

CHARM-EU (CHALLENGE-DRIVEN, ACCESSIBLE, RESEARCH-BASED AND MOBILE EUROPEAN UNIVERSITY)

DELIVERABLE D4.3– CHARM-EU: TEACHING AND LEARNING STRATEGIES HANDBOOK

Project Acronym	CHARM-EU
Grant Agreement	612546
Project Title	CHARM-EU (Challenge-driven, Accessible, Research-Based and Mobile European University)
Coordinator	University of Barcelona
Consortium	University of Barcelona Trinity College Dublin Utrecht University Eötvös Loránd University Budapest University of Montpellier
Website	https://www.charm-eu.eu

Deliverable	D4.3
Title of Deliverable	Teaching and Learning Strategies Handbook
Work Package	WP4
Leading institution	UU
Work Package Leader	Jan Haarhuis and Sanne Van Vugt (Utrecht University)
Dissemination Level	Public (PU)
License	CC BY
Document Version	V2.2 (FINAL)
Due Date	June 2021
Submission Date	01/06/2021
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DOCUMENT HISTORY

Date	Revision No	Prepared By	Description
11/01/2020	V1	Sanne van Vugt	
14/02/2020	V2	Sanne van Vugt, Silvia Gallagher	
03/03/2020	V3	Sanne van Vugt, Silvia Gallagher	
31/03/2020	V4	Sanne van Vugt, Silvia Gallagher	Narratives added
26/05/2020	V5.1	Sanne van Vugt, Silvia Gallagher	Draft master document
22/06/2020	V5.2	Sanne van Vugt	Feedback from WP4 Leads and WP4.1/4.3 integrated

CHARM-EU Teaching & Learning Strategies Handbook

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1. Welcome to CHARM-EU Teaching and Learning Handbook

Welcome to the CHARM-EU teaching and learning handbook; an initiative that seeks to reconcile humanity with the planet by creating the university of the future. This first section describes the rationale behind the handbook, the intended audience and the way this handbook can and should be used.

What is the aim of this handbook?

This handbook contains information, templates, and links to interactive tools to help you design and implement a CHARM-EU programme or module. It also describes the CHARM-EU educational principles within the context of programme development.

Who is this handbook for?

This handbook is for teachers, researchers and CHARM-EU stakeholders who will be developing content, creating modules and teaching students accordingly with the CHARM-EU pedagogy, vision and values.

How should I use this handbook?

When developing a CHARM-EU programme, this handbook should be consulted for guidance and best practice.

How did this information come about?

The information in this handbook is derived from the design, development and implementation of the CHARM-EU pilot Master's in Global Challenges for Sustainability. Examples from this Masters will be used throughout this document.

2. Getting started

To develop a CHARM-EU programme there are three key elements to understand;

- The CHARM-EU programme structure,
- Our educational principles, and
- How we use Knowledge Creation Teams to develop educational modules or learning units.

These three elements form the backbone of teaching and learning in CHARM-EU.

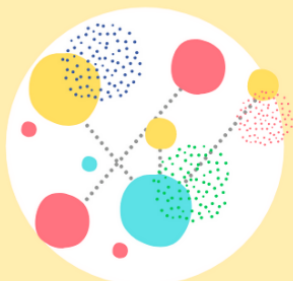
2.1. Programme structure

CHARM-EU uses an unique three-phased programme structure for teaching and learning; Preparatory, Flexible and Capstone. By offering a phased approach for educational activities, students autonomy in constructing their own learning pathway is stimulated and teaching is transformed to a student-centred approach. A phased programme structure also emphasises differences in the focus of the modules over time, and facilitates gradual progressive learning. Each of these phases in the CHARM-EU programme contains modules designed to align with CHARM-EU educational principles, pedagogical guidelines, vision, mission, and values. There can be any number of modules within each phase depending on the nature of the award (i.e.: Certificate, Degree or Masters) or availability of modules, but CHARM-EU programmes generally follow this phased approach.



PHASE 1

Preparatory



Modules focus on **transversal skill development** to prepare students for a transdisciplinary learning experience.

Students receive a **common grounding in key skills and content** required for challenges posed in future phases.

Examples from CHARM-EU pilot Masters in Global Challenges for Sustainability

Modules on Social Innovation, Transdisciplinary Research, and Sustainability are provided for students.

Modules are **grouped into relevant themes** related to **CHARM-EU programme content guidelines** (e.g. global challenges).

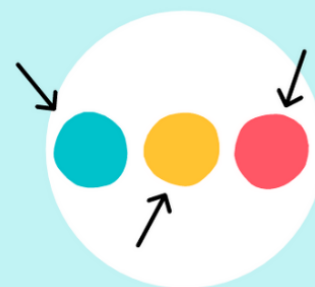
Students **select one theme** (e.g. Water) containing **multiple modules**, and participate in modules within that theme.

Examples from CHARM-EU pilot Masters in Global Challenges for Sustainability

Three themes, Food, Water, and Life and Health are used in the Masters. These themes contain three modules each, related to these themes.

PHASE 2

Flexible



Module(s) focus on a **challenge-driven final project** which requires students to use a transdisciplinary approach to problem solving to tackle complex real-world societal challenges.

Students **practically apply** their knowledge and competencies through experimental learning (i.e. real-life challenges).

Examples from CHARM-EU pilot Masters in Global Challenges for Sustainability

The capstone phase structures collaborative working between students, peers, academic staff, and extra academic actors (e.g. business and society) on an authentic sustainability challenge.

PHASE 3

Capstone



2.2. Rationale for a three phased structure

The rationale for CHARM-EU's three-phased programme structure is based on the following principles:

- **Alignment with educational principles:** CHARM-EU uses ten educational principles to scaffold its teaching and learning; challenge-driven, research-led and research-based, sustainability, technology-enhanced, student-centred, situated learning, transversal skills, transdisciplinarity, transnational and intercultural learning, and inclusivity. The three phased approaches support mainstreaming of these educational principles in a structured, continuous, and gradual approach.
- **Gradual acquisition of knowledge, skills and competencies:** Each phase concentrates on competencies, knowledge and skills to support learning outcomes in the subsequent phase. This gradual approach supports student progression in their learning across the programme while ensuring alignment with programme learning outcomes.
- **Flexibility of choice:** Although modules in the Preparatory and Capstone phases are usually mandatory, the second Flexible phase allows for students to select modules based on a theme of their own interest. This supports student centred learning, personalization of learning outcomes, and flexibility.
- **Preparedness for addressing challenges:** By using a phased approach to teaching and learning, students can gradually prepare for the final Capstone phase, where they apply knowledge, skills and competencies acquired in the previous phases, to address practical real-life global challenges.

2.2.1. Phase 1: Preparatory

Phase aim: The aim of the preparatory phase is to ensure all students receive a common grounding at the beginning of their studies (regardless of location or modality) in key skills and content required for the challenges ahead of them in the programme.

Module focus: Modules in this phase concentrate on transversal skill development to prepare students for a challenge based and transdisciplinary learning approach in the following phases.

Examples from CHARM-EU pilot Masters in Global Challenges for Sustainability: Modules on Social Innovation, Transdisciplinary Research, and Sustainability are provided for students.

2.2.2. Phase 2: Flexible

Phase aim: The aim of the flexible phase is to provide students with multiple options for learning within CHARM-EU related themes. This allows for self-direction while ensuring programme consistency, disciplinary depth, and coherence. Students are required to select one theme containing multiple modules, and participate in modules within that theme.

Module focus: Modules on the flexible phase are grouped into relevant themes related to CHARM-EU programme content guidelines. For example, content related to global challenges or the CHARM-EU vision of reconciling humanity with the planet.

Examples from CHARM-EU pilot Masters in Global Challenges for Sustainability: Three themes, Food, Water, and Life and Health are used in the Masters. These themes contain three modules each, related to these themes. The Food theme contains the modules The Food-Health-Environment Nexus, Food Systems and their Transformations, and Socially Just and Sustainable Food Systems. These modules are offered subsequently. The Life and Health theme contains the modules Healthy Lives and Wellbeing, Health Challenges and Solutions, and Health Systems and Policies. These modules are offered subsequently. The Water theme contains the modules Extremes in the Water Cycle and Their Complex Consequences, Adaptation Measures and Strategies in Water, and Resilient Cities: Water in Urban Environments. These modules are offered in an integrated approach (in parallel). Students progress through these initial two phases, and develop knowledge, skills, aptitudes and competencies required for the authentic final Capstone phase.

2.2.3. Phase 3: Capstone

Phase aim: The aims of the Capstone phase include synthesis of prior learning, refinement of skills, development of personal attributes, preparation of students for future careers, facilitation of academic and extra-academic linkages, and quality assurance of graduates via a final challenge-driven project.

Module focus: This phase focuses on a challenge-driven final project which requires students to work together and use a transdisciplinary approach to problem solving to tackle complex real-world societal challenges, while also taking multiple perspectives and stakeholders into account. The students take their previous experiences during the programme a step further by



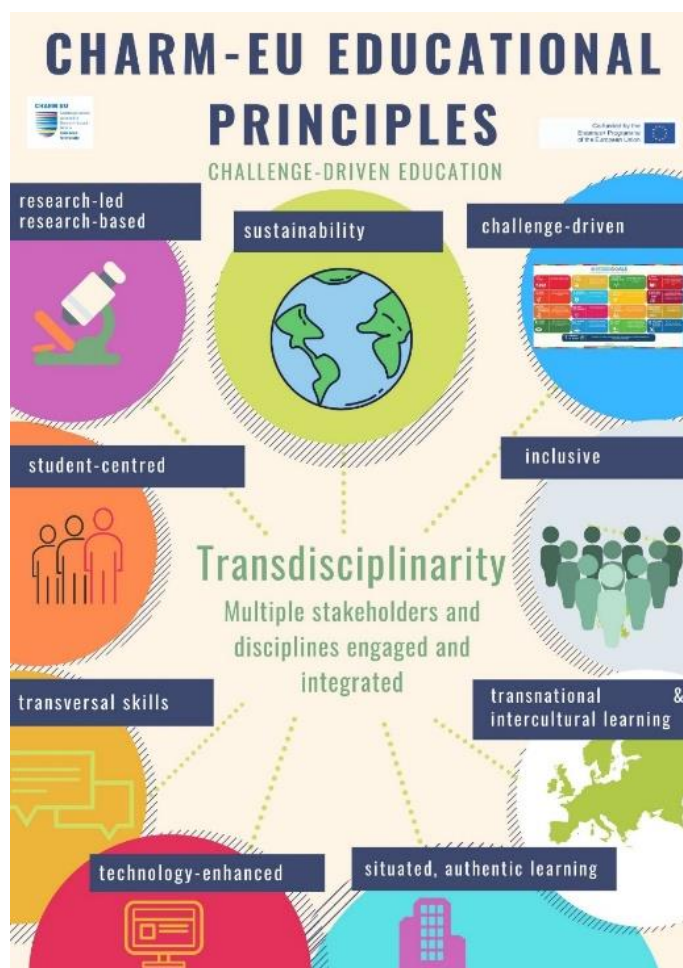
practically applying their knowledge and competencies through experiential learning (i.e., real-life challenges).

Examples from CHARM-EU pilot Masters in Global Challenges for Sustainability: The capstone phase structures collaborative working between students, peers, academic staff, and extra academic actors (e.g., business and society) on an authentic sustainability challenge.

Challenges in the Capstone are related to many relevant societal sustainability problem spaces such as: seaweed production, mental health, social welfare, ocean conservation, climate anxiety, sustainable cooking, garden communities, sustainable businesses, green hydrogen, people with disabilities, wildlife, urban ecosystems, social supermarkets, climate change, Greentech and more.

2.3. Educational principles

The CHARM-EU educational principles (Figure 1) represent the guiding concepts that underpin the design and delivery of a CHARM-EU educational experience. They are the result of a series of workshops held throughout 2019 (Utrecht, June 2019, Budapest, September 2019, and Dublin, February 2020) in which all CHARM-EU partners articulated an educational philosophy, mission, vision and values for CHARM-EU educational programmes. They were reviewed and revised in March and April 2020 by the Work Package 3 team to include feedback from Work Packages 5 (Mobility) and 6 (Inclusiveness).



Challenge-driven

The CHARM-EU curriculum is challenge-driven and built on trans-institutional research missions focused on solving global challenges. Students learn through Challenge-Based Learning (CBL), an educational approach that frames learning around global, real-world, authentic challenges.

These challenges are co-developed, investigated and acted upon by students and multidisciplinary stakeholders, including academic and extra-academic (social and traditional enterprise) actors.

Research-led, research-based

The CHARM-EU curriculum is research-led: it is deeply connected to research strengths and practices of its member universities. Students are actively engaged with researchers and, through Research-Based Learning (RBL), develop the skills to analyse and interpret information, reach conclusions and, wherever relevant, propose solutions.

Sustainability

CHARM-EU educates all stakeholders (students, academic and extra-academic actors) to create solutions “to secure a sustainable, peaceful, prosperous and equitable life on Earth for everyone now and in the future” (UNESCO, 2017). CHARM-EU research and education supports the United Nations Sustainable Development Goals and key European missions including those in the Horizon Europe Framework Programme and the European Green Deal. Its programmes support the development of UNESCO’s Education for Sustainable Development competencies.

Technology-enhanced

CHARM-EU explores and implements technology that supports education, didactics, research and pedagogy. This will enhance existing models of learning and develop new models that meaningfully integrate technology in learning. Technology-enhanced learning is not only instructional but paves the way for interaction and knowledge construction through the use of digital technology in education. Technology will be built into the educational experience and used to support flexibility, accessibility and mobility.

Student-centred

Students are active partners in independent and collaborative learning and can exercise flexibility in time and location with regards to their learning experience. Students can choose and contribute to challenge pathways as a group or individually to fulfil their professional and educational ambitions and support their personal needs.

Situated learning

Students learn through social interaction in authentic, realistic contexts. They participate in networks and/or communities and gradually learn and grow from novices into experts, building their identity throughout their studies. Students learn authentically in close collaboration with partners in a variety of professional environments, for example, research groups and laboratories, enterprise, civic organisations and administrations.

Transversal skills

CHARM-EU programmes are designed to provide consistent opportunity for the development of non-specific competences, for example, transversal skills such as critical and innovative thinking, inter- and intra-personal skills, global citizenship, media and information literacy, project management, problem-solving and entrepreneurialism.

Transdisciplinarity

Global challenges are complex problems that require input from equally complex networks of individuals and groups to identify and define problems. CHARM-EU is a transdisciplinary university in which all stakeholders – students, academic and extra-academic actors – collaborate equally to tackle global challenges. Transdisciplinarity develops in students the ability to use theoretical frameworks to analyse complex problems, source and appraise data, assess stakeholder needs, build collaboration and teamwork and create action plans. It is built on the foundation of disciplinary depth, which is central to the CHARM-EU educational mission.

Transnational and intercultural learning

CHARM-EU educational programmes provide students as well as academic and non-academic staff with transnational and intercultural learning opportunities through mobility and internationalisation ‘at home’.

Inclusivity

CHARM-EU educational programmes are designed to respect the diversity of students and are adapted to different students’ learning needs and preferences taking into consideration their backgrounds or abilities. They will enable all students to take part in learning and fulfil their potential. Where possible any barriers that prevent students from learning are minimised or removed.



Translating these educational principles into practice can be challenging. The following resources can help you with this:

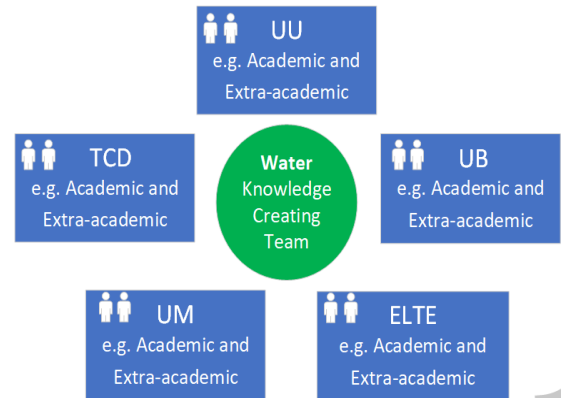
- [CHARM-EU educational principles: Practical tips for Knowledge Creating Teams](#)
- [CHARM-EU Example Activities Guide](#)

Find more tools in [section 3.2 Tools for designing a CHARM-EU module](#).

2.4. Knowledge Creation Teams

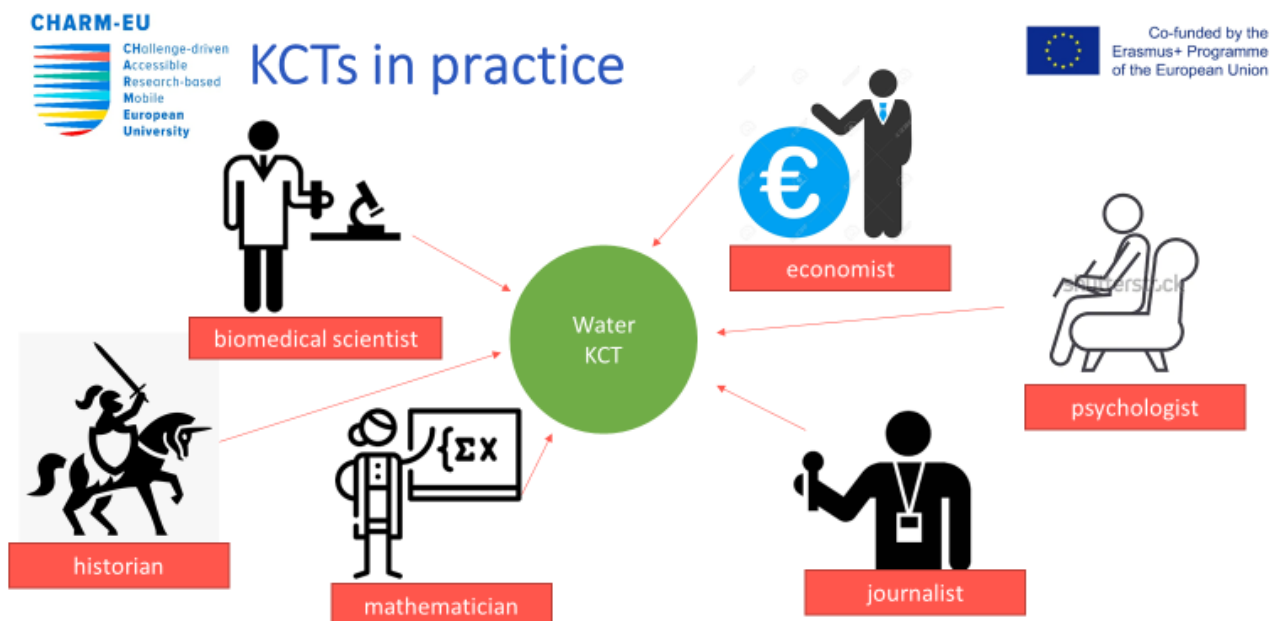
CHARM-EU uses a novel approach to creating teaching content through Knowledge Creating Teams (KCTs).

A Knowledge Creating Team (KCT) is a collaborative group of academics, researchers and extra-academic actors (e.g., traditional and social enterprise, government and community stakeholders) who are engaged to work together within broad multi-disciplinary themes to create educational content and joint research initiatives.



These are networks of academics and researchers from CHARM-EU's five partner universities from a range of disciplines (AHSS, STEMM) sharing a common interest in one of CHARM's thematic areas.

KCTs consist of approximately ten subject matter experts from our five partner universities, having different disciplinary backgrounds. This means that these teams will be formed around topics, Food, Life & Health and Water, rather than disciplines. A KCT working on the topic of Water can therefore consist of a variety of professionals, for example: a biomedical scientist, an economist, a psychologist, a journalist, a mathematician and a historian.





KCTs design and deliver innovative, transdisciplinary modules, form transdisciplinary research networks, and create a shared thematic, inter-European research and teaching community.

They also:

- Form new collaborations and partners in research
- Experience innovation in teaching
- Contribute to the future European Education Area
- Address complex challenges of sustainability
- Engage with extra-academic actors

[Terms of reference](#) for KCTs can be found in the KCT Sharepoint.

2.5. Other teaching and learning roles

Mentor

Mentors are an important part of student success for CHARM-EU and act as supporting assessment staff and role models for our students. They are not content experts but provide support, coaching and guidance to up to 5 students throughout the Masters programme, assist with students in formulating their learning goals, and implement student assessment feedback sessions during a module to communicate with students about their progress and formally document the progress appraisal in the E-portfolio (= mentor advice). They also engage with other CHARM-EU assessment staff where necessary. More information about the mentor can be found in the [Assessment Handbook](#) and the [Mentor Handbook](#).

Teacher

The teacher teaches content and skills to students through e.g., lectures, tutorials, workshops or other learning activities. Teachers also guide students' progress from a content perspective, providing expertise in order for students to apply knowledge to their challenges and assignments. Sometimes the teacher can also have a role as a coach or supervisor, e.g., when monitoring the overall progress of the (group) work or when coaching students, focusing on the group dynamics, professional development and transversal skills. Teachers can also be involved as a guest teacher delivering a specific, single activity. They can also be an assessor when they are involved in the assessment of module assessments (e.g. student essays, reports, presentations).

Experts / External stakeholders

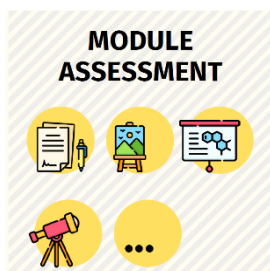
Experts deliver specific expertise with the aim to provide new perspectives to the challenges and assignments. They can also be an assessor.

Student

Students actively engage in module activities, communicate with teachers, supervisors, coaches, experts, mentors and peers, and completes assessments. They are also involved in peer-assessments.

2.6. Assessment

In the CHARM-EU assessment programme the student's development over a longer period, together with a focus on learning and encouraging students to set their own learning goals, is key. In CHARM-EU we distinguish three levels of assessment: module assessments, mentor advice, and phase decision.



the module.

Students complete multiple Module assessments over time. These Module assessments do not lead to a pass/fail decision in itself, but provide meaningful feedback to the student. So instead of learning for the test, students are encouraged to develop themselves. Students may need to fill competency gaps throughout or after completion of



learning journey.

To check how the student is doing and to make sure that the student stays on track, a mentor provides an advice. In doing so, the mentor goes through the feedback the student receives during the Module assessments and how the student enacted on this (functioning as a 'flagging system'). In addition, the mentor coaches the student's



Progress decisions, i.e., going to the next Phase or receiving the Master's degree, will only be made after each Phase (Phase decision). This will be done by a group of examiners, known as the Portfolio Assessment Committee. They formulate a holistic judgement about the student's progression and performance.

More information about CHARM-EU Assessment can be found in the [Assessment Handbook](#).

2.7. Inclusivity

2.7.1. Inclusion definition

Inclusion means that different groups or individuals with different backgrounds, various circumstances, own lived experiences are feeling the sense of belonging, feel respected and valued, socially accepted, welcomed and treated without discrimination. These circumstances can be visible or hidden. Provision of access and participation are entitlement, not a kindness. It is a rights-based approach, not a philanthropic approach (Fazekas, 2018).

2.7.2. Work Package 6 Inclusiveness

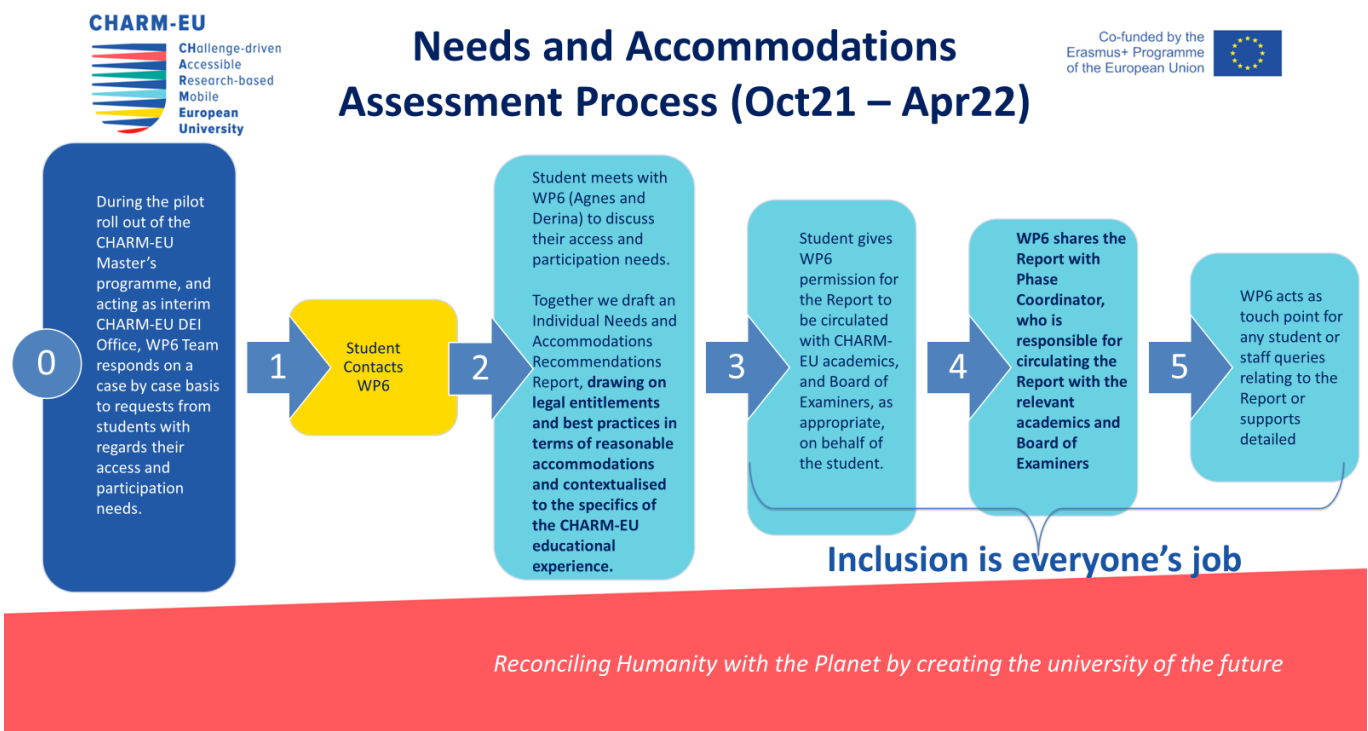
CHARM-EU Inclusiveness Work Package 6 is an organisational structure of the CHARM-EU initiative focusing on inclusivity. CHARM-EU WP6 Inclusiveness Team safeguards that inclusion and diversity sit at the heart of the CHARM EU's culture, organisational structure, design, delivery, activities of different work packages and the CHARM-EU Master's in Global Challenges for Sustainability itself. Inclusion and diversity have been profoundly interwoven into the DNA of CHARM-EU. You can contact WP6 by the following email address for questions, resources or advice: charmeuwp6@elte.hu. Please also review the available resources on inclusion in section 3.2 Tools for designing a CHARM-EU module.

2.7.3. Legal background and rationale

CHARM-EU is bound by Equality legislation at the international level, European, National and Local levels. Access and participation of individuals with disabilities are specific within the legislative environment. Many countries have signed and ratified and specifically, the EU signed and ratified the UNCRPD 2006 ([Convention on the Rights of Persons with Disabilities \(CRPD\) | United Nations Enable](#))¹. Further information is available by accessing the Council Decision of 26 November 2009 concerning the conclusion, by the European Community, of the United Nations Convention on the Rights of Persons with Disabilities ([EUR-Lex - 32010D0048 - EN - EUR-Lex \(europa.eu\)](#)).

¹ "In this respect, the European Union sets a precedent, since it is the only regional organisation to date that has acceded to the CRPD. The EU (then European Community) signed the Convention on 30 March 2007, the opening day for signature. Following the adoption of Council Decision 2010/48/EC6 and the subsequent deposit of the formal ratification instruments with the UN Secretary-General in December 2010, the CRPD entered into force for the EU on 22 January 2011. Hence, in line with the instrument's legally binding nature, all EU legislation, policies and programmes must comply with the Convention's established obligations. Moreover, the EU is obliged to protect the rights of persons with disabilities within its jurisdiction, and also within its public administration." (Anglmayer, 2016, p. 6-7) ([EAV assessment \(europa.eu\)](#)).

2.7.4. The CHARM-EU Individual Needs and Accommodations Assessment Process
 A holistic CHARM-EU Needs Assessment has been designed and carried out by CHARM-EU WP6 Inclusiveness Team. The CHARM-EU Individual Needs and Accommodations Assessment Process details the reasonable accommodations and recommendations which should be fully provided to the student throughout the CHARM-EU programme.



A document is developed in conjunction between the individual student and the WP6 Inclusiveness Team. Students may need to provide relevant documentation for the justification of certain circumstances. Academic staff/lecturers, Board of Examiners, etc. will not have access to confidential and sensitive information about the student (such as medical, or any personal sensitive information). The student holds the decision regarding the disclosure of any information regarding their access or participation needs or their Individual Needs and Accommodations Assessment Report. Students can use their Individual Needs and Accommodations Assessment Report to request reasonable accommodations, assessment supports, etc. as appropriate. Requests must be shared with the appropriate academic staff/lecturer or Board of Examiners in due time.



More information and tips to weave inclusiveness in your modules can be found in the following resources:

- [Creating an inclusive and warm welcome in your CHARM-EU module](#)
- [Inclusivity Tips for CHARM-EU educators](#)

2.8. Mobility

2.8.1. CHARM-EU mobility system

CHARM-EU purposefully integrates international mobility, including students and staff – academic and non-academic staff – into its actions, in line with the European Universities Initiative that aims to create inter-university campuses providing accessible and seamless mobility options to all students and staff of the partner universities. The below mobility framework and criteria have been defined in the context of the joint master’s programme.

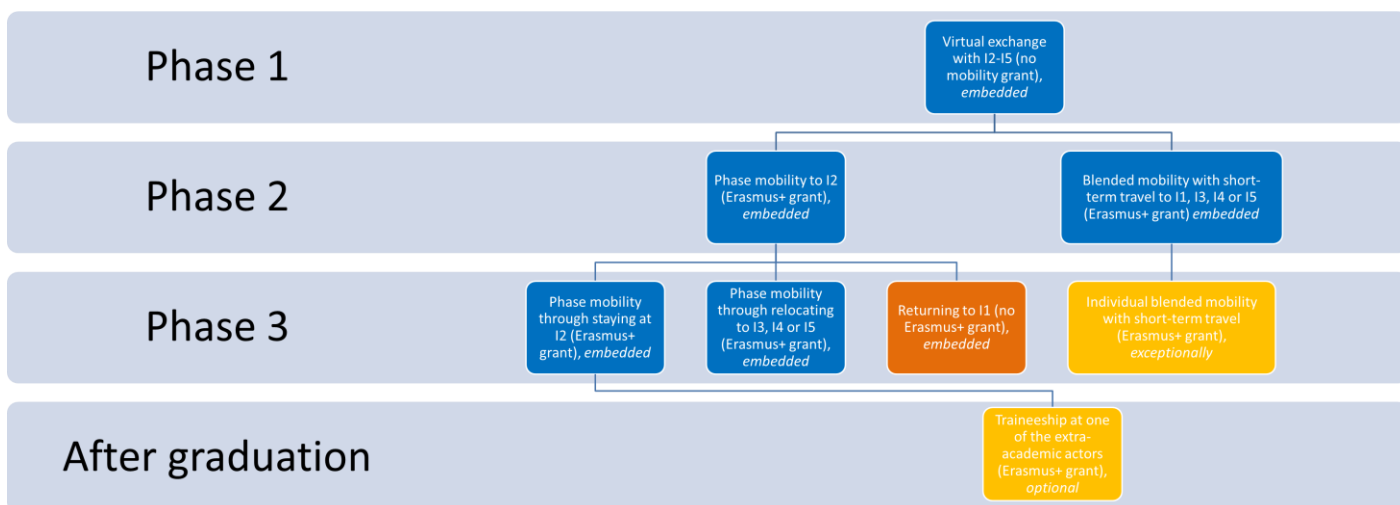
CHARM-EU provides a unique international climate in which mobility is considered as a “norm”. In practical terms, it means that there is a wide variety of mobility options offered as part of the joint master’s programme to students and staff who are not required to undergo a competitive selection procedure in order to be provided with an Erasmus+ grant.

2.8.2. Student mobility

International student mobility is defined as the physical relocation of the students for the purposes of enhancing their own learning experience during the course of the joint master’s programme.

Virtual exchange actions as complementary activities to physical mobility are an inherent part of the entire master’s programme that are to be offered through the hybrid delivery of all teaching and learning activities.

Blended mobility activities – as a combination of the activities of physical mobility and virtual exchange – are offered to related to Blended Intensive Programmes (BIPs).





Phase 1 Mobility.

The physical mobility of students before or upon starting Phase 1 of the Master's, does not qualify to be called as a mobility as students will be registered at this institution as their "home"/starting university. Therefore students cannot apply for mobility grants.

Phase 2 Mobility

Phase mobility is a compulsory element of the joint master's programme that is to be financed through an Erasmus+ grant. In Phase 2 students go on semester-long mobility to one of the partner universities where their chosen track is provided, after official approval of the Academic Board.

CHARM-EU Partner Universities organise **Blended Intensive Programmes (BIP)** during Phase 2, different ones for the specific themes (Food, Water, Life & Health). BIP is a short programme that contains a virtual and an onsite component (5-30 days physical mobility). BIP's have a number of added values: to gather physically all the students studying in the same track but at different universities and to provide joint activities for them; to enhance the practical elements of the training through field trips and visiting stakeholders; to improve the communication and collaborative skills of the students; to give a deeper insight to one of the thematic areas of the track. It is suggested to have an intense virtual preparation for the participants before the physical part: thematic preparation of the focus theme of the BIP; individual or team activities of the students and to have also virtual follow-up activities (assessment of the programme, further tasks for the students building on the knowledge gained / skills enhanced during the BIP). Participation in a BIP should award at least 3 ECTS credits. Participation at least in one blended mobility per track is foreseen for the entire programme, that is to be funded by the starting university through its Erasmus+ (or complementary) funds. Students who cannot participate in the BIP for valid reasons should be offered an alternative programme with similar learning goals.

Phase 3 Mobility

Additionally, students might apply for a second **phase mobility** during Phase 3. The choice is made by the student based on their chosen challenge, however, the final decision on the allocation of the students is managed by the Academic Board.

Further **blended mobility** is provided for those students during the Capstone semester, who are participating in the teamwork related to the chosen global challenge that is delivered only virtually. These are only exceptional cases, normally collaborating students should be physically present at the university that is responsible for the challenge.



Post-graduation mobility

Students are allowed to participate in **traineeship mobility after graduation** (2-12 months traineeship financed through Erasmus+), but it is not guaranteed; it depends on the number of available grants and the individual application submitted to the starting (“home”) university. Traineeship mobility after graduation can take place at any of the countries of the European Union, except the one in which the starting university is located, unless the student is willing to participate in an unpaid traineeship.

2.8.3. Procedures around student mobility

All students of the joint master’s programme are entitled for funding for the semester mobility during Phase 2 (and even in Phase 3 if they wish) and for the embedded Blended Intensive Programmes during Phase 2. Furthermore, virtual participants of the teams in the Capstone Semester will get blended mobility opportunity in order to meet their team members physically.

Students arrange their Phase mobility and BIP mobility with the Academic Board and KCT members do not fulfil any role in this process. The description of the student mobility procedure can be found in the Annexes of the Student Mobility chapter of the [Interactive Mobility Handbook](#).

KCT members can organise a maximum of 1 Blended Intensive Programme in their theme during Phase 2. KCTs need to contact the Academic Board to indicate their BIP needs by the end of September of the corresponding academic year.

2.8.4. Staff mobility

International staff mobility is defined as the physical relocation of the academic or non-academic staff for a great variety of purposes, including teaching, supervision, self-development or job shadowing. Other purposes for mobility can be found in the [Mobility Matrix System \(MMS\)](#). The physical mobility of academics and non-academic staff qualifies to be financed if the beneficiaries undertake their actions at one of the CHARM-EU partner institutions different from the one which employ the beneficiaries in question. The majority of the mobilities implemented within the master’s programme can be defined as a blended mobility – in line with the definitions above – that combines physical mobility with virtual components.



Rationale

While the international character of the joint master programme is very strong, and thanks to the hybrid classrooms, students are taught by teachers of different CHARM-EU partner universities regardless of the place they are studying, to meet personally a teacher from abroad could give an added-value to the programme. Therefore, it is strongly recommended to design and implement the study programme in a way where certain lectures are held by teachers from the partner institutions. On the other hand, staff mobility improves the intercultural skills of the teachers, strengthens the networking of the staff involved in the joint master programme and contributes to the common interpretation of the pedagogical principles of CHARM-EU.

Finances and requirements

Physical mobility of staff can be financed from Erasmus+ resources, if it is planned before the start of the semester in question in order to ensure the necessary timeframe for the administrative procedures and the timely allocation of the funding. Staff mobility has the duration of 1-6 weeks and has to comprise a minimum of 8 hours of teaching per week.

All the academic staff involved in teaching in the joint master programme will have priority during the selection of Erasmus+ staff mobility, but the funding depends on the budget available in the sending universities.

2.8.5. Procedures around staff mobility

- The mobility procedures are described in detail in the [Interactive Mobility Handbook](#).
- More information about mobility can be found in the [Transnational & Intercultural Learning Toolkit](#).
- Please contact Work Package 5 Mobility lead Péter Tordai (peter.tordai@dep.elte.hu) and co-lead Luca Erdei (erdei.luca@ppk.elte.hu) for more information about WP5 Mobility.

3. Designing a CHARM-EU Module

The backbone of every CHARM-EU programme is based on the three phased programme structure, our educational principles and the Knowledge Creation Teams. However, for every CHARM-EU programme to be successful, high-level Programme Learning Outcomes (PLOs) and clear module design guidelines are required.

3.1. Programme Learning Outcomes (PLOs) Domains

PLOs are high level learning outcomes that describe what a student is expected to achieve by engaging in and completing the programme. They form the foundation of a curriculum and guide the design and development of modules. The development of PLOs is an iterative and reflective process to ensure shared understanding and agreement between all programme stakeholders. For example, for the CHARM-EU Masters in Global Challenges for Sustainability, PLO were developed and refined via workshops with CHARM-EU Teaching and Learning and Curriculum Design experts, students, and extra academic actors. The seven PLOs developed for the Masters' programme Global challenges for sustainability are:

1. Critically analyse and evaluate the concept of sustainability as it is constructed and represented within multiple disciplines and by extra-academic actors.
2. In collaboration with extra-academic actors, investigate and evaluate complex societal challenges from a variety of stakeholder and intercultural perspectives to creatively identify, select and devise robust, adaptable, ethical solutions using a range of methodologies, theoretical frameworks and data analysis tools.
3. Rigorously assess and integrate different disciplinary and transdisciplinary knowledge and research methodologies to connect research questions, data and findings to their challenges.
4. Demonstrate expertise in the identification and application of the latest technological tools to source, analyse, handle, use and communicate complex bodies of data ethically.
5. Formulate an advanced understanding of transdisciplinarity and demonstrate expertise in the facilitative, communicative and collaborative skills to support its practice, ensure a reflexive outlook and interpret and connect different disciplinary languages and intercultural perspectives to complex challenges.

6. Acquire advanced competency within a range of transversal skills such as communication, teamwork, problem solving, creative thinking, entrepreneurialism, innovation, digital skills and a life-long learning disposition.
7. Communicate effectively on complex issues that aim for behavioural change, interpreting and connecting complex challenges to diverse stakeholder, disciplinary and intercultural perspectives that encompass global and European citizenship.

PLOs are important statements to act as a starting point and to be able to implement the CHARM-EU Programmatic Assessment approach (see Assessment Handbook) it is necessary to identify Programme Learning Outcome (PLO) Domains.

PLO Domains are distinctive categories of competencies that students will need to develop throughout the programme. The PLO Domains are central for module design, developing a shared understanding and coherence of the programme, and inform the sequencing of learning activities. Where PLOs are not directly assessed, PLO Domains are, as they are mapped to the Module Learning Outcomes (MLOs) and connected to specific Module assessments. Every Module assessment can therefore be mapped onto one or multiple PLO Domains. PLO Domains are assessed by using detailed rubrics with indicators and levels.

The PLO Domains that are used in the Master’s Global Challenges for Sustainability are:

1	Sustainability
2	Transdisciplinarity
3	Solving challenges
4	Collaboration
5	Communication
6	Scholarship
7	Digital skills
8	Personal & Professional Development

3.2. Tools for designing a CHARM-EU module

Designing a module that aligns with the CHARM-EU three phased programme approach, its educational principles, and its PLO Domains requires structure guidance and support. CHARM-EU has developed resources, toolkits and workshops to support KCT members when they are designing a CHARM-EU course. Table 1 provides information about these resources.

We classify a number of types of tools:













	<p>Practical tool: This resource will give you practical tips, tricks, or information that can be used in designing or delivering your module (e.g. a checklist, exemplars, rubrics or list of tips).</p>
	<p>Theoretical tool: This resource will provide more theoretical background to understand the key aspects and develop a detailed understanding of the particular concept.</p>
	<p>Process/Design tool: This resource is not focusing on a specific concept or principle but on the process of designing your module to guide and support.</p>






Table 1: List of module design resources for CHARM-EU KCT members

Resource name	Function	Link for access
Roadmap for CHARM-EU Module Design (used in Sprint 1 module design) 	An instructional design support tool for academic teachers within CHARM-EU to help them collaboratively design modules. Structuring module design forms and support resources can be overcomplicated and lengthy if all elements are included. The roadmap will facilitate practical, hands-on information on designing a CHARM-EU module and will provide these adjusted to the step of the instructional design process. The Roadmap comes in an interactive PDF and Word version and is supported with an instructional screencast.	Link
CHARM-EU Sprint 2 Module Design Template 	An instructional design tool for academic teachers within CHARM-EU to scaffold teaching and learning activities across the timeframe of the module. This tool moves on from the Roadmap by providing a more defined template for academic teachers to plan and design their module activities.	Link
CHARM-EU Module Descriptors Template (used in Sprint 3 delivery onwards) 	A template with instructions for academic teachers to help them transferring the module design into actionable, practical, and concrete learning activities and assessments, structured over a week-by-week schedule. The Module Descriptors are usually shared with students prior to the start of a module and the end result of a module design process.	Link
UU Teaching & Learning Collection 	This database is meant for teachers and everyone involved or interested in academic teaching. In the database you can find basic knowledge on academic teaching and results from	Link








Resource name	Function	Link for access
	innovations initiated by teachers. You can use the database as inspiration for your own teaching and the examples of others when you want to start a project yourself.	
CHARM-EU Assessment matrix 	The assessment matrix is a tool to help you select and learn about assessment methods. It catalogues over 100 assessment methods structured around 12 questions many educators ask when designing assessment for a module. It is designed to help you select appropriate assessments based on your teaching approach, support innovation in assessment by highlighting new assessment methods, and give you a structure to choose assessments quickly and easily.	Link
CHARM-EU Assessment handbook  	This resource contains information and pedagogical guidance to help you understand the CHARM-EU approach to assessment design. It describes the practical guidelines for implementing CHARM-EU's unique approach to assessment. This information supports the successful implementation of assessment and explains how this influences teaching and learning practices. This resource is for all CHARM-EU stakeholders that are interested or involved in assessment. It can be used by teaching & learning (T&L) professionals to design assessment practices and assess students at module level.	Link
CHARM-EU Assessment Rubrics (Master pilot Cohort 1 version)  	These rubrics are used in the CHARM-EU Master's Global Challenges for Sustainability Cohort 1. They were developed to help assessors in CHARM-EU to judge and value students work. They are used to assess module assessments such as essays, reports, and presentations but also at a	Link








Resource name	Function	Link for access
	higher level by at the phase level decision (after completion of each phase of the programme). Administration of the assessments are registered in Scorian.	
CHARM-EU Feedback Guidelines 	The Feedback Guidelines help academic teachers and other stakeholders involved in assessing students to formulate constructive and valuable feedback. There are two versions of the Feedback Guidelines, one detailed version with academic literature, and one user-friendly shortened version with seven key tips.	Link (short) Link (detailed)
Inclusivity Tips for CHARM-EU educators 	This resource will help educators in CHARM-EU to translate the educational principle of inclusivity into their teaching programmes and classroom. It focuses on acknowledgement of the diversity of students, an inclusive course environment, learning opportunities, diversity of materials, diversity of academic staff, lecturers and external stakeholders, user-friendly and accessible materials, diversity of evaluation/assessment and professional development.	Link
Creating an inclusive and warm welcome in your CHARM-EU module 	An inclusive classroom atmosphere refers to an environment where all students feel welcomed, supported, and feel a sense of belonging in the classroom. This document aims to support all educators and students to work together inclusively. The document provides simple, tangible actions to foster an inclusive environment.	Link
Inclusivity statement in the CHARM-EU Master's Module descriptors  	The inclusivity statement described in the CHARM-EU Master's in Global Challenges for Sustainability module descriptors supports all educators implementing our alliance's values, mission, vision. It informs students about the commitment to creating inclusive and supportive	Link




Resource name	Function	Link for access
	teaching and learning environment. The document provides simple, tangible actions to foster an inclusive environment.	
 <p>CHARM-EU Pedagogical Guidelines</p>	Understanding implications and the rationale behind the CHARM-EU Educational Principles can be complex. Pedagogical guidelines define the educational principles and explore the theory behind them. This will help with gaining an understanding of why these principles were chosen and how they relate to teaching and learning in a CHARM-EU program. A background understanding of these principles is important when designing CHARM-EU modules, teaching CHARM-EU students, and working with other CHARM-EU stakeholders. These guidelines describe CHARM-EU teaching and learning practices at a high level, focusing on theory, definitions, benefits, challenges and best practices.	Link
<p>CHARM-EU Emerging Technologies</p> <p>Resource</p>  	This document presents a list of technologies that can be used in CHARM-EU courses to accomplish the Technology Enhanced Learning educational principle.	Link
  <p>CHARM-EU Hybrid Classroom Handbook</p>	This document introduces the CHARM-EU Hybrid Classroom model and explains its usage, as well as the various components of the approach. We consider hybrid classrooms to be the physical layer of the larger Virtual Learning Environment (VLE). Classrooms are designed to leverage the VLE in a variety of ways, based on the type of learning interactions taking place. Scenarios for use are described, and practical tips are offered.	Link



Resource name	Function	Link for access
CHARM-EU educational principles: Practical tips for Knowledge Creating Teams 	CHARM-EU Educational Principles: Practical Tips for Knowledge Creating Teams supports Knowledge Creating Teams (KCT) in implementing the CHARM-EU teaching and learning philosophy into practice. KCT members learn how to integrate CHARM-EU 10 educational principles into their modules by using a checklist.	Link
CHARM-EU Example Activities Guide 	The aim of this guide is to help KCT members in designing their learning activities and assessment. This document, with activities from micro-pilots, provides templates for delivering activities but also inspiring examples of activities that could be incorporated into the CHARM-EU curriculum.	Link
Transnational & Intercultural Learning Toolkit  	This document presents an explanation of the transnational and intercultural dimension of the teaching and learning processes under development within the CHARM-EU Alliance as well as an introduction to a variety of tools and guidelines for integrating a transnational and intercultural dimension into the CHARM-EU curricula.	Link
Transversal Skills Activity Sheet 	Transversal skills are a CHARM-EU educational principle. Each CHARM-EU module should incorporate transversal skills. This collaborative activity will help a KCT to identify which transversal skills apply to each module learning objective (MLO), to understand what transversal skills are, and their importance for module design, and to brainstorm activities and assessments for their module. At the end of this activity, KCTs will have a list of transversal skills, sample activities and assessments for each MLO.	Link



Resource name	Function	Link for access
<p>E-learning modules</p> 	<p>We have developed three bespoke e-learning modules:</p> <ul style="list-style-type: none"> • “Introduction to CHARM-EU: This module is specifically for new members of the CHARM-EU alliance, to learn about the structure, organisation and teaching and learning philosophy. • “Introduction to CHARM-EU Virtual Learning Environment”: This module is for academic teachers and teaching and learning professionals that will be using our core technology platforms (Moodle, MS Teams, Scorion). • “Challenge based learning explained”: This module is for academic teachers and pedagogical experts who would like to learn more about applying challenge based learning in their educational modules. <p>Sign up for these e-learning modules here (only with SOLIS-ID)</p>	<p>Link</p> <p>Link</p> <p>Link</p>

4. Delivering a module

4.1. Hybrid Classroom

CHARM-EU uses a hybrid approach to delivering modules. This type of learning mixes two approaches; students following on-campus education and others following this real-time education online – either from another campus or at home. In CHARM-EU students from, potentially, all over the world collaborate and work on challenges during the Master's program. It's likely that students and teachers **will be unable** to be present on location in all of their CHARM-EU modules. By utilizing hybrid classrooms students and teachers will still be able to collaborate in synchronous education even when not physically at the same location. Hybrid classrooms are located in each of the (currently) five CHARM-EU partner universities and are likely to be expanded in the future at new partners.

More information about hybrid teaching and learning can be found in the [Hybrid Classroom Handbook](#).

4.2. Virtual Learning Environment

The Virtual Learning Environment (VLE) of CHARM-EU is an ensemble of different applications to enhance teaching and learning. Most important are the 'core platforms'. These platforms will most likely be used by every student and academic teacher of CHARM-EU.

The core consists out of three applications:

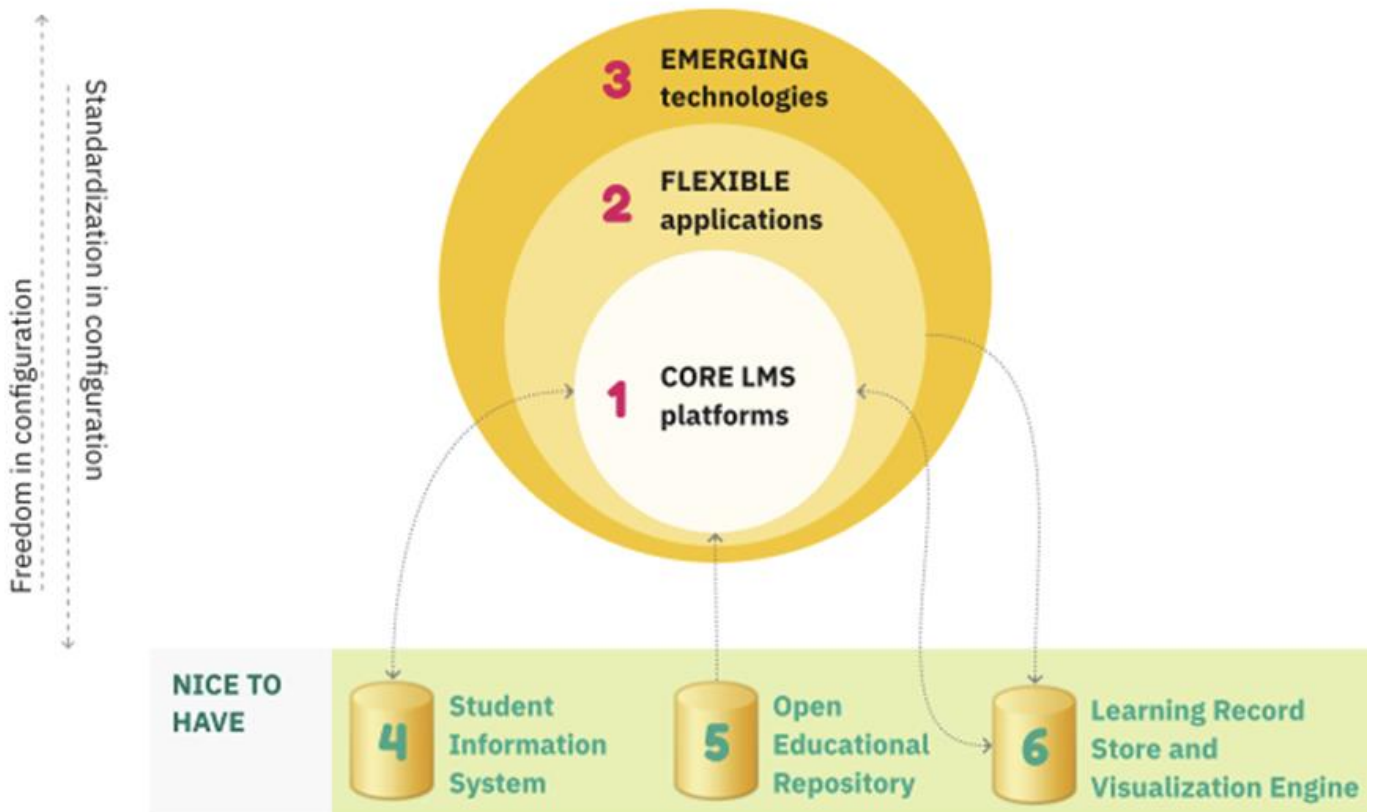
- Moodle: This is the learning management system that is used to organize courses. You might access some of the tools in the 'flexible zone' through Moodle as well. For instance, Feedback Fruits is a plug-in for Moodle.
- Scorpion: This is the E-portfolio for CHARM-EU that is used for programmatic assessment.
- Microsoft Teams: This is used for collaboration, communication and video conferencing.

The 'flexible zone' consists out of applications that some students and academic teachers might use but are **not** essential like the tools in the core. Some of these tools have very specific



purposes that are only fit for certain learning activities. For instance a voting-tool or brainstorming tool. The tools listed here are already in use in one or more of our institutions and have proven to be useful and effective.

Last but not least is the zone for emerging technologies. This zone offers room for experimentation. Generally, these tools **have not** been used and evaluated much yet but have the potential to be useful in teaching and learning. Some of the technologies you will see in this zone are virtual and augmented reality and serious games. More information about emerging technologies can be found in the [Emerging Technologies resource](#).





4.3. Institutional and student support: Joint Virtual Administrative Office

CHARM-EU uses a Joint Virtual Administrative Office which is responsible for the main administrative, organisational and financial processes of the Master's, and the CHARM European University. The JVAO is composed of 5 Officers, each working in a different university, and each is responsible for coordinating the following responsibilities.

- **Registration:** e.g. Student applications, admissions, student payments, grants, sharing information with students on services. In the Master's pilot University of Barcelona is responsible for this.
- **Education:** e.g. Mentor allocation, registration for modules and phases, managing the e-portfolio, manage and helpdesk for the VLE, organizing examiners meetings, managing the diploma parchment, transcripts and supplements, and organizing student graduation. In the Master's pilot Utrecht University is responsible for this.
- **Mobility:** e.g. Organise students' mobility, coordinated with local mobility offices, advise on other mobility grants available, and communicate about mobility scheme and embedded mobility options, inclusive mobility and sustainable mobility, coordinate and manage all mobility grant application and administration procedures before, during and after mobility. In the Master's pilot ELTE is responsible for this.
- **Boards:** e.g. Support the Academic, Examination, Student-Staff Council and Appeals Boards, support the Council and the Joint Virtual Quality Office. In the Master's pilot Trinity College Dublin is responsible for this.
- **Services:** Ensure that staff and students receive the support they need: make sure that they have a phone number and/or email address that acts as a "local helpdesk" that teachers and students can contact easily and get a quick answer to any of their issue or question, IT support for students and staff, ensure the information on available services is accessible on CHARM-EU website and platforms, collaborates with CHARM-EU WP6 Inclusiveness Team and local services in terms accessibility and inclusion aspects, i.e., guidance and counselling, disability services, coordinate the local services to ensure that students are assisted in their processes and needs either by the local JVAO Officer or by the relevant service of the university: visa, accommodation, restauration, transport, libraries, sports, research facilities, career orientation, cultural activities, associations/clubs, unions etc, and organise the Welcome ceremony and orientation week. In the Master's pilot University of Montpellier is responsible for this.



Even though each of these five main tasks is the responsibility of a different university, all 5 officers work on all 5 tasks hand-in-hand addressing local issues as needed. The JVAO Office can be contacted via the following email address: charm-jvao@uu.nl.

May you have any questions about the Teaching & Learning Strategies Handbook, please contact WP4 co-lead Sanne van Vugt, s.j.h.vanvugt@uu.nl



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