IO1A3 Report on mapping institutional policies, strategies and decisions regarding digital education
IO6A1 Report on institutional mapping and progress benchmarks for implementing scenarios for digital teaching and learning

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Inhoud

Mapping institutional policies and strategies

Below, we describe case studies of three universities:
- KU Leuven as a large multi-campus research university,
- TU-Delft as a smaller technology-oriented campus research university,
- Universidad Oberta de Catalunya, which is serving off-campus students

All three have in common a **strong educational leadership**, that has established robust institutional policies and strategies for digital education, starting from their own mission and vision.

In this project, these universities were selected for their **specific research and innovation schools** regarding different approaches in in digital education, respectively **synchronous hybrid, blended and online distance educatio**n. On the European scene, these approaches complement each other.

This doesn't prevent that **all three approaches to some extent are used in each of these institutions,** *d*epending on the target groups to be reached in a course or programme, the individual preference of teaching staff or the institutional culture.

However, **open universities** of course use mainly online distance methods in order to be flexible for students at work. In the case of UOC, they have developed an institutional educational model that is used as a pedagogical basis for all courses and programmes.

All three universities are continuous expanding and adapting their **technological infrastructure and tools** in order to enhance the quality of education, for example for adaptive education steered by learning analytics, collaborative learning activities, individual tutoring and student support, e-assessment and last but not least by **scaling up digital education throughout the institution** while it remains an intensive and rich learning experience in interaction with research and innovation resources.

In campus universities, technology is changing **education spaces**, facilitating interactivity in smaller learning groups for blended education and ensuring the appropriate classroom infrastructure for synchronous hybrid teaching. In the three universities, teaching staff and students have access to studios to produce audio-visual material.

In all three institutions, technology creates new teaching and learning environments where **active learning** is at the centre. This requires n**ew models for teaching and learning design, development and delivery**. In DigiTeL Pro, three courses are developed for the **continuing professional development of teaching staff** European-wide. They are based on research and innovation and best practices in and outside of the partnership.

The three institutions have in common that they support their policies, strategies and practices on **research and innovation**. Innovation is steered, for example by the funding of projects/experimental implementations after a call on specific issues (for example e-assessment and feedback, instructional design models….) or by seed money for bottom up initiatives. The scaling of results is of course a condition for having impact.

To reach out to all stakeholders and scale up innovation the three universities have developed a **strong institutional framework for education**. All three institutions have developed such frameworks. Good examples are:

- The **KU Leuven Learning Lab** is an institution-wide network that brings together educational expertise in different faculties and departments. It consists of actors within central and decentral services, groups, faculties, programmes and campuses that drives integrated digital transformation in education. Considerable budgets have also been invested in the faculties and academic groups in establishing front-line support to teaching staff and curriculum boards as well as in developing policy priorities.
  At KU Leuven, there is a well-organized system for providing first line support. Each of the 15 faculties has a powerful team that is dedicated to this purpose. Each faculty has an operational action plan in place to ensure that this support is delivered efficiently. Furthermore, there is a train-the-trainer program available for educational support staff members in each faculty. The decentral level support is coordinated by the KU Leuven Learning Lab.

- The **TU Delft Teaching and Learning services and the Teaching Academy**. Teaching and learning services cater to the needs of individual lecturers as well as entire faculties, based on a shared vision of education and strategic framework. They offer advice and support, including pedagogical frameworks, guidelines, and professional training, addressing a range of questions of teachers, such as how to improve their course, increase student interaction, and develop their skills as lecturers. They also provide guidance on selecting appropriate educational tools and designing an effective curriculum. The Teaching Academy has three main components: building a community of primarily full-time professors; the Teaching Lab, which is a shared space where all lecturers can work; and a CPD program. The goal of the Academy is to inspire lecturers by showcasing how their peers are innovating in education. By integrating educational support in these activities, lecturers become open to change.

- **UOC has a unique educational model for online distance education** with differentiated roles for programme directors, coordinating professors, course instructors and tutors. It provides methodological support to educators in the pedagogical design of courses and programmes, They have 8 learning designers and advisors, and have trained or assessed over 700 faculty members. More than 800 courses are recently designed or redesigned (of 3.500 courses in total). Personalized consultancy to educators is given through expert advisory sessions, which involve a dialogic process. Teaching and learning services have developed an advanced course development template. They make available resources for learning design and e-learning kits on the web to support educators in the pedagogical design process. Furthermore, they organize personal consultancy on demand. The **UOC e-Learning Centre** plays a coordinating role in this.

In the three universities, **good practices in digital education are shared** on the website, in webinars and newsletters.

Regular institutional evaluation on digital education is done in the three universities, followed by the adaptation of policy objectives and strategies. This is done by respectively by the KU Leuven Learning Lab, the TU Delft Teaching and Learning Services and UOC's eLearning Centre. KU Leuven and Tu Delft have developed the European Maturity Model for Blended Education for mature decision meeting (EMBED, EU project).

All three universities are involved in **European projects** on digital education. Beyond this, KU Leuven is an active member of UNA Europa where the educational support services continuously exchange

expertise in digital education and implement this in joint courses and programmes, including virtual mobility.

Institutional policies for digital education KU Leuven:
Going digital, staying human: challenges for Future-Oriented Education @KU Leuven

Contributions by Piet Desmet, Vice-Rector Educational Technology, KU Leuven Campus Kortrijk and Annelies Raes, Annelies Raes, Anneleen Cosemans, Director KU Leuven Learning Lab), on the institutional policy in relation to the transition to digital education at KU Leuven, also positioning synchronous hybrid education.

Venue: KU Leuven Edulab for synchronous hybrid education, Campus Kortrijk.

1. Profile of KU Leuven:

KU Leuven is located in the heart of Europe and is one of Europe's oldest universities, founded in 1425 and celebrates its 600th anniversary in 2025. The university has more than 60.000 students.

- A comprehensive university:
    - 15 faculties clustered into 3 groups: Humanities and Social Sciences; Science, Engineering and Technology (SET); Biomedical Sciences
- Multicampus organisation
    - 14 campuses, spread across 10 cities in Flanders
- Internationally oriented and research-intensive university
    - Today, KU Leuven, ranks among the best universities worldwide
    - #45 in the Times Higher Education World University Ranking
    - #1 Europe's most innovative university (Reuters Ranking) (and #7 worldwide)

2. Going Digital as part of our Strategic Plan

In "Crossroads, for a sustainable society", a strategic plan for KU Leuven (2017-2023) is developed, with a long-term vision in 5 projects:

- Future-Oriented Education
- Truly International
- Going digital
- Interdisciplinarity
- Sustainability

The goal of the strategic plan is to make decisions for the long term: ten to fifteen years. This approach is necessary: if each management team only thinks about the next four years, we can never properly start the debate about the long-term development of our university.

The university has invested intensively in digitalisation in/of education in recent years – accelerated in part by the COVID-19 pandemic. It takes next steps toward digital transformation, albeit from a 'Going digital, staying human' perspective. Technology is used as a powerful lever for future-oriented education, but with attention to the crucial role that high-quality face-to-face instruction continues to play in our pedagogical concept, the specificity of fields, and specific learning situations.

2.1 Going digital – rationale

KU Leuven strives for an integrated approach to education that combines both in-person and digital learning methods, which applies to all aspects of the learning process. It is crucial to consider the unique features of each program and course, as well as the specific learning situation such as the number of students, the stage in the curriculum, and the student profile.
Digitalization is a powerful tool that can be utilized to promote and enhance various aspects of education, including:
- *Better learning and assessment*, active and collaborative learning, and the creation of new learning experience platforms, collaborative learning spaces, blended learning, and flipped classrooms.
- *Effective and efficient assessment* can be facilitated through online testing platforms and online examination centers.
- *Creating new learning spaces*, for example for multilocation learning and lifelong learning opportunities (continuing education, working students)
- *Helping incoming students* achieve better results. This can be achieved through better orientation and preparation, such as calibration tests and preparation for admission exams for specialized programmes like medical school.
- *Facilitating better monitoring of students*, reducing dropout rates, and improving reorientation through the use of adaptive learning environments and learning dashboards.
- *Promoting stronger internationalization* by attracting international students, positioning the institution internationally, and building networks of excellence through partnerships with organizations such as UNA EUROPA, U21, LERU, CELSA, EDX, and TU Delft.

2.2 Going digital: 10 policy objectives

The digitalization policy of KU Leuven consists of 10 core objectives:

Objective 1: focusing on technical constraints and conditions
The focus on the technical constraints and conditions is necessary for the smooth functioning of the educational infrastructure for KU Leuven and its 14 campuses. This includes:

- the maintenance and modernization of the backbone network and data centre
- the seamless connectivity with all KU Leuven 14 campuses;
- the further roll-out and extension of the high-density Wi-Fi to all existing learning spaces on all campuses;
- strengthening infrastructure in these spaces

Objective 2: Toledo as a Learning Experience Platform

For over 20 years, Toledo has used a variety of functionalities of the Blackboard learning environment, now the switching to an upgraded and improved system thanks to Blackboard Ultra. It

has a university-wide roll-out, but there is also room for domain specific applications and experiments.

The new version of our *Learning Experience Platform* (Toledo) is simply structured, simple to use and meets the needs of teaching staff and students: simpler, more flexible and more interactive, with numerous new applications, for example with tools for interactive content development or for intelligent feedback. Experiments are ongoing on feedback on complex learning tasks.

Objective 3: Online assessment
- KU Leuven is implementing a new assessment platform to embed simple and complex digital evaluation opportunities in their curricula. The platform allows for high-quality digital evaluation and supports the creation of larger question pools/item banks for teaching staff, including metadata. The university is setting up 'living labs' to test adapted types of examination.
- The university recognizes the growing importance of off-campus online exams, requiring re-designing online exams, focusing issues related to on open-book exams and adapted measures for taking exams such as oral sampling and invigilation. KU Leuven is also developing a guidance tool to aid teaching staff in the digital transformation of exams, reducing the possibility of fraud while ensuring high-quality online assessments.
- KU Leuven is prioritizing the creation of adapted exam rooms for online examinations. This involves ensuring auditoriums are upgraded or remodeled to schedule longer evaluations. KU Leuven will also conduct a numerical feasibility study to establish an examination center, including staffing and timetabling, with implementation on campuses outside of Leuven.
- Some exams can be separated from their dependence on place and time. Creating a suitable exam centre and offering distance examinations are technically possible. This can be a great help for working students. The online learning platform can be completed by an online examination platform.
- Furthermore, KU Leuven is open to the idea of students bringing their own devices for exams as long as it is responsible and practical.
- The university is developing tools to properly monitor the use of digital exams and examination rooms, allowing them to adjust and optimize the evaluation process at various levels, from courses to the entire university.

Objective 4: MOOCs
The MOOC portfolio (on edX and similar platforms) is a powerful lever to appeal to an international audience and KU Leuven is continuing to expand this portfolio in a focused way. We are also progressively shaping a more intensive virtual mobility for our students by using our own MOOCs (or MOOC components) and our foreign partners' MOOCs for our standard students (see MOOC4credit, micro-credentials, etc.). Encouraging other forms of virtual mobility (e.g. through virtual classrooms) is also part of this mission.
KU Leuven will make "on campus use", of own and internationally available MOOCs, in bachelor and master programmes and in lifelong learning.
In this respect, KU Leuven has strong partnerships with UNA Europa and TU Delft.
MOOCs represent an important international dimension in the further internationalisation of the university.

Objective 5: Learning spaces

KU Leuven is improving *basic equipment* in smaller as well as larger rooms, so that class recordings, livestream and synchronous teaching become standard in as many places as possible and teaching

staff can easily connect to the available systems via the 'blue cable' from the same interface each time. Particular attention is being paid to setting up our campuses for this.

The university is developing *an equipment plan based on clear criteria to create advanced learning spaces*. These spaces will be focused on interactive learning and group work, with a strong emphasis on collaboration. The university recognizes the importance of hybrid and virtual classes for its multi-campus organization and aims to create inclusive "hyflex" spaces that support both on-campus and online teaching. Investments are done in field-specific learning spaces, such as Makerspaces, skill centers, or multimedia language and communication centers. In specific learning contexts, we will also explore the use of digital learning spaces based on Virtual and/or Augmented Reality.

KU Leuven is also developing tools for *remote monitoring of the learning spaces with associated dashboards for teaching teams and administration*. This data-driven approach allows to adjust and optimize the digital transformation of learning spaces at various levels, including specific courses, phases or pathways of a program, entire programs, faculties, and the entire university.

The Remote Classroom   The Hybrid Virtual Classroom

The university is organizing teacher training programmes for using these spaces appropriately. for professionals, also used for regular training. Also, research is done on research on such kinds of environments.

Objective 6: Learning analytics

Learning analytics is centered on utilizing data from learning assessments to provide support for students. It is an essential tool for improving the progress and results of incoming students, including those who are freshers, internationals, or lateral incomers.

KU Leuven is taking the lead in developing a *responsible framework for the application of learning analytics*, which places emphasis on ethical considerations, privacy concerns, and the well-being of students. The university is implementing this framework through targeted proof-of-concepts and seed projects, usually in one or more courses. Additionally, the university is investigating ways to present data in a user-friendly and easily interpretable manner through dashboards.

Objective 7: KU Leuven Learning Lab

KU Leuven Learning Lab provides a lever to further shape the network relating to digital transformation in education. Considerable budgets have also been invested in the faculties and academic groups in establishing front-line support to teaching staff and curriculum boards as well as in developing policy priorities.

KU Leuven Learning Lab is an institution-wide network that brings together educational expertise in different faculties and departments. It consists of actors within central and decentral services, groups, faculties, programmes and campuses that drives integrated blending and digital transformation. The KU Leuven Learning Lab is focusing on Future-oriented Education and Going Digital policy projects.

The Learning Lab is working towards a collaboration approach in complementary roles and deciding who is doing what at which level for reaching KU Leuven policy objectives. Community building is important to them.

To this end, the KU Leuven Learning Lab focuses on three axes, namely:

- enhanced support offerings relating to blending and future-ready education through the accelerated development of front-line support of teaching teams, committed to integrated blending of courses and curricula (including LLL). This includes as well online available support by the website of KU Leuven Learning Lab: manuals, documentation, tool guides, good practices;
- an extensive continuing professional development portfolio in co-creation with groups, faculties and campuses through the KU Leuven Learning Lab Academy. Activities entail train the trainer for local educational developers and training modules for faculty/teaching teams. Special focus on support of local educational designers (network approach). People receive intense guidance through info sessions, training, intervision,…
- an enriched portfolio of university-wide services to shape multimedia and blended learning in teaching practice (including student worker service, lending facilities for multimedia, etc.). Support services for faculties and their first line support for didactic teams – service catalogue:
    - Training students to support teaching teams in educational design
    - Knowledge clip studios
    - Lending service for multimedia equipment
    - Editing and screencast facilities
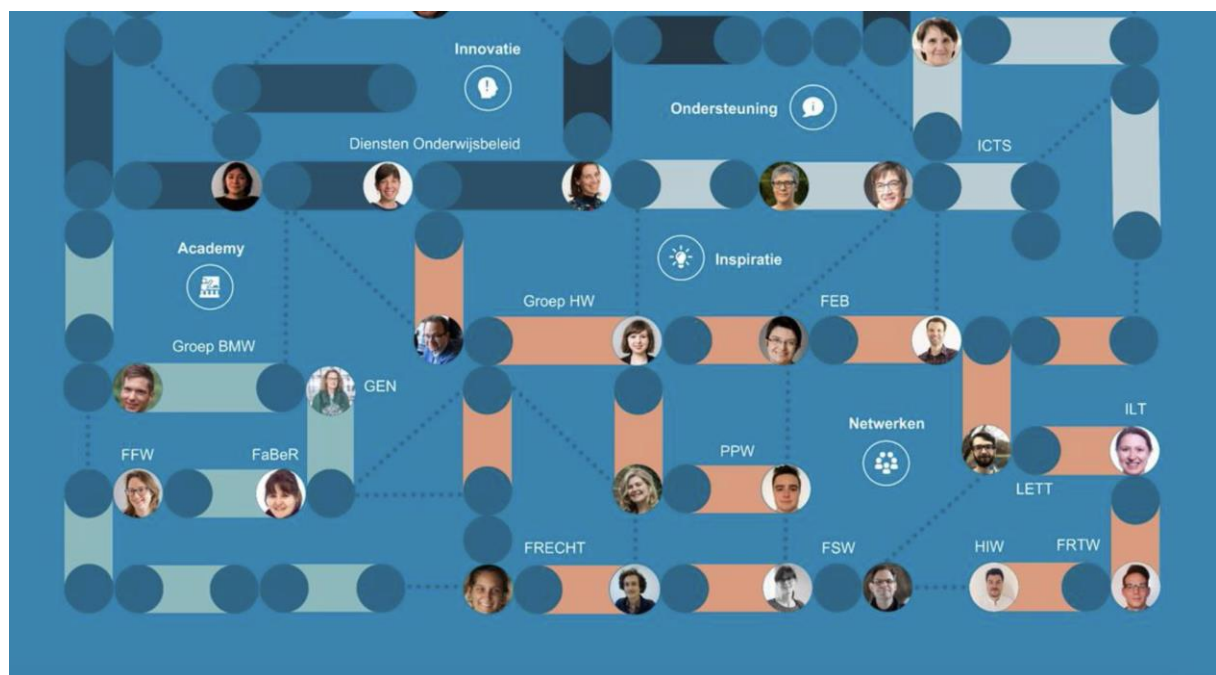
The KU Leuven, Kortrijk Campus does research and innovation in synchronous hybrid education, involving also other campuses. Wiebe asked the following question: how do you see the role of your campus in the institution?

The COVID period has shown that having a fully online university is a good option when there are no other possibilities. But the very best solution is having both in person and digital education combined. University campuses are changing (less learning spaces, more flexibility, etc.). But this is not the end of the campus. Digital is possible, physical is necessary.

At the end, a room in the library was shown where students can record their own presentation in order to check it afterwards and improve their presentation skills.

Objective 8: New team members
KU Leuven boasts of educational expert groups in all three clusters of faculties, namely the Humanities and Social Sciences, Science, Engineering and Technology, and Biomedical Sciences. Each group has recently recruited new personnel and is equipped with a strong team. Moreover, there are specific action plans tailored for each group to ensure that they achieve their objectives effectively.

Objective 9: First line support
At KU Leuven, there is a well-organized system for providing first line support. Each of the 15 faculties has a powerful team that is dedicated to this purpose. Each faculty has an operational action plan in place to ensure that this support is delivered efficiently. Furthermore, there is a train-the-trainer program available for educational support staff members in each faculty. This programme is designed to equip them with the necessary skills and knowledge and to provide effective support.

The decentral level support is coordinated by the central level (KU Leuven Learning Lab)

Objective 10: Innovative Digital learning Project
Room for experimentation

Maintaining room for experimentation is critical in a constantly evolving digital world. KU Leuven recognizes the importance of setting up targeted experiments with newer technologies and integrating them into our programme offerings. This includes exploring the potential of virtual reality for simulation education and skills training, gamification for teaching knowledge components, and artificial intelligence for adaptive learning pathways or chatbots for automating student support. We are always on the lookout for new technological trends.

Seed projects

Seed projects on innovative digital learning (IDL) aim to foster educational innovation within KU Leuven by financing teaching teams and curriculum boards to test new approaches on a defined student group. Each year, a call for educational innovation projects on a specific theme is launched, and the selection process is monitored by the KU Leuven Learning Lab Steering Committee.

Educational development and innovation

KU Leuven has a longstanding commitment to educational development and innovation, viewing it as a means of optimally supporting student learning and improving the quality of education.

Both innovation initiatives that started spontaneously and on a small scale, and innovation projects that receive support in the form of extra funding can form an interesting base for a broader initiative.

Both one project or a group of projects can form the base for a broader implementation and scaling up , for instance:

- In one or more faculties
- In a specific setting (courses for large groups, courses with a lot of students transferring from a different study programme,...)
- For a specific target audience (students with accommodations, exchange students,...).

Institutional developments and policies in digital education TU Delft

Contributions by Rob Mudde (Vice-Rector), Martijn Ouwehand, Stella Vandermeulen, France Jonquiere and Gytha Rijnbeek.

Rob Mudde, Vice-Rector Education, discussed a significant turning point in the field of education caused by COVID-19, which required a sudden shift to online learning. He noted that despite the challenges, COVID-19 has brought about some unexpected benefits. For example, online learning has provided more accessibility for students with disabilities, allowing them to participate in education at their own pace. This shift to online learning is still evolving and leading to a transition to blended education. Blended learning is now the main pedagogical approach in mainstream education in TU-Delft.

Additionally, Mudde expressed pride in their *extension schools* for continuing education, which offer online courses and short programs that support lifelong learners and professionals in technical and engineering fields relevant to society and the environment. These online programs equip people to solve current global challenges.

1.   Profile TU-Delft

TU Delft is committed to addressing global challenges such as climate change, energy transition, urban growth, digital society, and health, and strives to find future-proof solutions in collaboration with partners from multiple perspectives and interests.

The university aims to make a positive impact on society through world-class research, education, and innovation in fields such as sustainable aviation, clean water, and the future of the internet.

TU Delft is organized into eight faculties, including one on technology, policy, and management, and has five main themes with social impact: health and care, energy transition, climate action, AI and digital society, and urbanization and mobility.

In 2021, TU Delft had 27,270 students, 3,001 PhD students, 6,815 BSc/MSc degree recipients, and 431 PhD defenses.

The university also has an extension school for continuing education, which has enrolled 3.5 million registered users to date and offers hundreds of courses and short programs that are learner-centered and highly applicable to a range of career paths.

During the COVID-19 pandemic, TU Delft provided extensive emergency support to its staff and students, including a lecturer satchel with institute-specific support, change management supported by weekly webinars, centralizing licenses for tools, piloting new tools, and adding social elements or social learning spaces online.

2.   Blended education

Blended learning is defined as result of a deliberate integrated combination of online and face to face learning activities. Online technologies make it possible to have more interaction during the lecture time.

blended education

face-2-face — integration — online
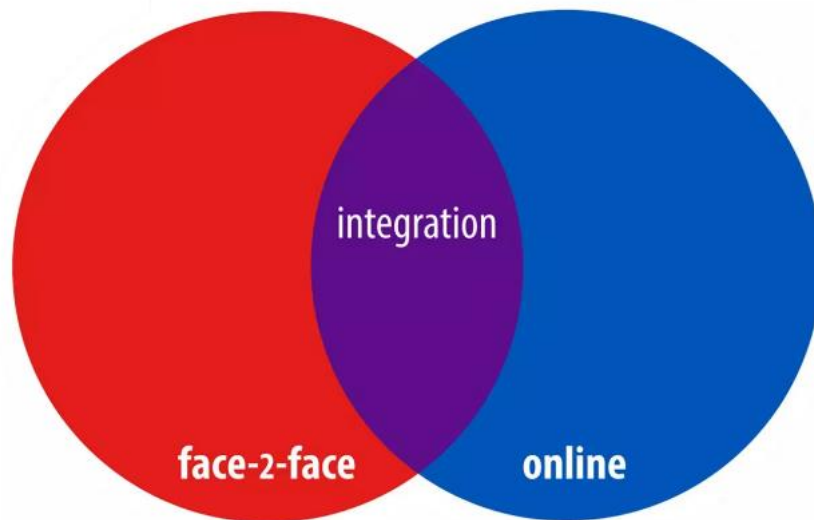
TU Delft attempted to implement blended education around four years ago, but progress was slow due to teacher resistance. However, the COVID-19 pandemic provided an opportunity to revisit the initiative. The university sought to improve the quality of education, professionalize teaching, and meet students' expectations by implementing blended learning. To achieve this, the university developed a new ambition, practical guidelines, good practices, and a road map for implementation. TU Delft also explored ways to encourage students to take ownership of their learning and become pro-active learners. During the pandemic, it was challenging to collaborate with students online and foster their personal and disciplinary growth, but the university remained committed to its vision of student-centred, active teaching and learning.

Welcome! You will use this course design template throughout various activities in the *Blending Your Education* course. Each activity will have you focus on one element of your course design (Step 1: storyboarding your course content, Step 2: planning and creating your media, and Step 3: Planning your assessment). For each activity, you will be asked to fill in the corresponding columns in the table below. Step 1, Step 2A, and Step 3 will be addressed in Module 2 of the course, and Step 2B will be addressed in Module 3 of the course. Please follow the activity instructions in these modules for detailed information of what is expected in each row and column of the course design table. Some additional information and examples are also provided to the right of the table in the grey boxes, to help you fill in specific columns.

Step 1: Storyboarding				Step 2A: Media Plan		Step 2B: Media Creation Tracker		Step 3: Assessment Plan	
Learning element description	Type *	Duration	Synchronicity	Media description	Media type**	Status	Resource/Tool	Feedback type***	Description
Week 0 - Welcome/Getting started									
Learning objectives: *fill in your learning objectives for the week here*									
0.1									
0.2									
0.3									
Week 1 - Title									
Learning objectives: *fill in your learning objectives for the week here*									
1.1									
1.2									
1.3									
Week 2 - Title									
Learning objectives: *fill in your learning objectives for the week here*									
2.1									
2.2									
2.3									
Week 3 - Title									
Learning objectives: *fill in your learning objectives for the week here*									
3.1									
3.2									
3.3									
Week 4 - Title									
Learning objectives: *fill in your learning objectives for the week here*									
4.1									
4.2									
4.3									
Week 5 - Title									
Learning objectives: *fill in your learning objectives for the week here*									
5.1									
5.2									
5.3									
Week 6 - Title									
Learning objectives: *fill in your learning objectives for the week here*									
6.1									
6.2									
6.3									
Week 7 - Title									
Learning objectives: *fill in your learning objectives for the week here*									
7.1									
7.2									
7.3									
Week 8 - Title									
Learning objectives: *fill in your learning objectives for the week here*									
8.1									
8.2									
8.3									
Week 9 - Title									
Learning objectives: *fill in your learning objectives for the week here*									
9.1									
9.2									
9.3									
Week 10 - Title									
Learning objectives: *fill in your learning objectives for the week here*									
10.1									
10.2									
10.3									

Constructive Alignment

Constructive alignment is all about having a solid course design in which the learning objectives, course content, activities and assessment all match. It's important because it influences the way you select activities, and how you sequence them in the course.

You should always begin with your learning objectives. What do you expect your students to master each week? Based on this, you can decide how you are going to check that your students have learnt what you wanted them to learn, and design your assessment. Then, you can think of the steps that prepare students for this assessment, and create the learning activities that will progressively guide them through your course contents.

You can fill in your learning objectives and ideas for assessment, learning activities and materials in the first section of this course design table: 'Step 1: Storyboarding'. Once you are done with your first draft, take a step back and critically assess whether you think the activities, assessment and learning objectives are aligned. Are your students guided through the course concepts, knowledge, and skills, with opportunities to practice before they are tested? Do your activities and assessment allow you to check that students have met all of your learning objectives? If you are not sure, check with a colleague or your faculty's Blended Learning advisor.

Around the diagram: Objectives; Students practice with tasks related to all the learning objectives, receive formative feedback; Measure students' achievement of the learning objectives, provide summative feedback; Activities; Assessment; Activities allow students to engage with course concepts and practice for the assessment

* Learning element types

Here are 6 broad categories of learning activities you can build into your course:

Assimilating	Handling information	Communicating	Producing	Experiencing	Adapting
e.g. read, watch, listen to, think about, observe, review...	e.g. find, list, use, analyse, classify...	e.g. share, discuss, debate, collaborate, question, respond to...	e.g. create, build, complete, refine, write, draw, design...	e.g. practice, apply, mimic, explore, investigate, perform, engage with...	e.g. experiment, improve, build on, trial, simulate, model...

Activity Type Cards by The Open University (CC BY-NC-SA)

For each learning element you describe in the Storyboard section, select in the drop-down menu in the 'Type' column whether it has students assimilating information, handling information, communicating, producing output, experiencing things, or adapting things. We have colour-coded these learning element types so that you are able to see at a glance what balance of learning element types you have in your course. If there is not much variety in your course, you may want to change the way you activate students and have them interact with your course content and each other. Re-consider which learning element type suits each part of your course best, and update the

** Media types

There are multiple media formats/types you can use in your course to share content with students. See this list for inspiration:

Video	Presentation	Images	Written text	Interactive media
Studio recording	Powerpoint slide	Photo	Text	Interactive document
Screencast	Slideshow	Visualisation	Book	Interactive video
Webinar		Infographic	Article	Interactive audio/podcast
Animation (2D/3D)		Scheme/schedule	HTML page in Brightspace	
		Graph	PDF/Word document	

Each will be best suited to certain types of content and activities. For more information on this and to help you choose a media type for your course content, use the Purpose of Media tool.

*Teaching and learning services*
Teaching and learning services play a crucial role in supporting lecturers to provide high-quality education. They offer both pro-active and re-active advice and support, including pedagogical frameworks, guidelines, and professional training. These services address a range of questions that lecturers may have, such as how to improve their course, increase student interaction, and develop their skills as lecturers. They also provide guidance on selecting appropriate educational tools and designing an effective curriculum. Teaching and learning services cater to the needs of individual lecturers as well as entire faculties, based on a shared vision of education and strategic framework.
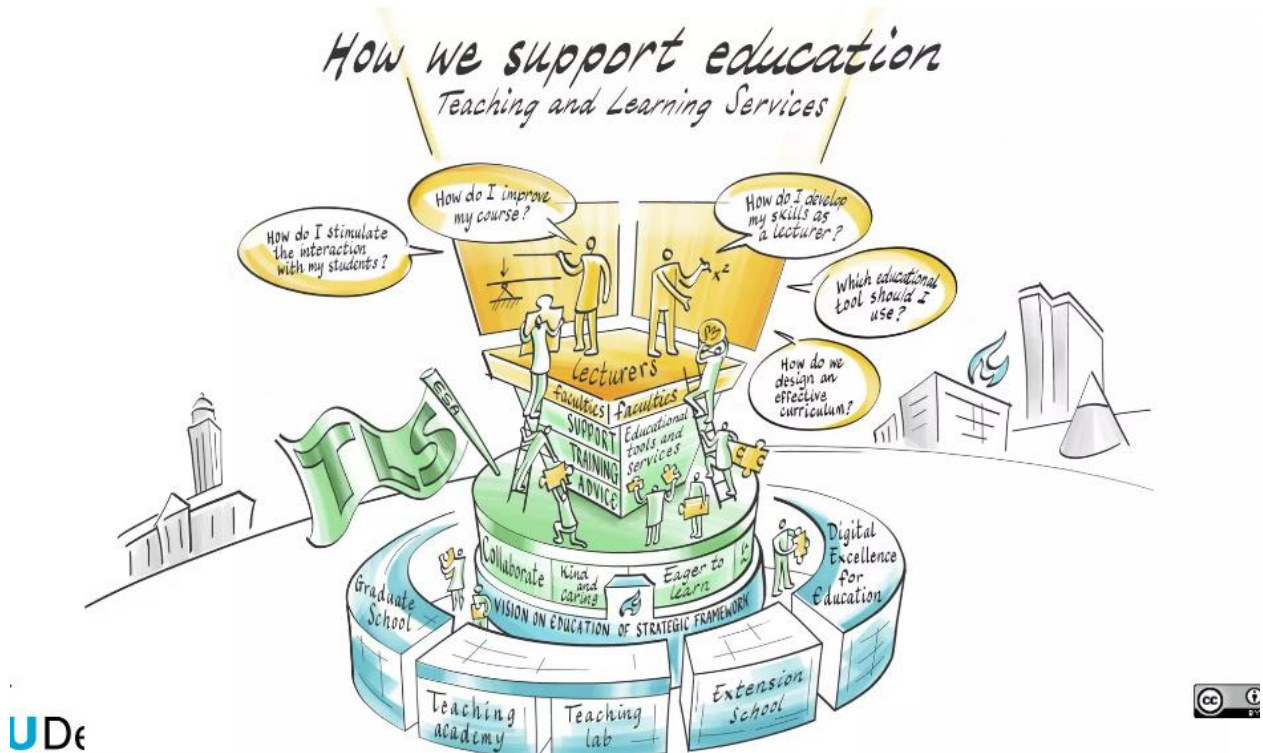
Blended learning is an integral part of the teaching and learning services provided by TU Delft, based on a holistic approach to education. These services are delivered in various formats, including webinars, a teaching support website, an EdTech tooling website, assessment support, a blended bootcamp, and the development of knowledge clips. TU Delft also has a help desk for lecturers to provide them with prompt assistance and guidance. In addition, the Teaching Academy at TU Delft offers a space for experimentation, where lecturers can observe and learn from their peers. Overall, the teaching and learning services at TU Delft are committed to fostering a culture of continuous improvement and professional development for lecturers, with the ultimate goal of enhancing the quality of education for all students.

The Teaching Academy
The main objective of the TU Delft Teaching Academy is to improve engineering education in a collaborative manner, transcending faculty boundaries. Lecturers are engaged in research, valorization, and education. The Academy contributes to the educational culture of the university by connecting, sharing, spotlighting, and experimenting.
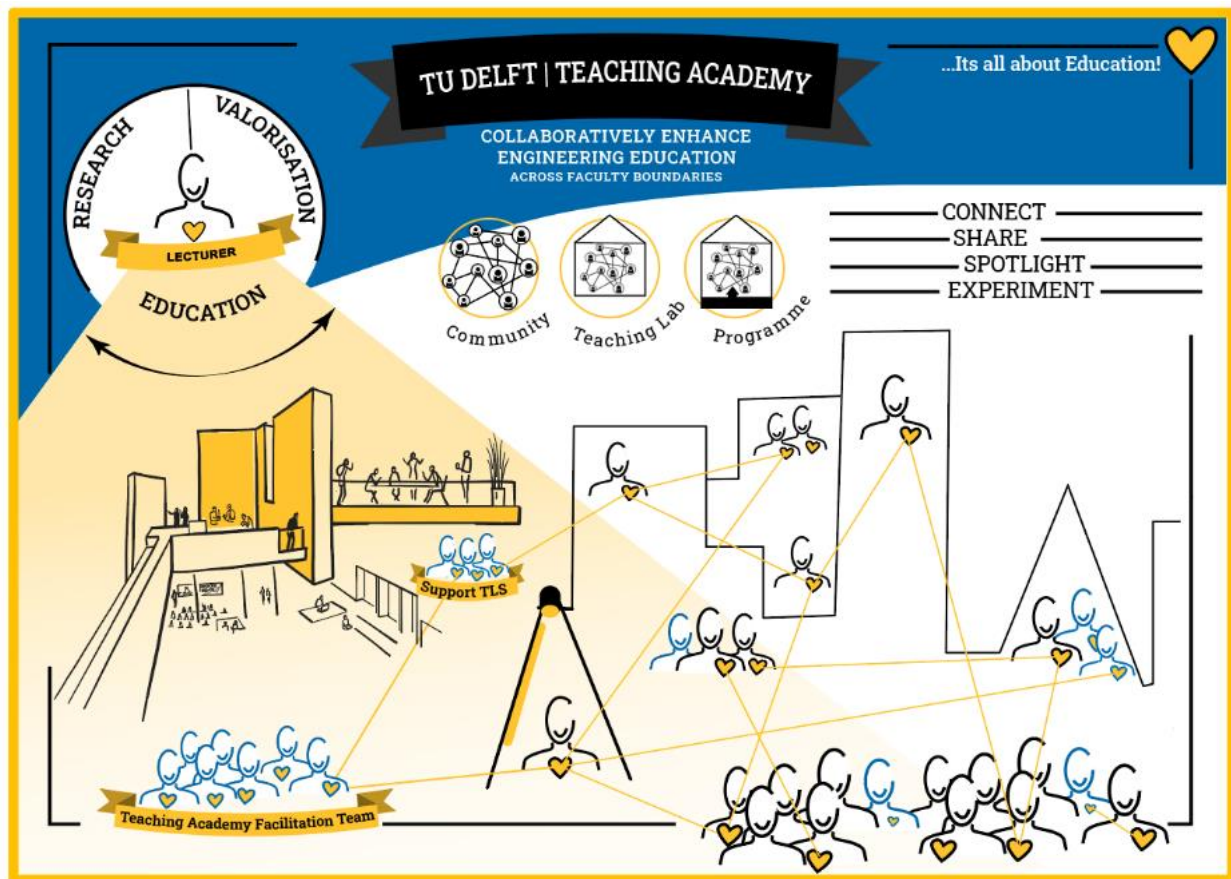
The Academy has three main components: building a community of primarily full-time professors; the Teaching Lab, which is a shared space where all lecturers can work; and a CPD program. The goal of the Academy is to inspire lecturers by showcasing how their peers are innovating in education. By integrating educational support in these activities, lecturers become open to change.

The Teaching Lab is a place where peers can demonstrate projects and experiments. To connect lecturers, the Teaching Lab creates and facilitates active networks, such as special interest groups, for example on remote teaching; bron ging together blended learning developers on TU Delft Education Day; and organizing meet and eat events where lecturers present footlight presentations on changes and impacts they have made. ``

The Academy also shares expertise and experience through the Educator Newsletter, educational conversations on hybrid teaching, and the Teaching Academy website. The Teaching Lab is also a space for experimentation, such as with educational technology, the Interactive wall, holograms, hybrid settings, the lightboard, and showcasing VR/AR.

Making blended learning more mature
The European Maturity Model for Blended Education (EMBED) (https://embed.eadtu.eu), which was developed in collaboration with TU Delft and other partners under the umbrella of EADTU, has resulted in the creation of an institutional plan titled "Moving blended learning to maturity." This plan aims to guide institutions in delivering top-notch education using the EMBED model. The model is multi-dimensional, with different dimensions at the course, program, and institutional levels. For instance, at the institutional level, dimensions

include facilities, finances, institutional support, institutional strategy, governance, quality assurance, sharing and openness, and professional development.
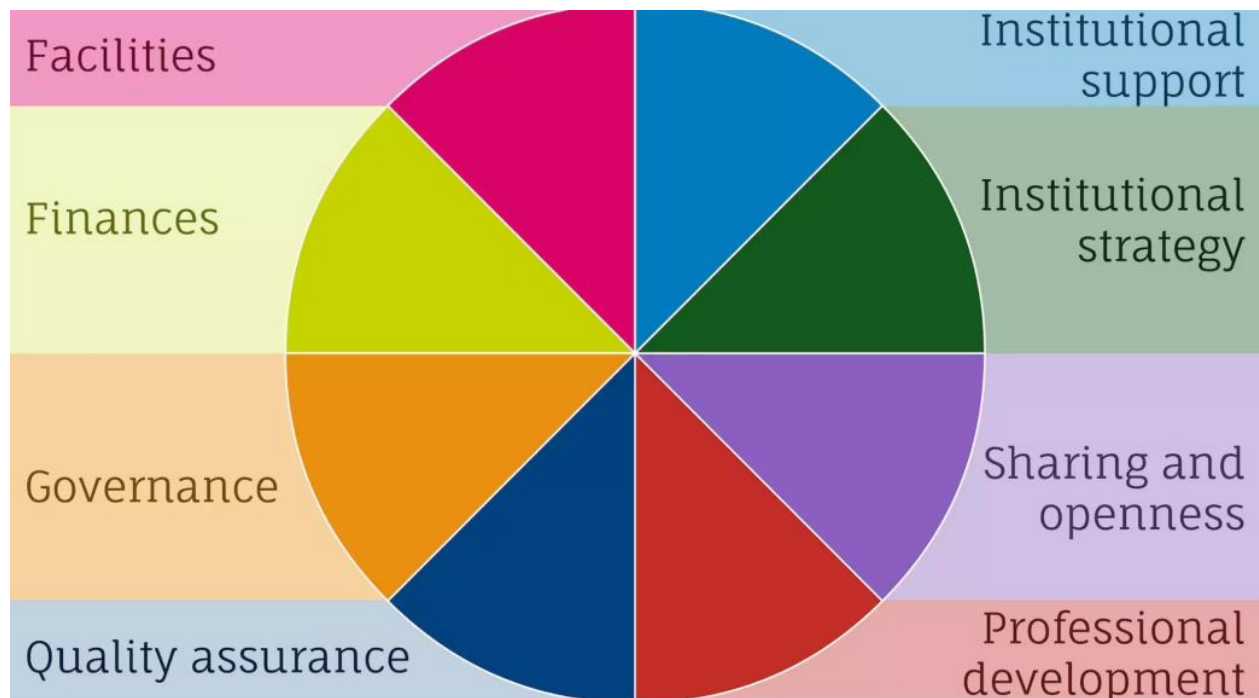

Media Lab

TU Delft makes a modern Media Lab available for staff and students in a New Media Centre.diffren Mean features are:
- Recording studios for lecturers where they can prepare online courses and MOOCs, including editing facilities for recordings afterwards;
- Online tools: Miro, Kahoot/Mentimeter, Brightspace, Serder,
- Different types of mobile and fixed hybrid set ups (small lecture rooms, Berlage rooms for conferences, special occasions and presentations hall)
- Hybrid equipment

TU Delft developed a cookbook for educational spaces.

Instruction Room T

Camera Students

Camera Lecturer
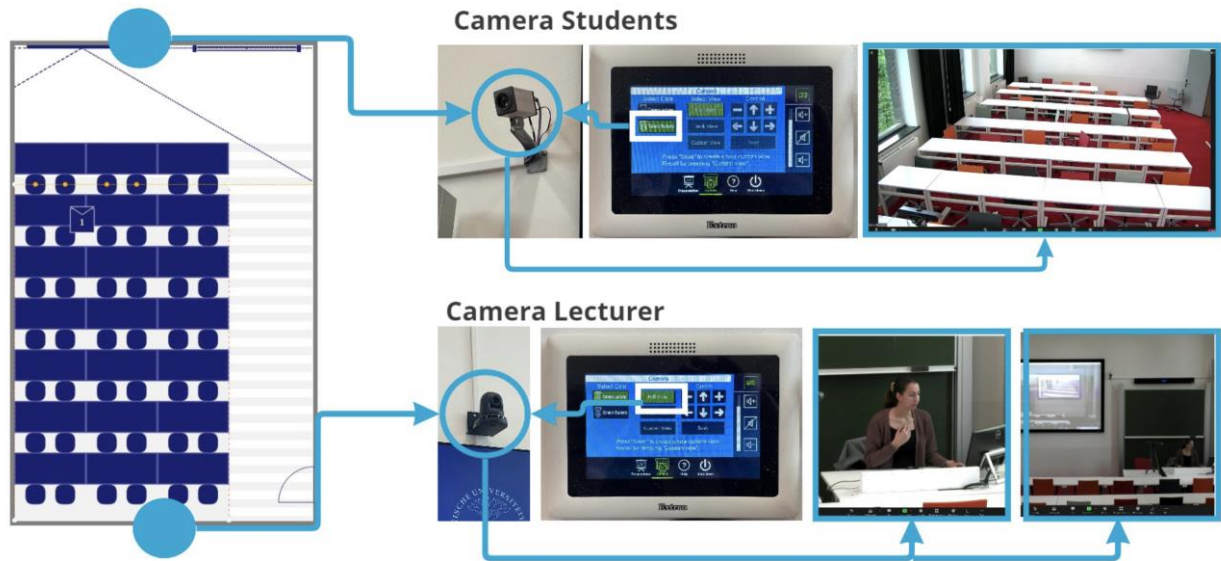
Institutional developments and policies in digital education at UOC, Barcelona

Contributions by Pastora Martinez Samper, Marcelo Maina, Teresa Romeu, Quelic Berga Carreras, Toni Martinex and Cristina Girona, Maire Fernández-Ferrer, and Juan Pedro Cerro.

1. Profile UOC

In 1995, the UOC became the first university to have a virtual campus, enabling students to learn from any location at any time. The UOC constantly utilizes cutting-edge e-learning research and innovation to refine its teaching methodology, thanks to its 50+ research groups and the eLearning Innovation Center, which drives educational innovation. Their research primarily focuses on the intersection of technology with social and human sciences.

The UOC's objective is to provide lifelong learning opportunities to everyone, regardless of their circumstances. This commitment is stronger than ever today.
We also want to facilitate the digital transformation in education, as leaders in education's digital transformation, accompanying governments, institutions and teaching communities worldwide. We are sharing the UOC's knowledge and experience for these new times.

The UOC believes that universities should take on more teaching responsibilities and create social impact by sharing knowledge with society throughout the lifespan of people. As a global university, the UOC provides a public service.

The UOC has outlined its main strategy for the years 2022-2025, which involves three key objectives:

- the university plans to improve the quality of teaching by increasing personalization levels for all students with the assistance of technology, data, and AI.
- it aims to adapt and update their programmes to meet the needs of society in alignment with their knowledge areas and research lines, setting the range of programmes apart from other universities.
- the UOC intends to reinforce their research and innovation in the intersection between technology and human sciences, with the goal of generating a notable impact on society.

The UOC serves the needs of students connected with three main research and innovation areas areas:
1. The eLearning Innovation Centre: helps the UOC's learning model evolve in order to guarantee a unique high quality connected and networked learning experience
2. The Internet interdisciplinary institute (IN3): specializes in studying the Internet and the effects of the interaction of digital technologies with human activity
3. The interdisciplinary academic eHealth Centre: generates, transfers and exchanges knowledge in E health

The UOC has seven faculties and is now one of the biggest universities in Spain:

87.000 students
104.501 graduates

90% combines study and work
28 bachelor programmes
53 master programmes
204 "specialisations" and postgraduate courses

Next to bachelorand master degree programmes, postgraduate course, specialisations and postgraduate courses are very strategic for UOC as they are oriented to employed people and combine an academic and professional orientation. Examples of such programms are:

Postgraduate programs (30 ECTS)
Specializations (12 ECTS)

Education and ICT (e-learning)	Graduate Diploma Direction and Management of E-learning	Graduate Diploma Techno - Pedagogical Design of Programs , Environments and Resources	Graduate Diploma Online Teaching	Graduate Diploma Research in E-learning
Specialization Support for the Design of Programs and Courses	Specialization e-Learning Project Management	Specialization Leadership and Organizational Development of e-Learning	Specialization Online Teaching	Specialization Planning and Development of Online Activities

Short courses (1 ECTS)

Course Design for Learning with ICT Support Initial level	Course Online Teaching Initial level	Course Assessment for Learning with the Support of ICT Initial level
Course Design for Learning with ICT Support Advanced level	Course Online Teaching Advanced level	Course Assessment for Learning with the Support of ICT Advanced level

Online education

UOC seeks to use technology to further enhance the quality and personalization of students learning processes. At UOC, students complete a course entirely online, without ever setting foot on the university's campus or in any of its facilities. The course model is online and asynchronous, meaning that students can complete most learning activities on their own. Initially, only final exams required in-person attendance, but master's programs have now shifted to a system of continuous assessment, eliminating the need for final exams altogether.

Collaboration with the corporate sector

Since its establishment in 1994, UOC has formed multiple agreements with various companies and sectors as a means of building trust. The university has appointed a vice rector who oversees the labor market and employment aspects of the institution, with a focus on employability and relationships with the corporate sector. Through continuing education activities, UOC aims to enhance the competitiveness of enterprises by conducting research on the needs of companies, using big data processed by AI, and translating them into competencies to be taught. However, companies often lack a solid plan or agenda when it comes to identifying their needs and competencies, leading to ongoing discussions between UOC and these organizations.

"UOC Corporate" division is responsible for engaging with companies regarding requests for skills development and advice on transforming in-company training activities into flexible online training for their employees. The vice-rector for labor market and employment oversees this task, as well as the development of continuous education for all. In addition, UOC is currently in the process of developing microcredentials, which is one of its most significant priorities at present.

From the very beginning in 1994, UOC concluded several agreements with companies and sectors. It was a way forward to build trust.

UOC has a vice rector for the labour market and employment, with a focus on employability and the relationships with the corporate sector. By continuing education activities, the UOC contributes to the competitiveness of enterprises. The department does a lot of research h on needs of companies and how this is translated in competences to be taught. In general, companies do not have a solid plan or agenda regarding needs and competences. It is subject to a constant discussion between UOC and companies.
"UOC corporate" is taking care of the dialogue with companies related to skills development requests. Companies also ask also advice to transform in- company training activities into flexible online training for their employees. This is one of the tasks of the vice-rector. For the labour market and employment. he other task is the idea of developing continuous education for everyone.

Furthermore, UOC is also developing micro-credentials. This is work in progress, but it is also one of the most important tasks they have now.

A global university

UOC is a Catalan university that receives support from the government but operates with a global perspective. Their courses are offered in Catalan and Spanish, covering a broad range of countries worldwide, with some programs taught in English.

Being an online university, UOC has the ability to provide education to people around the world. Their core principles revolve around internationalization, cooperation, and globalization, with a focus on breaking down barriers to education and expanding access to learning opportunities.

2. The UOC on line teaching-learning model

The UOC's institutional educational model is based on three key components: student activity, learning resources, and teaching staff, which work together to provide an engaging and supportive learning experience. UOC places a strong emphasis on active engagement, with students working collaboratively in a networked community with peers and utilizing various tools and resources throughout the semester.

The teaching staff provides personalized support and guidance to each student. They help students engage with the course material and apply it to real-world scenarios, ensuring that each student is well-prepared for their future careers.

UOC's learning process is centered around cutting-edge digital resources that are adapted to the student. The virtual classrooms are the environments where the learning process takes place, and where each course is taught

UOC's educational model
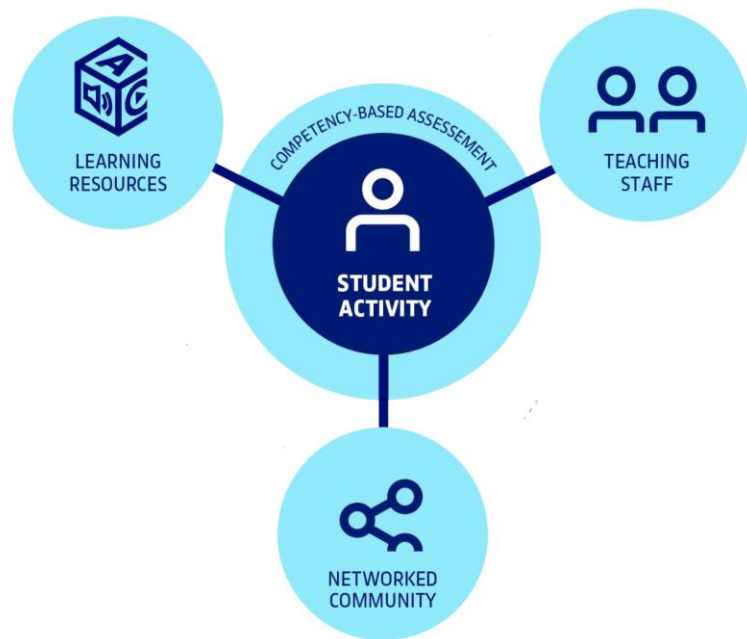
UOC's educational model is designed to provide students with an engaging, supportive, and personalized learning experience that prepares them for success in their chosen careers.

Students learn actively, performing learning activities with the help of tools and resources throughout the semester, working with their classmates, receiving constant support from the teaching teams, and being assessed.

Tutors at UOC are responsible for advising students on a person-by-person basis on the choice of their personal academic pathways and providing guidance on an individual basis throughout their academic journe at UOC. They advise students for example on the subjects to be chosen in a semester and the pace of study in accordance with their personal agenda.
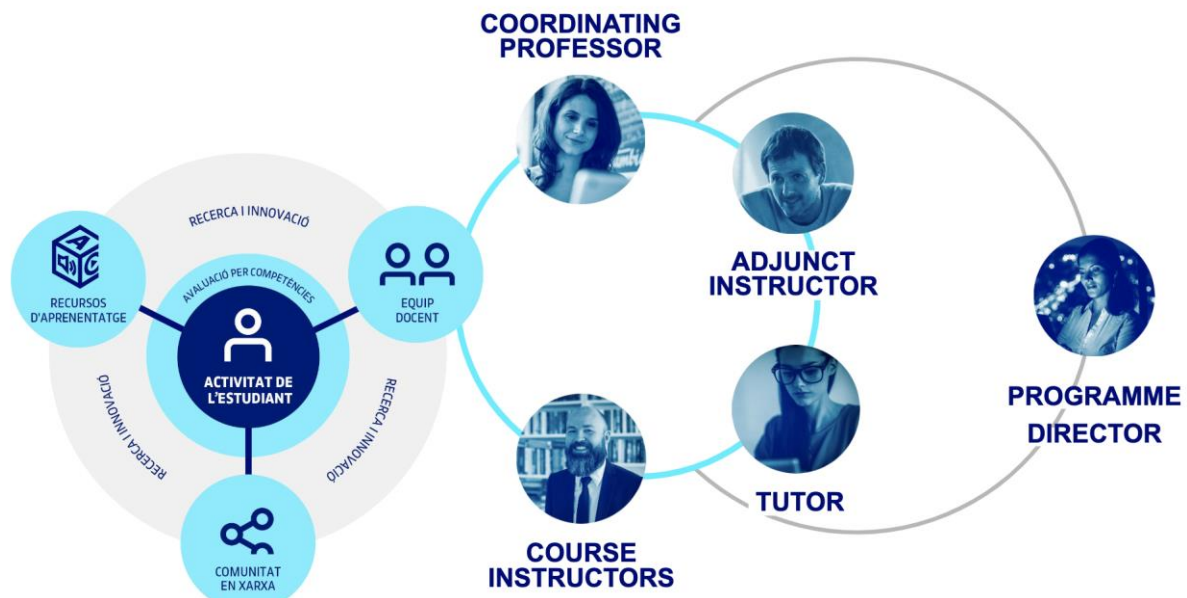
Co-ordinating professors design the course and take academic decisions. They constantly stay up to date in their area of expertise and lead teaching innovation. They monitor teaching. They evaluate the results of teaching and assess the design of the course. They lead and work collectively with course instructors to establish the teaching-learning process for the course.

The course instructors assess and guide students learning process in a given course. They monitor and give life to the classroom and students learning processes. They give life to the classroom and students learning processes. They assess teaching and participate in improving the course. They assess students learning and provide feedback. They train and stay up to date in the field of online teaching and in their area of knowledge.

The assessment at UOC is continuous and formative. The feedback that is provided to students is aimed at improving their learning process.
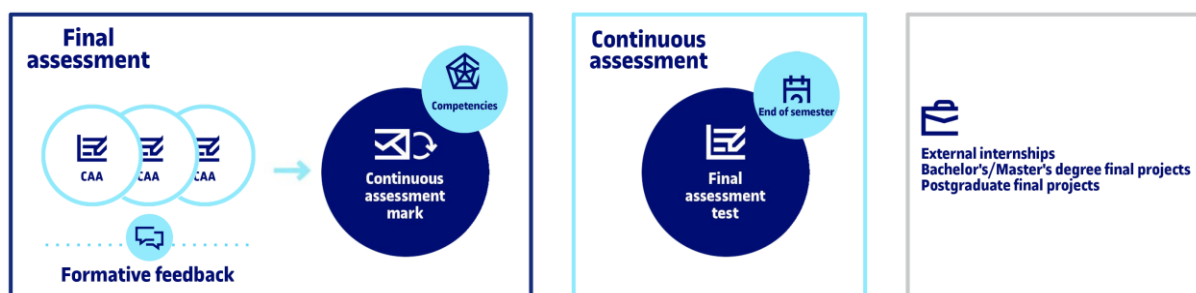
Challenge-based learning design

The pedagogical basis of UOC's challenge-based design involves several key elements:

- situated and contextualized learning, focusing on real and meaningful needs, not just on content;
- competency-based learning and constructive alignment between learning activities, feedback and assessment;
- distribute students allotted time to each learning activity, depending on workload and relevance, taking into account course credits
- content curation and a set of organized resources and guiding their use, connecting with competencies that can be assessed.
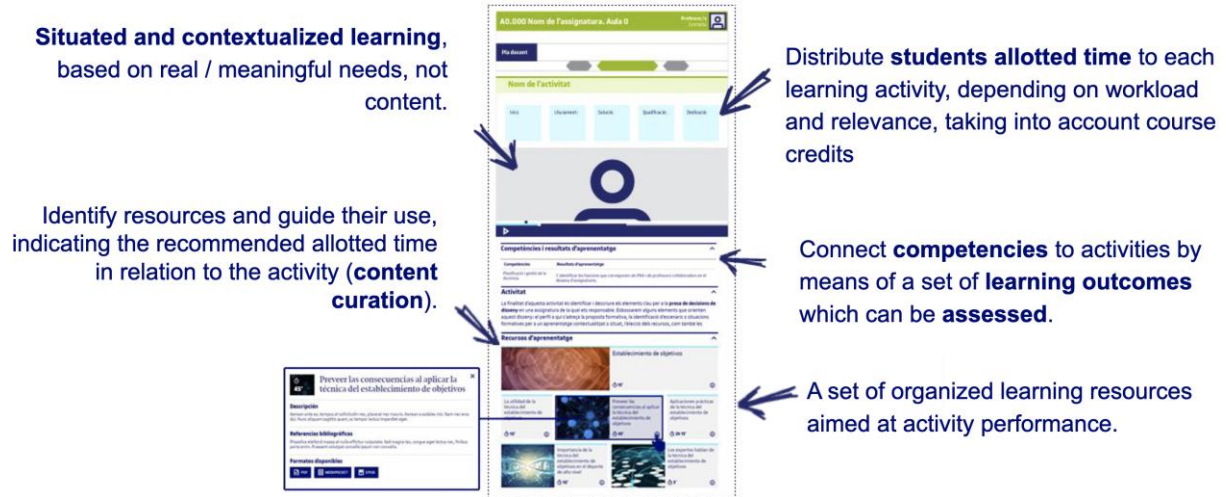
This results in this scheme of challenge-based learning design:
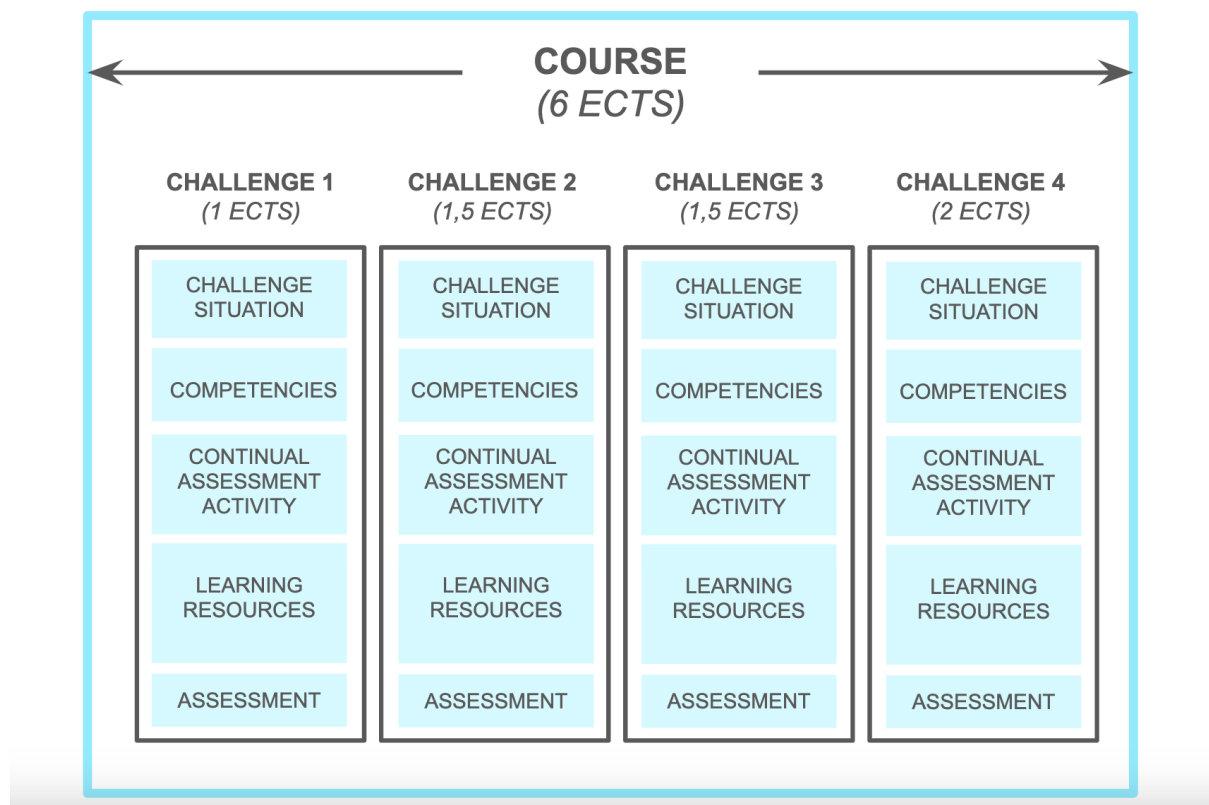
Teaching support by faculty advisors

UOC provides methodological support to educators in the pedagogical design of courses and programmes, including defining activities, methodologies, resources, tools, online teaching strategies, competence-based design, and e-assessment of learning.

They have 8 learning designers and advisors, and have trained or assessed over 700 faculty members. More than 800 courses are designed or redesigned (of 3.500 courses in total).

UOC provides personalized consultancy to educators through expert advisory sessions, which involve a dialogic process. They have developed an advanced course development template. They make available resources for learning design and e-learning kits on the web to support educators in the pedagogical design process. Furthermore, they organize personal consultancy on demand.