

WP3.3 *Training of academic staff from partner universities on ECTS and pedagogical education system by EU experts*

Introduction to ECTS
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About me

Chemical Engineer, graduated at the University of Naples Federico II and hold a Post-Graduate Degree as Strategic Designer from the Polytechnic of Milan.

Project Manager for EITD since 2019, responsible for the settlement and development of the Innovation and Technology Transfer area.

I have more than 20 years of experience in management of research in innovation and knowledge/technology transfer projects and in training quality assessment.

Among others, I have been in charge of the quality process for the training activities in **two Tempus projects** (2011-2016) and acted as a **Quality Manager** for the training activities in an **ERASMUS+ CBHE project for “International University Cooperation on Land Protection in European-Asiatic Countries” (2015-2018)**. I coordinated the dissemination and the stakeholders’ engagement activities for the i-Tour project (FP7 Programme) and for the SYSTEM project (H2020 programme).

I have several experiences in feasibility studies, communication and reporting activities, field mission and desk research in the fields of Food industry, Environment, Transports, Biotechnology, Information Communication Technology, Cultural Heritage, New Technologies for Industry.

I have also competences in training design, marketing assistance, funds rising and business development.

I hold a Prince2 certificate and fluently speak English and French.



European Credit Transfer and Accumulation System (ECTS)

“ECTS is designed to make it easier for students to move between countries and to have their academic qualifications and study periods abroad recognised.”

What is the European Credit Transfer and Accumulation System (ECTS)

- The European Credit Transfer and Accumulation System (ECTS) is a tool of the [European Higher Education Area](#) for making studies and courses more transparent. It helps students to move between countries and to have their academic qualifications and study periods abroad recognised.
- ECTS allows credits taken at one higher education institution to be counted towards a qualification studied for at another. ECTS credits represent learning based on defined learning outcomes and their associated workload.
- ECTS enhances the flexibility of study programmes for students.
- It also supports the planning, delivery and evaluation of higher education programmes. It is a central tool in the [Bologna Process](#), which aims to make national education systems more comparable internationally.
- ECTS also helps make other documents, such as the [Diploma Supplement](#), clearer and easier to use in different countries.
- ECTS has been adopted by most of the countries in the European Higher Education Area as the national credit system and is increasingly used elsewhere.



Why is ECTS needed?

- Differences between national higher education systems can lead to problems concerning the recognition of qualifications and mobility periods abroad.
- This issue is addressed in part by enhancing the comprehension of the learning outcomes and workload of programmes of study.
- ECTS also makes it possible to blend different learning styles, such as university and work-based learning, within the same programme of study or through lifelong learning.



How does it work?

- 60 ECTS credits are the equivalent of a full year of study or work. In a standard academic year, these credits are usually broken down into several smaller modules.
- A typical 'short cycle qualification' typically includes 90-120 ECTS credits. A 'first cycle' (or bachelor's) degree consists of either 180 or 240 ECTS credits.
- Usually a 'second cycle' (or master's) degree equates to 90 or 120 ECTS credits. The use of the ECTS at the 'third cycle', or Ph.D. level, varies.
- ECTS is applied to support student mobility between higher education institutions. The course catalogues, [Learning Agreements](#) and Transcripts of Records help the recognition and transfer of credits earned by students during a mobility period abroad. The [ECTS Users' Guide](#) describes the system and how it is used in greater detail.



ECTS users' guide 2015

- The ECTS Users' Guide offers guidelines for implementing ECTS and links to useful supporting documents.
- The Guide is offered to students and other learners, academic and administrative staff in higher education institutions as well as to employers, education providers and all other interested stakeholders.
- For ease of reading, the term 'student' is used to refer to all learners in higher education institutions (whether full-time or part-time, engaged in distance, on-campus or workbased learning, pursuing a qualification or following stand-alone educational units or courses).
- https://ec.europa.eu/education/resources-and-tools/document-library/ects-users-guide_en

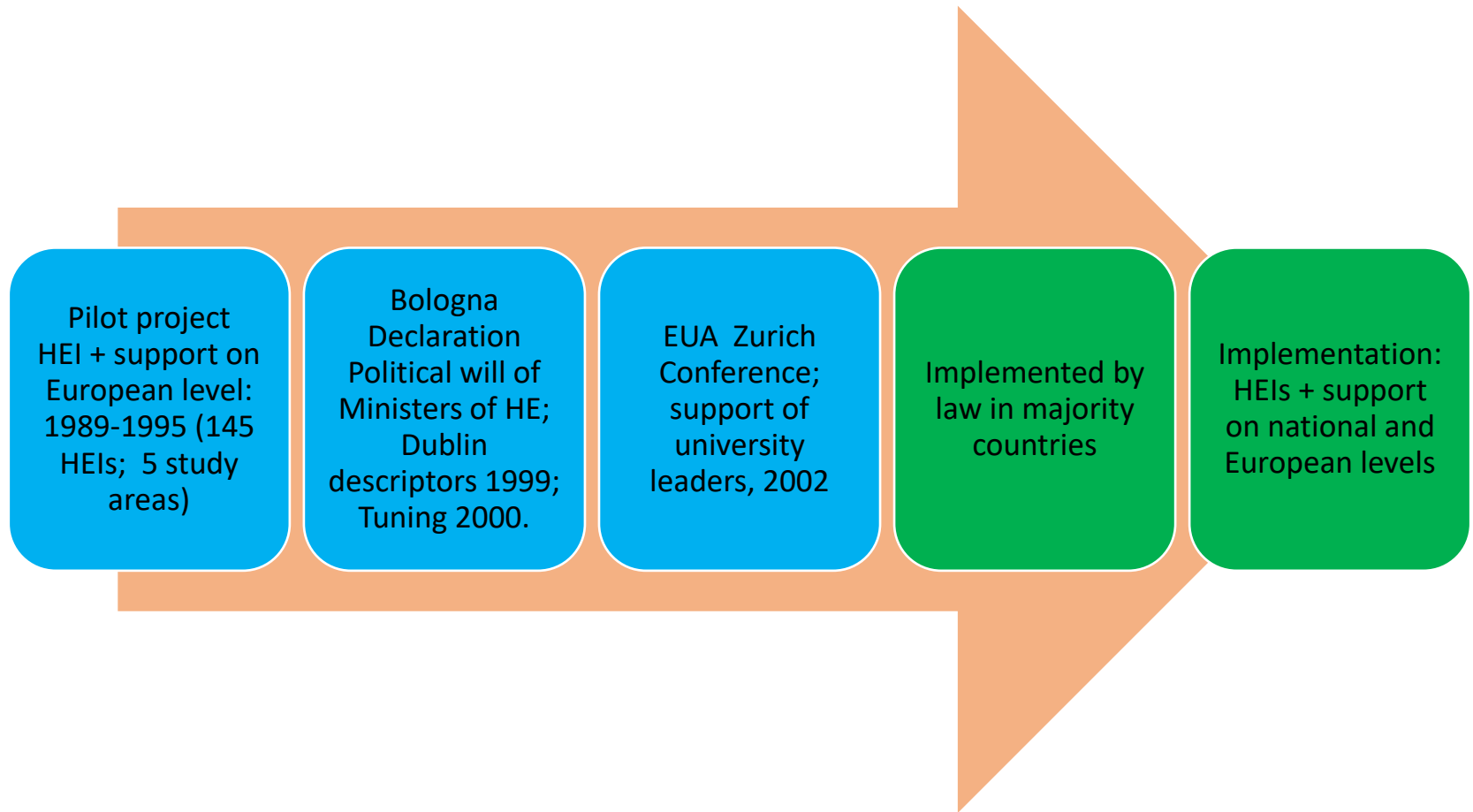


ECTS institution

- ECTS was instituted in 1989, within the Erasmus programme, as a way of transferring credits that students earned during their studies abroad into credits that counted towards their degree, on their return to studying in their home institution.
- In the following years, it came to be used not only for transferring credits, on the basis of workload and achieved learning outcomes, but also for accumulating them in institutions' degree programmes.
- ECTS helps in the design, description and delivery of programmes, makes it possible to integrate different types of learning in a lifelong learning perspective, and facilitates the mobility of students by easing the process of recognising qualifications and periods of study.
- ECTS can be applied to all programmes, whatever the mode of delivery (classroom-based, work-based, distance learning) or the status of students (full-time, part-time), and to all kinds of learning contexts (formal, non-formal and informal).



ECTS from birth to maturity





ECTS key features (1/4)

- **ECTS** is a learner-centred system for credit accumulation and transfer, based on the principle of transparency of the learning, teaching and assessment processes.
- Its objective is to facilitate the planning, delivery and evaluation of study programmes and student mobility by recognising learning achievements and qualifications and periods of learning.
- **ECTS** credits express the volume of learning based on the defined learning outcomes and their associated workload. 60 ECTS credits are allocated to the learning outcomes and associated workload of a full-time academic year or its equivalent, which normally comprises a number of educational components to which credits (on the basis of the learning outcomes and workload) are allocated.
- ECTS credits are generally expressed in whole numbers.



ECTS key features (2/4)

- **Learning outcomes** are statements of what the individual knows, understands and is able to do on completion of a learning process.
- The achievement of learning outcomes has to be assessed through procedures based on clear and transparent criteria.
- Learning outcomes are attributed to individual educational components and to programmes at a whole. They are also used in European and national qualifications frameworks to describe the level of the individual qualification.
- **Workload** is an estimation of the time the individual typically needs to complete all learning activities such as lectures, seminars, projects, practical work, work placements (e.g., internships) and individual study required to achieve the defined learning outcomes in formal learning environments.
- The correspondence of the full-time workload of an academic year to 60 credits is often formalized by national legal provisions.
- In most cases, workload ranges from 1,500 to 1,800 hours for an academic year, which means that one credit corresponds to 25 to 30 hours of work. It should be recognised that this represents the typical workload and that for individual students the actual time to achieve the learning outcomes will vary.



ECTS key features (3/4)

- **Allocation of credits** in ECTS is the process of assigning a number of credits to qualifications, degree programmes or single educational components. Credits are allocated to entire qualifications or programmes according to national legislation or practice, where appropriate, and with reference to national and/or European qualifications frameworks. They are allocated to educational components, such as course units, dissertations, work-based learning and work placements, taking as a basis the allocation of 60 credits per full-time academic year, according to the estimated workload required to achieve the defined learning outcomes for each component.
- **Awarding credits** in ECTS is the act of formally granting students and other learners the credits that are assigned to the qualification and/or its components if they achieve the defined learning outcomes. National authorities should indicate which institutions have the right to award ECTS credits. Credits are awarded to individual students after they have completed the required learning activities and achieved the defined learning outcomes, as evidenced by appropriate assessment. If students and other learners have achieved learning outcomes in other formal, non-formal, or informal learning contexts or timeframes, credits may be awarded through assessment and recognition of these learning outcomes.



ECTS key features (4/4)

- **Accumulation of credits** in ECTS is the process of collecting credits awarded for achieving the learning outcomes of educational components in formal contexts and for other learning activities carried out in informal and non-formal contexts. A student can accumulate credits in order to:
 - obtain qualifications, as required by the degree-awarding institution;
 - document personal achievements for lifelong learning purposes.
- **Transfer of credits** is the process of having credits awarded in one context (programme, institution) recognised in another formal context for the purpose of obtaining a qualification. Credits awarded to students in one programme may be transferred from an institution to be accumulated in another programme offered by the same or another institution.
- Credit transfer is the key to successful study mobility. Institutions, faculties, departments may make agreements which guarantee automatic recognition and transfer of credits.
- **ECTS documentation:** The use of ECTS credits is facilitated and quality enhanced by the supporting documents (Course Catalogue, Learning Agreement, Transcript of Records, and Work Placement Certificate). ECTS also contributes to transparency in other documents such as the Diploma Supplement.



ECTS before Bologna process

Key elements:

- ECTS credits (relative value);
- Transparent information (Information package, Learning agreement, Transcript of Records, Application form);
- ECTS grading scale

Main principles:

- Study abroad is a value;
- Knowledge and trust in partner institutions;
- Voluntary basis for the introduction;
- Full recognition of studies abroad



ECTS in the Bologna process

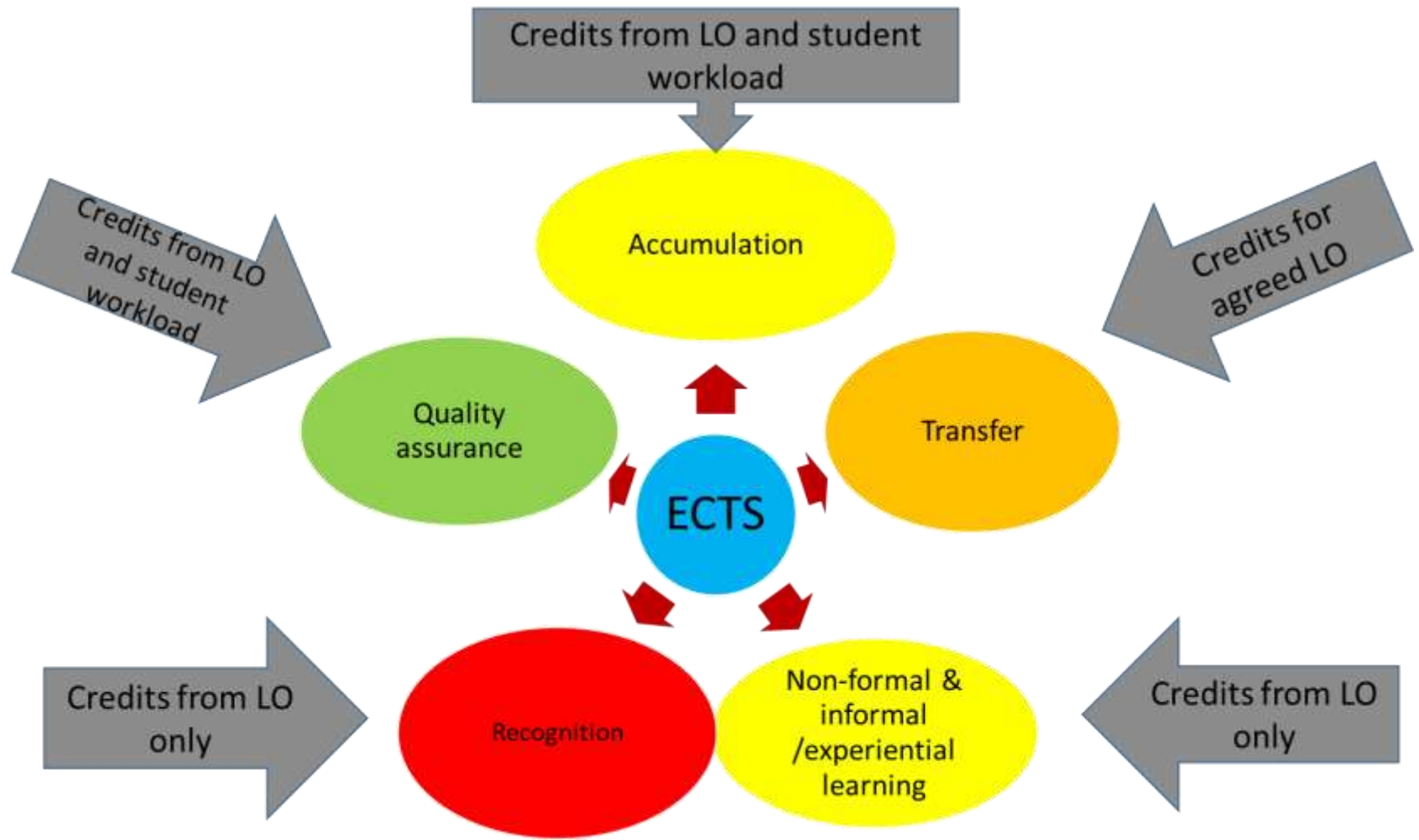
Key elements:

- Student-centered system;
- 60 credits attached to the notional workload of a full-time student during 1 academic year and the associated learning outcomes;
- Credits are allocated to qualifications, programmes and educational components;
- Credits are accumulated with a view to obtaining qualifications;
- Credits awarded in one programme may be transferred into another programme

Main principles:

- Learner-centred system aiming to increase transparency of learning outcomes and learning process;
- Facilitates planning, delivery, evaluation, recognition and validation of qualifications and units of learning;
- Fosters mobility;
- Can be applied for lifelong learning activities;
- Preserves national educational autonomy;
- Applicable to all sectors of higher education

Application of ECTS – macro level





Overview of national regulations on the number of learning hours per academic year

Emphasis:

1. Attention to credit as a measure for the student workload;
2. Variety: absolute number of hours per year and credit VS “corridor”;
3. Hierarchy of various legal documents: law, ministerial decrees, recommendations of rector’s conferences, etc...

Countries	Hours range/ academic year	Hours range/ credit	Status of the proclamation
Austria	1,500 h	25 h	Law
Belgium (Fl)	1,500/1,800 h	25/30 h	Decree (law on the Flemish level)
Belgium (Fr)	1440 h	24 h	Decree (law of the French Community)
Czech Republic	1,500/1800 h	25/30 h	Good practice, recommendation of ECTS Key Features.
Cyprus	1500h/1800 h	25/30 h	New Law for Higher Education (under consideration in 2008)
Denmark	1,650 h	27/28 h	Letters from the Ministry
Estonia	1,560 h	26 h	University Act law
Finland	1,600 h	27 h	Act of the Council of State
France	1,650 h	25/30 h	Recommendation by the University Presidents’ conference
Germany	1,800 h	30 h	KMK (Kultusministerkonferenz = Standing Conference of the Ministers of the Federal States). Element of Accreditation
Greece	1,500/1,800 h	25/30 h	Ministerial Decision
Hungary	1,620/1,800 h	30 h	Act on Higher Education and attaching Governmental Decree
Iceland	1,500/2,000 h	25/33 h	No proclamation, but understanding among universities
Ireland		20/30 h	Recommendation on the principles and operational guidelines devised by the National Qualifications Authority of Ireland
Italy	1,500 h	25 h	Ministerial Decrees
Latvia	1,600 h		Law
Lithuania	1,600 h		Law and Decree

Main approaches to ECTS implementation on national levels

Legal

- based on law and/or ministerial decrees (strong presence of the state authorities and regulations)
- Level of implementation depends on precision and prescriptions of the legal acts, experience of HEIs, traditions & collaborative culture

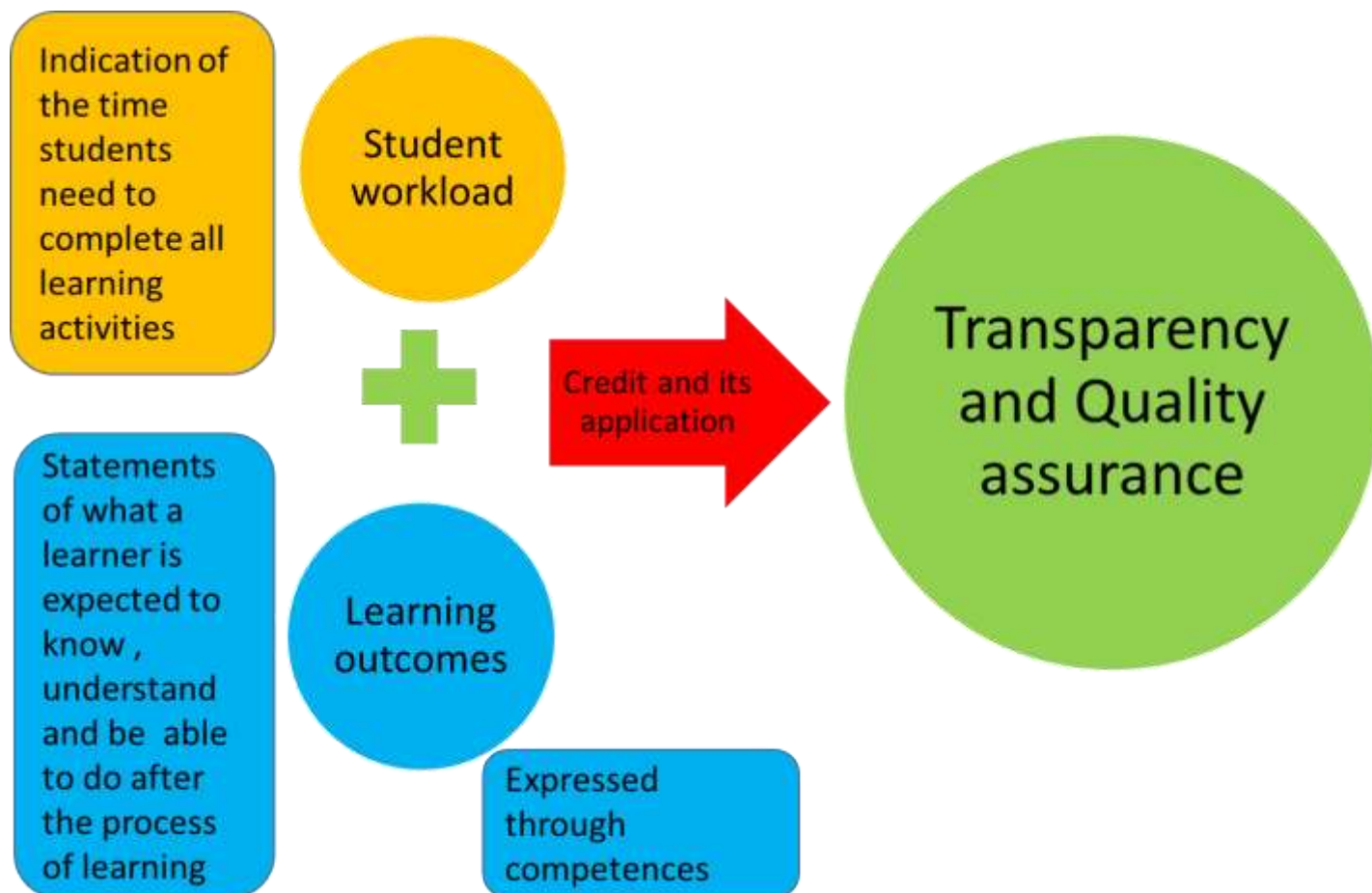
Consensus-based

- based on rectors' (presidents') conferences, qualification authorities, informal agreement among HEIs of a country (state authorities are not actively involved, decisions are taken by the immediate actors of HE system – HEIs and/or quality assurance agencies)
- Provides elaborate methodological support – guidelines. Is permissive rather than prescriptive

Recommendation-based

- no express regulations from the state and no recommendations. ECTS is seen as a good practice.
- The HEIs relate directly to European documents in the spirit of open-coordination method – informal consensus model

Application of ECTS at micro level - a study programme perspective





Student workload – tasks have to be consistent with allocated time

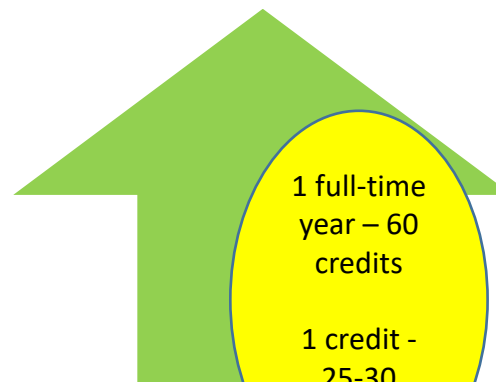
Suggestion: studies have to be planned so that student would work about 40 hours per week and 160 hours per month, i.e. standard working week



Workload is affected by: learning environment, LO, teaching methods, assessment methods, cultural peculiarities and differences



Important how students themselves perceive workload. It seems more heavy when: they have to use more different sources; have to reproduce knowledge; the content of subject is not clear; teacher-student relationship is tense.



1 full-time year – 60 credits

1 credit - 25-30 hours

Suggestion: Students must also be provided time for their independent work and **thinking process** – essence of learning



ECTS for programme design, delivery and monitoring

- The use of ECTS credits aids programme design by providing a tool which improves transparency and helps to engender a more flexible approach to curriculum design and development.
- From an institutional perspective, designing a programme means planning a curriculum and its components in credits, indicating learning outcomes and associated workload, learning activities and teaching methods and assessment procedures/criteria.
- The institutional credit framework should cater for the needs of different programmes and support inter- and multi-disciplinary approaches.
- The use of ECTS in HEIs requires both an institutional credit framework based on institutional regulations and a profound understanding of the system by each member of the academic staff. Some institutions foster this understanding by regular training for staff members. Team-based decisions on programme design enhance the coherence of the programme.
- The following steps have been identified as helpful in designing programmes.



The programme context (1/2)

- When a new programme is developed, the first decision typically concerns the level of the qualification to be awarded, which is defined on the basis of the relevant national legislation and existing qualifications frameworks (European, national, sectoral, institutional).
- It will be evident that not all learning outcomes are at the same level – hence the full implementation of a credit system requires level descriptors.
- Higher Education Institutions which implement ECTS as a credit system will need an institutional framework which correlates with the national and international frameworks.
- The institutional framework will indicate how ECTS credits are to be used, normally specifying a minimum credit value for an educational component to facilitate inter/multi-disciplinary programmes (which will be created by combining educational components from across a range of disciplines).



The programme context (2/2)

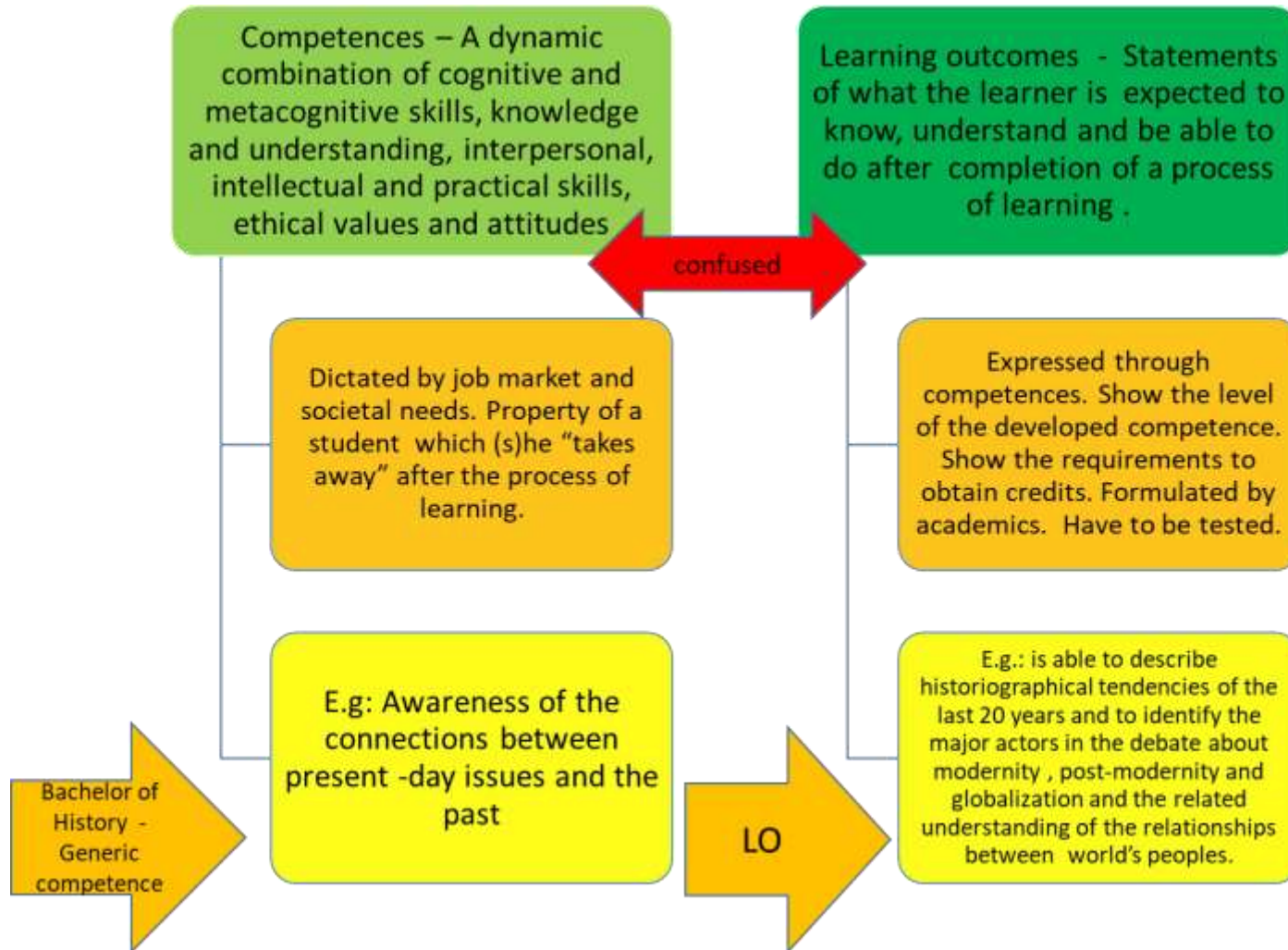
- European and national frameworks indicate the level of the final qualification.
- Thus, institutions, recognising that not all credits acquired in progressing towards a qualification are at the same level (learning outcomes achieved in the third year of a Bachelor degree, for example, will tend to be more complex than those achieved in the first year) – may specify intermediate credit levels with appropriate descriptors which (together with progression rules) will help students in progressing along their learning pathways.
- Before designing the programme in detail, it should be set in the context of institutional and departmental mission statements, professional specifications (regulations, requirements), and the institutional academic framework for credit allocation.
- It is also recommended to carry out a needs analysis and to consult with stakeholders (employers, graduates, society at large) to ascertain the demand for the programme.



The programme profile

- The profile presents the distinctive features of the programme (Lockhoff et al., 2010). It indicates the field(s) of study (which may be expressed in ISCED-F codes), the level of the programme, the main focus, the key learning outcomes expected on completion, the learning environment and the main learning, teaching and assessment activities.
- An effective programme profile will make it clear to students and stakeholders what generic and subject specific competences will be developed and the employability potential of the programme. For this purpose, it is recommended that the profile is defined in consultation with relevant stakeholders (such as academic peers, social partners, employers, graduates, and student representatives) and is presented in a clear and transparent way.
- The profile should be part of the programme description included in the Course Catalogue.

Competences and Learning Outcomes





The programme learning outcomes (1/2)

- The programme learning outcomes are based on the programme profile and describe what a student knows, understands and is able to do on completion of the programme.
- The learning outcomes should adequately reflect the context, level, scope and content of the programme.
- The statements of learning outcomes have to be succinct and not too detailed.
- The learning outcomes have to be mutually consistent.
- The learning outcomes should be easily understandable and verifiable in terms of what the student has actually achieved at the end of the programme.
- The learning outcomes have to be achievable within the specified workload.
- The learning outcomes have to be linked with appropriate learning activities, assessment methods and assessment criteria.
- There are no rules on the ideal number of learning outcomes at programme level. Experience suggests that between 10 and 12 is appropriate.



The programme learning outcomes (2/2)

- A widely accepted way of formulating learning outcomes is based on three essential elements:
 1. Use an active verb to express what students are expected to know and be able to do (e.g. graduates can 'describe', 'implement', 'draw conclusions', 'assess', 'plan').
 2. Specify what this outcome refers to (object or skill e.g. can explain the 'function of hardware-components', or can present the 'design of a living-room by hand').
 3. Specify the way of demonstrating the achievement of learning outcomes (e.g. 'to give an overview of the materials most often used in electro-engineering'; 'to develop a research design by applying up-to-date scientific methods', etc.).
- The programme learning outcomes should be included in the Course Catalogue and in the Diploma Supplement.



The programme structure and allocation of credits (1/2)

- The programme profile is broken down into educational components which may consist of single or several modules, other types of course unit, work and clinical placements, research projects, laboratory work and other relevant learning activities. They may also include social and community activities (for example, tutoring and mentoring) provided they fit the programme learning outcomes and carry credits.
- Learning outcomes, with related assessment strategies and assessment criteria, should be defined for each educational component.
- The learning outcomes of the programme and of its educational components are often mapped to demonstrate their mutual reinforcement. Many institutions use a matrix to correlate the learning outcomes of the degree programme with those of its educational components.
- After the constituent parts of the programme have been identified, the overall structure should be outlined and credits allocated to each component, on the basis of its learning outcomes and associated workload, taking into account that 60 credits correspond to a full-time-equivalent academic year.

The programme structure and allocation of credits (2/2)

- When educational components are of regular size (e.g. 5, 10, 15) they are often called ‘modules’. In a programme made up of modules (a modularised structure), half credits may be used when justified (for example, in the case of 4 modules per semester), but other decimals should be avoided. It is helpful if the institution determines the basic credit currency in terms of the minimum number of credits for a component as this will facilitate collaboration on curricula across subjects and faculties.
- Establishing ‘mobility windows’ in the curriculum will facilitate learning mobility. Mobility windows may be prescribed both in content and timing in the programme design or may allow flexibility in timing and in content for the individual student. Mobility windows are preferably not used to replicate what would be studied at home, but to allow students to benefit from diverse educational experiences in other settings.
- Progression requirements must be explicit if students are to navigate the programme successfully and obtain the intended qualification. Progression requirements may include inter alia prerequisites, co-requisites and recommendations. Progression rules may be expressed in terms of the numbers of credits or credit ranges required at different stages within a programme of study (e.g. a minimum number of credits required to pass from one academic year/semester to another). They may also be formulated in terms of detailed rules on what components must and/or can be taken at what stage and of what level (e.g. compulsory courses, optional courses and prerequisites).
- Independent learners joining a formal programme should receive appropriate counselling/ advice to support them in complying with progression requirements. Where relevant, this counselling should include recognition of prior learning and experience. Flexible programme structures allow students’ choice, including by incorporating possibilities to access new modes of learning and teaching.



Learning, teaching and assessment

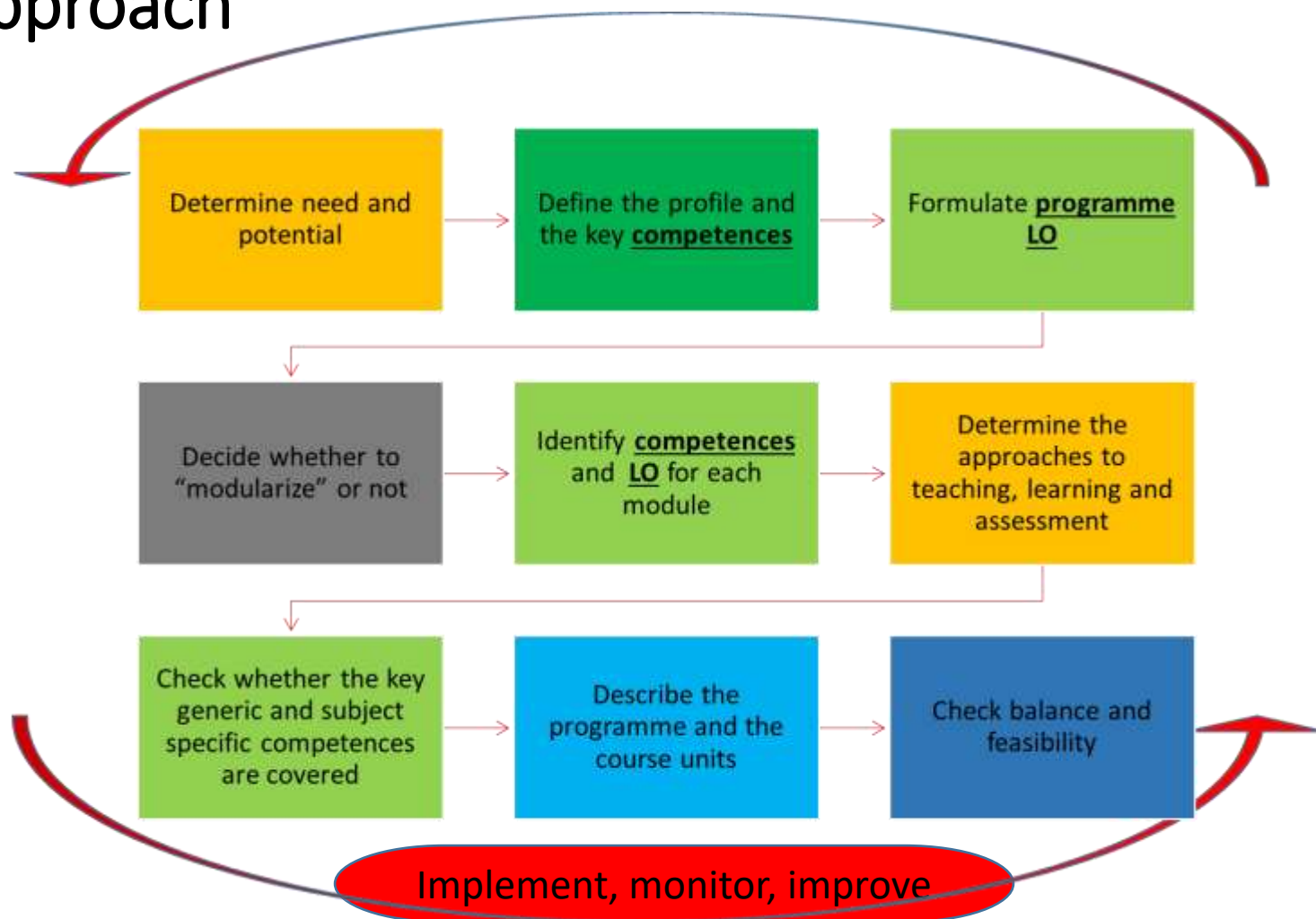
- Higher education institutions need to define their learning and teaching objectives in relation to their study programmes and how they should be delivered and assessed. Some general principles concerning learning, teaching and assessment should be taken into account when delivering a programme of study, regardless of the mode of learning and teaching:
 - Open dialogue and participation
 - Transparency and reliability
 - Consistency
 - Flexibility
 - Appropriate assessment of achievements



Monitoring of credit allocation

- The programme is monitored to establish whether the credit allocation, the defined learning outcomes and the estimated workload are achievable, realistic and adequate.
- Monitoring can be managed in different ways through questionnaires, focus groups, or interviews, or by monitoring the results achieved. Whatever method is used, feedback from students, staff and where appropriate, stakeholders should constitute an essential element for checking and revising credit allocation. Data on completion times and the assessment results of programmes and their components should also be used.
- It is important to inform students and staff about the purpose of the monitoring exercise, and how it will be carried out, to ensure accurate answers and a high response rate.
- If the information gathered reveals a discrepancy between the workload foreseen and the time actually taken by the majority of students to achieve the defined learning outcomes, it will be necessary to revise the workload, credits, learning outcomes or learning and teaching activities and methods. This could also involve redesigning the study programme and its educational components.
- The revision should be done as soon as possible without creating problems for those who are currently taking the programme and should be communicated to those who had participated in the monitoring exercise, in order to foster an ongoing, cooperative feedback culture in the institution.

10 steps for designing a programme - Tuning approach





Development of the module

NOTE:

Module –
a course unit
in a system
where each
course unit
carries the
same number
of credits or a
multiple
thereof (ECTS)

Aims and competences
of the module



Aims are reflected in the
module LO (LO written in a way
that they may be tested)



Assessment tasks



Criteria for grading
the assessment



Teaching and
learning strategy

NOTE:

- Small modules – information more specialized but less integrated
- Big modules – clearer structure of the programme, better coherence in the studied subject, but more difficult to transfer to other context and compare.



Useful links

- https://ec.europa.eu/education/resources-and-tools/european-credit-transfer-and-accumulation-system-ects_en
- https://ec.europa.eu/education/resources-and-tools/document-library/ects-users-guide_en