation_1	
2_14_UdL_ProfOrientation_2	Link to "Feria UdL Trabajo"
2_15_UdL_Jobteaser	Link to the "Jobteaser". This web gives access to: job offers reserved for UdL students and graduates, internacional offers, events, individualized online career guidance sessions



EVIDENCE	DESCRIPTION
2_16_UdL_IndSatSBD_curs 2020_2021.pdf	Indicators of use of Library Services
2_17_(name_degree)_MapPracticalAct.pdf	“Map of Practical Activities” for each Bachelor's degree
Criterion 3	
3_00_EPS_Framework	EPS Academic Framework for Bachelor's and Master's degrees
3_00_EPS_Framework BD.en.pdf	
3_00_EPS_Framework MD.en.pdf	
3_01_EPS_Class_Schedule	Class Schedule
3_02_EPS_ExamCalendars	Exam Calendars
3_03_UdL_ExaminationRegulations	Regulations for exams
3_04_EPS_Exams	Link to de regulations about evaluation and qualification
3_05_(name_degree)_DIT	Bachelor's degree indicators
3_06_(name_degree)_DIT_2	The Bachelor's degree in figures (disaggregated by sex)
3_07_(name_degree)_LabInserStudies	Labor insertion studies Engineering (EUCDades)
Selection of exams/transcripts/ projects of students	
(name_degree)	A folder for each degree.
(subject 1)	A folder for each subject
(subject 2)	
(subject 3)	
(subject...)	
3_03_(name_degree)_Degree_curriculum	Link to the teaching guide for each subject
3_04_(name_degree)_CVTeacher	Link to the CV of the teaching staff who teach the subject
3_05_(name_degree)_ActivityApproach	Statement of learning and assessment activities
3_05_(name_degree)_ExamsPlanning	Statement of the exams
3_05_(name_degree)_CorrectionCActivity	Statement of correction criteria for activities and exams
3_05_(name_degree)_CorrectionCExam	
3_06_(initial_name_student)_(name_degree)_ActivityExecution (MH/EX/NT/AP/SU)	Selection of activities and exams carried out by students



EVIDENCE	DESCRIPTION
3_06_(initial_name_student)_(name_degree)_ExamsPerformance_(MH/EX/NT/AP/SU)	
3_07_(name_degree)_EvaluationResults.pdf	Table with the students results and the final grade
(Master's Thesis)	
3_03_(name_degree)_Degree_curriculum	Link to the teaching guide for each subject
3_04_(name_degree)_CVTeacher	Link to the CV of the teaching staff who teach the subject
3_05_(name_degree)_TFMCorrectionCriteria.pdf	Correction criteria
3_05_(name_degree)_TFMApproach.pdf	Approach of the Master's Thesis
3_06_(initial_name_student)_(name_degree)_TFMPerformace_(MH/EX/NT/AP/SU).pdf	Selection of Master's Thesis carried out by students
3_07_(name_degree)_EvaluationResults.pdf	Table with the students results and the final grade
Criterion 4	
4_01_(name_degree)_TeachingStaff	Description of the Teaching Staff
4_02_EPS_Research	Information about research centers & research groups
4_02_EPS_Research_1	Publications in magazines of the teaching staff (http://webgrec.udl.es/)
4_02_EPS_Research_2	Publications in books of the teaching staff. (http://webgrec.udl.es/)
4_02_EPS_Research_3	Scientific congress contributions. (http://webgrec.udl.es/)
4_03_MilloraDocencia_202021.pdf	UdL competitive grants for the implementation of innovation and teaching improvement projects
4_04_UdL_Convocatoria_Equipos_Docencia.pdf	Specific programme to improve teaching infrastructures and laboratories
4_05_UdLPFormPDI_2021.en.pdf	Teacher training plan
4_06_UdL_Budget	Link to the economic information of the UdL (budget)
4_07_EPS_TourVirtual	Virtual tour of the Polytechnic School buildings
4_08_EPS_Computer_classrooms	
4_09_EPS_Teaching_spaces	
4_10_UdL_Library	
Criterion 5	



EVIDENCE	DESCRIPTION
5_00_EPS_web	Polytechnic School web
5_01_(name degree)_Web	Link to the Bachelor's/Master's degree website
5_02_UdL_IST	Link to the website of the Quality and Teaching Planning unit with the annual monitoring reports of the degrees
5_03_UdL_PG 23	General Procedure PG23: Publish Information and account for training programmes
5_04_EPS_InformationManagement.pdf	Information management in the Polytechnic School
5_05_EPS_WebReview	Annual review of the EPS's web pages by degree
5_06_UdL_WebMigration.pdf	VOAC sample email of the process of migration / renewal of the degree websites
5_07_(name degree)_Certificate	Sample graduation certificate
5_08_(name degree)_SET	Sample Diploma Supplement
Criterion 6	
6_00_AUDIT_Programme	Programme to promote the development and implementation of internal quality assurance systems in universities and other HEI
6_01_UdL_UdL Quality Office	Link to the home page of the university's Quality Office
6_02_EPS_Quality Assurance	Link to the home page of EPS Quality Assurance
6_03_UdL_SGIQ.pdf	Presentation of the Internal Quality Assurance System
6_04_EPS_SGIQ.pdf	EPS Internal Quality Assurance System
6_05_UdL_GP	University General Procedures
6_06_EPS_Follow-up_SGIQ	Link to the folder Monitoring and review reports of the EPS SGIQ
6_07_UdL_OpinionSurvey	Instruments for collecting stakeholder satisfaction
6_08_EPS_ImprovementPlan	Link to the folder that contains the Improvement Plans
6_09_EPS_improvementAgreements	Link to the folder that contains the improvement Agreements signed between the UdL government team and the center's management team.
6_10_UdL_GP_Evaluation.pdf	Evaluation of the transversal procedures of the UdL
6_11_EPS_QualityPolitics.pdf	EPS Quality Policy



EVIDENCE	DESCRIPTION
6_12_UdL_Indicators_GP.pdf	Indicators for monitoring General Procedures
6_13_UdL_Indicators_Degree	Academic indicators of Bachelor's/Master's degrees
6_14_UdL_Indicators_Faculties_Schools	Strategic Plan Indicators
6_15_UdL_Figures_Rankings	Electronic publication that collects the statistical information of reference of the basic areas of activity of the University (teaching and research)

Annex: Correspondence between AQU Catalunya and ASIIN standards

ASIIN		AQU Catalunya
1. The Degree Programme: Concept, content & implementation	Notes	1. Quality of the training programme
1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)		1.1. The programme's competence profile meets the requirements of the discipline and complies with the required level of study according to the MECES.
1.2 Name of the degree programme 1.3 Curriculum		1.2. The curriculum and structure of the curriculum are consistent with the programme's competence profile and learning outcomes.
1.4 Admission requirements		1.3. Students who are admitted have an admission profile that is suitable for the programme and the number of students is consistent with the number of places offered.
	ASIIN criterion 6	1.4. The existence of effective teaching coordination mechanisms for the programme.
	ASIIN criterion 5.3	1.5. The different regulations are duly complied with and this has a positive impact on the programme outcomes.
2. The Degree Programme: Structures, Methods & Implementation		
2.1 Structure and modules		
2.2 Work load and credits		
2.3 Teaching methodology		
2.4 Support and assistance		5. Effectiveness of learning support systems



		<p>5.1. The academic guidance services provide adequate support for the learning process, and the professional guidance services facilitate entry into the labour market.</p> <p>5.2. The available physical resources are adequate for the number of students and the characteristics of the programme.</p>
3. Exams: System, Concept & Organization		6. Quality of programme (learning) outcomes
		6.1. The learning outcomes achieved meet the expected training goals and the MECES level of the degree programme.
		6.2. The training activities, the teaching methodology and the assessment system are suitable to ensure the achievement of the expected learning outcomes.
		6.3. The values for the academic indicators are adequate for the characteristics of the programme.
		6.4. The values for the graduate labour market/destination indicators are adequate for the characteristics of the programme.
4. Resources		4. Suitability of teaching staff for the training programme
4.1 Staff		4.1. The teaching staff meet the qualifications requirements for programme delivery in the faculty, and they have sufficient and recognized teaching, research and, where applicable, professional experience.
		4.2. There are sufficient teaching staff in the faculty, and staff assignment is adequate for them to carry out their duties and attend the students.
4.2 Staff development		4.3. The HEI offers support and opportunities for enhancing teaching quality in the faculty.



4.3 Funds and equipment		
5. Transparency and Documentation		2. Relevance of public information
5.1 Module descriptions		2.1. The HEI publishes truthful, complete, up-to-date and accessible information on the characteristics of the degree programme and its delivery.
	ASIIN criterion 6	2.2. The HEI publishes information on the academic and satisfaction outcomes.
	ASIIN criterion 6	2.3. The HEI publishes the IQAS which forms the framework of the degree programme and the monitoring and accreditation outcomes of the degree programme.
5.2 Diploma and Diploma Supplement		
5.3 Relevant rules	AQU substandard 1.5	1.5. The different regulations are duly complied with and this has a positive impact on the programme outcomes.
6. Quality Management: Quality Assessment and Development		3. Efficacy of the programme's internal quality assurance system
		3.1. The implemented IQAS has processes which ensure the design, approval, monitoring and accreditation of the degree programmes.
		3.2. The implemented IQAS ensures the collection of information and of outcomes relevant to the efficient management of the degree programmes, especially including the academic and satisfaction outcomes of the stakeholders.
		3.3. The implemented IQAS is periodically reviewed and generates an improvement plan that is used for its continuous enhancement.