DEVELOPMENT OF THE CONCEPT OF THE EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS) AT THE NATIONAL LEVEL: HARMONISATION OF THE CREDIT AND IMPLEMENTATION OF THE LEARNING OUTCOMES BASED STUDY PROGRAMME DESIGN (NO. VP1-2.2-ŠMM-08-V-01-001)

ECTS – European Credit Transfer and Accumulation system:

History... Implementation... Problems...

Raimonda Markevičienė, Dr. Alfredas Račkauskas

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External expert: Dr. Richard Whewell, University of Strathclyde, UK

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Contents

PART I

ECTS from birth to maturity

ECTS in Pre-Bologna times

Everyone who has been using ECTS is well aware of its origins as a transfer system for the mobile students. However in order to understand its present level of implementation in European countries and institutions it is worth while going back into history of ECTS to realize how much its development has been shaped by political, national and institutional attitudes.

ECTS, the European Credit transfer system, was started under the Erasmus programme in 1988 in response to the growing number of mobile students and their fate, or to be more exact, their treatment by the home institution once they returned after their study periods abroad. The pilot scheme of the project lasted for 6 years (1988-1995) and involved 145 higher education institutions from all EU Member states and EEA countries. The project involved five subject areas: Business Administration, Chemistry, History, Mechanical Engineering and Medicine.

The pilot project agreed on certain elements constituting ECTS and established the guiding philosophy to be adopted to make the system vibrant and usable. These key elements were:

1. the ECTS credits (which at that time relied heavily on their relative value);
2. transparent information (documents: ECTS Information package, Learning agreement, Transcript of Records and Student application form);
3. ECTS grading scale (later so grossly attacked and misused due to the lack of understanding its underlying principles).

The guiding philosophy of ECTS was based on the following principles:

1. value of the studies abroad;
2. knowledge of and trust in partner institutions;
3. voluntary basis for its introduction;
4. full recognition of the courses completed abroad by the mobile students.

The agreement on and establishment of these tools and principles seemed to be a good basis to pursue wider and deeper implementation of the ECTS on the institutional/departmental levels. Therefore the European Commission, having important levers at its hands, launched a broad campaign for the introduction of the system.

The campaign included broadening of the pilot scheme with the aim of introducing ECTS into other subject areas (January 1995 – May 1996); and European Commission's invitation for the institutions to present their plans for introducing ECTS in one or more disciplines (Autumn 1995).

The official statistics claims that during the 1996-1997 period 38 new institutions (total of 348 departments) and 36 non-university institutions (206 departments) implemented ECTS.

The system was further promoted by including ECTS as a requirement within Erasmus sub-programme's (Socrates programme) Institutional Contracts between the Commission and the institution. Thus ECTS became a compulsory system for an institution if it aspired to get the EU funding for student mobility. Grants for the ECTS introduction were available under institutional contacts. According to the claims of official statistics, 772 new institutions applied for the grants to introduce ECTS in the years 1997-1998.

A great number of ECTS workshops were organized around Europe. The ECTS Helpline network was set up in 1998 (a network of ECTS promoters to answer ECTS implementation related questions). Institutional contracts have also allowed funds for the ECTS site visits, whose chief aim was to invite International ECTS experts to look into the level of ECTS implementation at the institution and to give advice to its further improvement.

Erasmus Institutional Contracts of 1998-1999 saw 290 more applications for the ECTS introduction grant. It has to be noted that 63 of them came from the associated countries.

All of the above presents a rosy picture of ECTS implementation on the European level. Presented in numbers and support initiatives the ECTS should have been a success story by 1999. AND YET…

The reality proved to be far more complicated than statistics lead us to believe. The ECTS remained the property of the International relations offices (bound by Institutional Contracts) and few academics that believed and got involved in student mobility. The use of ECTS tools (Information, credits and grades) followed different practices that stemmed from different institutional cultures and views on the values of mobility. As to the guiding philosophy of ECTS, well… that proved to be the most serious challenge that could not be overcome by many institutions claiming that they use the system. The efforts spent on ECTS implementation might look impressive, but by 1999 the ECTS was dying from the lack of support on national and institutional levels as well as suffocating from narrow minded approaches to problems and impacts student mobility brings to institutions.

Therefore it was not by chance that in February 1999 the European Commission undertook an ECTS extension Feasibility project "European credit system allowing for accumulation and transfer within the perspective of lifelong learning". The project report was published in February 2000. In broad terms it stated that ECTS may be used as credit accumulation system, "however, a number of adaptations and developments of the existing ECTS tools and procedures would be necessary for its application to lifelong learning" (executive summary). In other words, as a well-known ECTS counselor Stephen Adam heavily involved in the feasibility project, put it:"Any credit-based, lifelong learning framework will have to deepen the definition of a "credit". An output-

focussed approach will be needed, including a dimension of competencies, to supplement those based simply on "total student workload"."

It has to be noted that the Bologna Declaration was signed in June 1999, a few months after the project began, and a few months before it ended, therefore the project report was quite safe to state that "the development and introduction of an ECTS credit-based lifelong learning framework will be a complex process, best achieved at the strategic policy level through processes enabling a wide dialogue between European higher education institutions, initial education providers, professional bodies and employers….. The Bologna Declaration is an indication of the political support offered by European governments to such a process."

Bologna ECTS

So much has been written about the Bologna Declaration and its action lines that instead of dwelling on Bologna implementation it would be best to concentrate on the issue of concern of this booklet - how the problem of ECTS implementation (which was one of the initial action lines mentioned in Bologna Declaration) has developed and been perceived in the Ministerial Communiqués, i.e. documents shaping European Higher Education Area. The table below provides the excerpts from these documents that allow us to get some glimpses how well or deeply the problem of ECTS as a system, its application and/or implementation are grasped on European and national levels.

Document	Quote on ECTS
Sorbonne Declaration, 1998 (Germany, France, Italy, UK)	"A system, in which two main cycles, undergraduate and graduate, should be recognized for international comparison and equivalence… Much of the originality and flexibility of this system will be achieved through the **use of credits (such as in the ECTS scheme)** and semesters. This will allow for validation of these acquired credits for those who chose initial or continued education in different European universities and wish to be able to acquire degrees in due time throughout life."
Bologna Declaration, 1999	"Establishment of a system of credits – **such as in the ECTS system** – as a proper means of promoting the most widespread student mobility. Credits could also be acquired in non-higher education contexts, including lifelong learning, provided they are recognized by receiving Universities concerned."
Prague Communiqué, 2001	" Ministers emphasized that for greater flexibility in learning and qualification processes the adoption of common cornerstones of qualifications, supported by a credit systems such as the **ECTS or one that is ECTS-compatible**, providing both transferability and accumulation functions, is necessary. Together with mutually recognized quality assurance systems such arrangements will facilitate students' access to the European labour market and enhance the compatibility, attractiveness and competitiveness of European higher education. The generalized use of such credit

	system and of Diploma Supplement will foster progress in this direction."
Berlin Communiqué, 2003	"Ministers stress the important role played by the European Credit Transfer System (ECTS) in facilitating student mobility and international curriculum development. They note that **ECTS is increasingly becoming a generalized basis for the national credits systems.** They encourage further progress with the goal that the **ECTS becomes not only a transfer but also an accumulation** system, **to be applied consistently** as it develops within the emerging European Higher Education Area."
Bergen Communiqué, 2005	"We adopt the overarching framework for qualifications in the EHEA, comprising three cycles (including, within national contexts, the possibility of intermediate qualifications), generic descriptors for each cycle **based on learning outcomes and competences, and credit ranges in the first and second cycles**." **No direct mention of ECTS**. The further importance and implementation of ECTS might be speculated through other action lines such as: quality assurance, qualification frameworks, degree systems, and recognition.
London Communiqué, 2007	"Efforts should concentrate in future on removing barriers to access and progression between cycles and on **proper implementation of ECTS based on learning outcomes and student workload**." "There has been progress in the implementation of the Lisbon Recognition Convention (LRC), **ECTS** and diploma supplements, but the range of national and institutional approaches to **recognition** needs to be more coherent." Qualification frameworks "…should also help HEIs to develop modules and study programmes based **on learning outcomes and credits…**"
Leuven and Louvain-la-Neuve Communiqué, 2009	"…the Bologna Process has promoted the Diploma Supplement and the **European Credit Transfer and Accumulation System** to further increase transparency and recognition." "Successful policies for lifelong learning will include basic principles and procedures for recognition of prior learning on the basis of **learning outcomes** regardless of whether the knowledge, skills and competences were acquired through formal, non-formal or informal learning paths". "Academics, in close cooperation with students and employer representatives, will continue to develop **learning outcomes** and international reference points."

A closer look on these quotations give a better insight on how the political will has followed the lead of actual development of the ECTS system from "such as in ECTS" to "European Credit Transfer and Accumulation system". Many less involved people would think that ECTS is something developed by the European Commission with support of the national ministers, though in reality the better guess would be that when signing

under these documents the Ministers were not much aware of the full implications of the ECTS system. These political documents hold no definite features allowing identification of the ECTS system even though the reference to accumulation appears as early as 2003. The two main features, learning outcomes and student workload, are mentioned in the later documents but the system itself and the mechanism governing it are not made explicit in any of the documents thus allowing a lot of freedom and autonomy (which makes the system acceptable to all) as well as giving grounds to different interpretations (which is the danger for proper implementation and use).

After having a brief look at the political documents one might ask – so who developed the system as we know it today as the Declaration and Communiqués obviously are the expression of political will and a mandate for the further development of the system but have nothing to do with it as a final product. Quite a number of low scale initiatives might be mentioned, but one should concentrate on the most important and the most significant one since the pilot scheme - the Tuning project. Tuning funded by the European Commission started by the ECTS counselors from Deusto University in Spain and Groningen University in the Netherlands. Starting in 2000 Tuning involved 107 EU institutions of higher education from the very beginning. Every phase of the project has seen the growth in partners and extension to different subject areas. Eventually, the Tuning projects have developed into the process that encompasses not only EU higher education institutions but also other Bologna and non-Bologna countries, such as: Latin America, Russia, Georgia, and the United States.

The Tuning project coming out with motto that it is a "universities' project for the universities" have managed to develop ECTS for transfer into the ECTS for accumulation and transfer and, acting as liaison between the European Commission and European HEIs, reached a broad consensus on the importance of competences and learning outcomes in the ECTS system thus establishing it as a tool for transparency, recognition and a common "academic Esperanto" in the European Higher Education Area. Introduction of competences and learning outcomes allowed to further develop ECTS as a tool for curriculum design.

The Joint Quality Initiative Group (http://www.jointquality.nl) created in 1999 in response to the Bologna Declaration should be given its due for the development of the Dublin Descriptors which became a backbone of the European Qualifications Framework for higher education and have helped to foster development of ECTS into the system for accumulation.

While talking about the history of Bologna ECTS, one cannot forget the role played by the European University Association (EUA), which as early as 2002 in its Zűrich conference managed to obtain consensus from more than 300 participants (mostly university leaders) on the Key ECTS features, thus validating and giving further impact to the work done in the Tuning project. Therefore it could be claimed that the work which Tuning did at departmental level received support at the institutional level thanks to EUA's support. Keeping in mind the level of use of the credit systems in Europe in

general, the found consensus was a great step forward as it required commitment from the university leaders.

So it could be said that the ECTS for accumulation and transfer was agreed to have the clearly defined key features which still requested more fine-tuning. After further elaboration by the Tuning projects the **Key ECTS Features** were presented by the European Commission in the separate document (http://ec.europa.eu/education/lifelong-learning-policy/doc/ects/key_en.pdf) which stated:

1. ECTS is a student-centred system based on student workload required to achieve expected learning outcomes;
2. ECTS is based on convention that 60 credits are attached to the notional workload of a full-time student during one academic year (including lectures, seminars, projects, laboratory work, independent study, etc) and the associated learning outcomes;
3. Credits are allocated to entire qualifications or study programmes as well as to their educational components;
4. Credits are awarded to individual students(full-time or part-time);
5. Credits may be accumulated with a view to obtaining qualifications, as decided by the degree-awarding institution;
6. Credits awarded in one programme may be transferred into another programme.

The ECTS for accumulation and transfer was and is guided by the following approaches:

1. It is a learner-centred system which aims to increase transparency of learning outcomes and learning process;
2. It aims to facilitate planning, delivery, evaluation, recognition and validation of qualifications and units of learning as well as student mobility;
3. It can be applied to lifelong learning activities;
4. Non-invasive allowing to preserve national educational autonomy;
5. It is applicable to all sectors of higher education.

It has to be mentioned that the first ECTS Users' guide based on the approaches developed by Tuning was published in 2005. The 2009 version was built on the earlier version but presented more generalized and compact information thus allowing for more freedom and flexible approaches. The Guide gives a clear picture of the variety of contexts that the ECTS and/or its components are being used in the European Higher Education Area and its different actors, thus making the correct use of ECTS an issue of the greatest importance.

Consider the table below as derived from the ECTS Users' guide and showing the main areas in which ECTS and/or its elements are applied:

Application of ECTS	**Elements used for the activity**	**Documents fostering correct/transparent application of ECTS**
Accumulation – a process of collecting credits	1.Credits from learning outcomes and student	1. Course Catalogue; 2. Institutional regulations

awarded for achieving the learning outcomes of educational components or other learning activities.	workload; 2. Institutional grading; 3. National qualification framework level descriptors.	on credit allocation; 3. Institutional regulations on students' progress; 4. Institutional application form; 5. Transcript of Records; 6. Diploma Supplement.
Transfer – the process of having credits awarded in one context recognised in another context for purposes of obtaining qualification.	1.Credits for agreed learning outcomes; 2. Institutional grading; 3. ECTS grading table.	1. Course Catalogue; 2. ECTS application form; 3. ECTS Learning Agreement; 4. Transcript of Records; 5. Institutional regulations on recognition; 6. Diploma supplement.
Informal/Experiential leaning – the process through which an institution certifies that the learning outcomes achieved and assessed in another context (non-formal or informal learning) satisfy (some or all) requirements of a particular programme, its component or qualification.	1. Credits from learning outcomes only.	1. Regional recognition agreements; 2. Sectoral recognition agreements; 3. Institutional recognition agreements; 4. Institutional regulations on recognition; 5. Application form; 6. Applicant's portfolio.
Recognition - A formal acknowledgement by a competent authority of the value of a foreign educational qualification with a view to access to educational and/or employment activities.	1.Credits from learning outcomes only; 2.National qualification framework level descriptors; 3.Dublin Descriptors.	1. Diploma Supplement; 2. National qualification framework; 3. European qualification framework.
Quality assurance – the process or set of processes adopted nationally and institutionally to ensure the quality of educational programmes and qualifications awarded.	1. Credits from learning outcomes and student workload; 2. National qualification framework level descriptors.	1. Institutional regulations on credit allocation; 2. National regulations on and requirements for degrees; 3. Institutional regulations on degrees.

Though the ECTS as European Credit accumulation and transfer system has developed various tools and features a number of elements that allow to identify it, its most important elements are credits and learning outcomes. The table above gives a glimpse of the use of these elements in different contexts of applicability. For example, in the formal learning, for the purpose of **accumulation** and **quality assurance**, the credits are established on the basis of learning outcomes and student workload based on time necessary to achieve them. While in the context of **informal and experiential learning** the notion of workload (time) becomes not important. It is the achieved learning outcomes that are measured against those of the formal programme and might be allocated credits. For **transfer** credits are important as much as they represent the agreed or curricular relevant learning outcomes while **recognition** philosophy should be based on learning outcomes and their levels with credits representing the indicative length of the completed programme.

This table gives clear indication that the introduction an correct use of ECTS is not only the headache of a particular HEI but also of the national authorities who should guarantee the quality of the system through converging initiatives (such as external quality initiatives or national qualifications framework) and basic requirements but at the same time should ensure the highest level of institutional autonomy so that the maximum benefit should be derived from the system.

It also has to be stressed that ECTS system has never been governed or aimed to be introduced by EC directives. The system has been created and is being implemented by the open coordination method which requires a certain level of understanding of the system's aims and benefits as well as commitment to reach out for them on both national and institutional levels.

Implementation of ECTS as perceived on the European level

As it has been demonstrated in part one, all the ministerial Communiqués mention ECTS or its elements in one way or another. It has to be noted that before every ministerial meeting different actors on the European level present their own findings and views on the implementation of the Bologna process as well as each country reports on its achievements using a prescribed format. Implementation of ECTS is given considerable attention in these European documents trying to assess the state of the system in each particular country. Therefore it would seem reasonable to take a closer look at these documents and the countries reports. The following documents will be analyzed in this part:

1. Bologna Process Stocktaking report, 2009;
2. EURYDICE survey "Higher Education in Europe 2009: Developments in the Bologna Process";
3. EURYDICE survey "Focus on Higher education in Europe 2010: The Impact of the Bologna Process";
4. Bologna with Student Eyes 2009;
5. Countries' national reports to BFUG (Bologna Follow-Up Group);
6. Trends 2010: a Decade of Change in European Higher Education.

First of all it has to be noted that the **Bologna stock taking report** though derived from the countries reports is a very non-discriminating document stating in very broad terms that: "Twenty-nine countries have implemented a credit system that is used for both transfer and accumulation in all programmes…. (this count also includes the ten countries that use compatible credit systems other than ECTS)". The other groups of the countries are reported to have introduced ECTS in separate programmes by different percentages. It has to be noted that the report takes into account all 46 Bologna signatory countries. It further states that: "One-third of the countries stated that all HEIs have linked credits with learning outcomes; another quarter said that most HEIs have done so".

In reality, while these statements seem to give broad understanding of the general trends of the state of credit system implementation in the Bologna countries, it does not say much on what is happening at the national levels of each separate country and whether the credit system used is actually ECTS or ECTS compatible, or just another interpretation of the understanding of an academic credit. The Report presents just a general view on such problematic issues as describing the programmes in terms of learning outcomes, calculation of student workload, and student assessments. Nevertheless the Report leads to believe that even in the countries claiming to have introduced ECTS not all is so well as it seems on paper. The most valuable observation of the Report is that: "the optimistic view of how far HEIs have progressed in describing programmes using learning outcomes may be partly due to confusion between "learning outcomes" as statements of what learner *will know, understand and be able to demonstrate after completion of a programme of learning (or Individual subject/course)* and the overall aims or expected "outcomes" of programme, which, of course, have always been defined for courses of study in higher education…. One of the concerns …is that HEIs may indeed learn how to provide a technically correct formal description of learning outcomes without actually implementing them in practice."

One particular point has to be noted in the structure of the report itself. The introduction of learning outcomes, problems of workload and assessment are reported in the section devoted to "Qualitative analysis of internal quality assurance inside HEIs" (p.51) while implementation of ECTS is discussed in another part: "Indicator 9: stage of implementation of the European Credit Transfer System (ECTS)" (p. 77). Granted that the latter part is devoted to quantitative data while the former to qualitative one, however this separation might raise a number of interesting questions, some of them being: is there such a great dividing line between quality assurance and proper use of ECTS and does the legal introduction of ECTS at national level mean that the system used is really ECTS?

The **EURYDICE survey** of 2009 breaks all the Bologna signatory countries into five groups, those being countries where:

1. more than 75% of institutions and programmes use ECTS for both transfer and accumulation, and the concept of learning outcomes and student workload has replaced other approaches (Belgium, Bosnia and Herzegovina, Denmark, the

former Yugoslav Republic of Macedonia, Georgia, Iceland, Italy, Liechtenstein, Moldova, The Netherlands, Norway, Serbia and Switzerland);

2. more than 75% of institutions and programmes use ECTS for both transfer and accumulation and contact hours are no longer the reference to define the credits. Student workload is used instead, however learning outcomes are not usual reference points so far (Austria, Finland, France, Hungary, Malta, Portugal, and Ukraine);
3. more than 75% of institutions and programmes use ECTS for both transfer and accumulation with contact hours or a combination of contact hours and student workload used credit reference points (Azerbaijan, Croatia, Cyprus, Czech Republic, Ireland, Montenegro, and Poland);
4. ECTS is implemented in 75% or less of institutions and /or 75% or less of programmes using various references to define the credits (Albania, Andorra, Armenia, Bulgaria, Germany, Greece, Romania, Russia, Slovakia, and Spain);
5. maintained national credits system in parallel with ECTS though some of the national systems are more compatible with ECTS than others (the three Baltic countries, Turkey and the United Kingdom).

It has to be stressed that this data and division of the countries has to be treated with particular caution as the survey does not seem to take into account the pending changes that are foreseen in the legislation of some of the countries. Neither has it trusted the method of observation that would definitely re-shift the countries between the groups if a closer look to reality not the paper documents would be applied.

The **EURYDICE survey** of 2010 does not go into great detail on the implementation of ECTS. It relies on a broad approach that "…ECTS is regarded as fully implemented when more than 75% of institutions and programmes use ECTS for credit accumulation and transfer, and when it satisfies the requirements of credits being awarded on the basis of defined learning outcomes". The analysis of the situation does no go further than the statement that in 2010, 24 countries are reported using ECTS in more than 75% of higher education institutions, while 29 use it for programmes. The further important statement is that: "In majority of countries /regions, ECTS has been introduced through national legislation.

The departure point of the survey "**Bologna with the Student Eye**", conducted by ESU (European Student Union) is that: "ECTS is now the credit system across the EHEA…Despite this formal adoption, student unions continue to point out that student workload for the allocation of ECTS credits is still not being measured correctly. Basing ECTS on Learning outcomes is a lengthy process which is often engaged in superficially."

The survey results show that for the 64% of the Bologna signatory countries the ECTS is in the law, 26% of the countries use other credit systems while for the 6% of the countries the situation is unclear. While pointing out to the fact that public authorities took the leadership to institute ECTS "these legal provisions are mainly either a definition of ECTS credits and/or the value for an ECTS credit in terms of workload, fixing the

workload per ECTS credit usually within the range of 24 to 30 hours." The greatest value of the survey is that it deeply questions the quality of ECTS implementation claiming that its incorrect use and misunderstanding leads to such problems/distortions at institutional/national levels as:

1. the student workload is not estimated and re-adapted according to the students surveys (only 12% of the countries do that properly);
2. calculations of workload occur on the basis of the policy of individual HEIs: some collect data systematically while others base ECTS on teacher's estimation of workload;
3. credits are allocated on the basis of the prestige or importance of the course disregarding the workload;
4. contact hours are still the main method for establishing the credit (Georgia, Poland, Romania) (note: compare to EURYDICE survey);
5. attempts to translate old credits based on contact hours into ECTS using various formulae (e.g. Spain);
6. increase of the student workload in some cases;
7. decrease of workload per module but increase of number of assessments;
8. there is no distinction between "learning outcomes" and course objectives;
9. institutions claiming the use of learning outcomes though actually employ only cycle descriptors;
10. rigid implementation of the system when 60 credits per year is seen as a limit the student might take or the minimum the student must attend.

The survey gives a clear message that only the proper implementation and use of ECTS lead to flexible learning paths and student-centred approach.

Now it seems timely to have a closer look into the **National countries' reports** that have been submitted to the BFUG for stocktaking. The countries had to answer 6 questions which will be briefly discussed here. To avoid confusion, only EU and EFTA countries are referred to.

Question	Comments
1. Please include the percentage of the total number of higher education programmes in which all programme components are linked with ECTS credits	The following countries firmly declared that all 100% of the programmes and their components are allocated credits – Belgium (Flemish), Bulgaria, Denmark, Finland, Greece, Hungary, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Sweden, Switzerland, Scotland. It has to be noted that Latvia has confirmed the use of ECTS 100%, thus confusing ECTS and national system, while in Estonia ECTS credit became operational as from 2009 following the governmental decree of 2007.
2. Are ECTS credits linked with Learning outcomes in your	The following countries gave the answer "in all programmes" – Bulgaria, Denmark, Finland, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Slovenia, Spain, Sweden,

country?	England and Wales, Scotland. It has to be noted that the question itself does not discriminate between learning outcomes and cycle descriptors therefore the strong positive "yes" in the cases of some of the countries is strongly questionable by the practice observed in reality.
3. If you use credit system other than ECTS, please give details of your national credit system	The following countries use either their national system or the old system is still in use for what the countries called pre-Bologna programmes – Czech republic (rare cases based on institutional decisions), Estonia, Greece, Latvia, Lithuania, Malta, Spain (only old programmes), England and Wales, Scotland.
4. Are you taking any action to improve understanding of learning outcomes?	All countries have answered "yes" to this question except Slovakia. However qualitatively this activity differs from country to country therefore it is not surprising that such initiatives as discussion on national qualification frameworks on national levels, special national projects (like in Finland) as well as the system of teacher training seminars and publications yield better results than occasional national conferences or the activities of the Bologna experts teams when only a limited number of people might be reached. Incorporation of the use of a learning outcomes based approach into an external quality assurance system might be considered a good practice approach as it creates a coherent system of higher education
5. Are you taking any actions to improve measurement and checking of student workload?	The answer "no" was given by the following countries – Belgium (Valonia), Cyprus, Czech Republic, Denmark, Latvia, the Netherlands, Slovakia, Slovenia. The negative answers by some of the countries were explained, by saying that this has already been done. Only the Belgian report has explained that it is seen (and one might agree with this) as the responsibility of the institution. However a good practice of other countries has suggested that such measures as including student workload calculation into quality assurance and accreditation procedures as well as a clear recommendation on how to include calculations into internal quality assurance mechanism help countries to use ECTS properly.
6. Are you taking any actions to assist HE staff or other stakeholders in applying ECTS?	Only three countries have answered "no" – the Netherlands, Norway, and Sweden. The Swedish report explains that credit is not a new initiative and no extra efforts to explain its use are necessary. Though the initiatives used by the other countries are not innovative and rely mostly on the Bologna experts work and seminars, such activities as a webpage with clear information, teacher training seminars, and employment

	of external experts might be mentioned as the ones meriting attention.

Though the ECTS practices differ from exemplary to surprising in some of the countries, from all that has been said above one may judge that the implementation of ECTS in different Bologna signatory countries presents quite a rosy picture. The general trend in these countries definitely is pro-ECTS and countries' authorities in most cases foster implementation of ECTS through the legal means. However, the correct statement on the credit in the legal act does not mean the correct implementation of the system. The European documents show that different national sources provide different information on the same issue of ECTS implementation - even though they function under the same legal provisions. That shows that the system is not properly understood therefore not objectively reported. It has to be stressed that, stand alone legal act creates only preconditions for debates and beginning of the changes. What is needed is correct understanding of the ECTS on all levels of actors on the higher education scene as well as the whole system that fosters its correct use but is not being prescriptive.

The **Trends 2010: a Decade of Change in European Higher Education** report developed by the EUA (European University Association) rests on quantitative (two surveys) and qualitative (site visits and interviews) methods. The main focus point of the report is Bologna implementation at the institutional level. Therefore the initial research was targeted at 34 national rectors' conferences and individual institutions. The conclusions reached by the report rest on the responses of these target groups: 26 national rectors' conferences, 821 individual institutions representing 15% of European higher education institutions and qualitative data received through the site visits.

The report states that: "…implementation of ECTS continues in European HEIs, but that not all institutions have introduced ECTS in the spirit that guided its more recent development as a system for the transfer and accumulation of credits at institutional and national level" (p. 49). The Trends 2010 states that: "… a majority of institutions report the use of ECTS for credit accumulation, and only England, Wales and Northern Ireland, and Lithuania have an overall majority of respondents saying that they use a different credit transfer system."

Even though the first findings of Trends 2010 seem to show high institutional compatibility with the European policy on ECTS the qualitative analysis reveals the same points of concern as expressed by Bologna Stocktaking report and Bologna with the Students' Eye. The main deviations from the above mentioned "spirit" of ECTS pointed out are:

1. the workload of ECTS credits is still largely related to contact hours;
2. the workload is not consistently estimated or calculated;
3. there is not substantial evidence that learning outcomes are linked with ECTS credits;
4. learning outcomes are confused with the results achieved by students in terms of marks and grades;
5. recognition of credits by the "home" institution is still considered a problem.

It has to be noted that even though the report devotes a separate sub-section for the implementation of ECTS from the one where modularization and learning outcomes are discussed, the proper use of ECTS is inseparably connected to these two aspects, their proper understanding and appropriate use.

The Trends 2010 report gives a good insight into the common problems and pitfalls that face institutions in implementing ECTS. Therefore the report should be of great use for policy makers at both national and institutional levels. The report's emphasis on necessary cultural change that takes time to occur and which, coupled with the need for proper understanding of spirit, philosophy and language of ECTS, should point to the approaches of introducing ECTS that allow for sufficient time and provide financial support. Go over previous sentence again, rephrase. This message should be perceived by all players on HE scene at all levels if the ECTS is to serve as a main tool and "academic Esperanto" in the European Higher Education Area.

ECTS in the national legislation of EU countries

In order to discuss the reflections of ECTS in the legal acts one may take a look at the data gathered by the European Commission for the ECTS Users' Guide 2009. Again, it has to be noted that only EU and EFTA countries were referred to.

Countries	Hours range/academic year	Hours range/credit	Status of the proclamation
Austria	1,500h	25h	Law
Belgium (Fl)	1,500/1,800h	25/30h	Decree (law on the Flemish level)
Belgium (Fr)	1440h	24h	Decree(law of the French Community)
Czech Republic	1,500/1,800h	25/30h	Good Practice, recommendation of ECTS Key Features
Cyprus	1,500/1,800h	25/30h	New Law for Higher Education (under consideration in 2008)
Denmark	1,650h	27/28h	Letters from the Ministry
Estonia	1,560h	26h	University Act law
Finland	1,600h	27h	Act of the Council of State
France	1,650h	25/30h	Recommendation by the University Presidents' conference
Germany	1,800h	30h	KMK (Kultusministerkonferenz = Standing Conference of the Ministers of

			the Federal States). Element of Accreditation
Greece	1,500/1,800h	25/30h	Ministerial Decision
Hungary	1,620/1,800h	30h	Act on Higher Education and attaching Governmental Decree
Iceland	1,500/2,000h	25/33h	No proclamation, but understanding among universities
Ireland		20/30h	Recommendation on the principles and operational guidelines devised by the National Qualifications Authority of Ireland
Italy	1,500h	25h	Ministerial Decrees
Latvia	1,600h		Law
Lithuania	1,600h		Law and Decree
Malta	1,500h	25h	In Educational Act, 2004 and subsidiary legislation
Netherlands	1,680h	28	Law
Portugal	1,500/1,680h	25/28h	Decree 42/2005 of 22 February.
Norway	no range per academic year proclaimed/decision of universities	no range per credit proclaimed	Law
Poland	1,500/1,800h	25/30h	Decree
Romania	1,520/1,640h	25/27h	Order of the Ministry of Education (from 1999)
Slovakia	no range per academic year proclaimed	25/30h	Good practice, recommendation of ECTS Key Features
Slovenia	1,500/1,800	25/30	Law (2004)
Spain	1,500/1,800h	25/30h	Royal Decree (law)
Sweden	1,600h	26/27h	Higher Education ordinance (Government regulation) states full time studies during 40 weeks
Switzerland	1,500/1,800h	25/30h	Swiss University Conference (SUC) Regulation for the implementation of Bologna
Turkey	1,500/1,800h		Law

United Kingdom	1,200-1,800h	20h	National Qualification (and Credits) Frameworks

The table above presents the view on the **legal** basis of ECTS implementation in Europe. Granted, the table does not give information on the use of learning outcomes but gives quite a consistent picture on the notion of credit in terms of workload as it is used or is being implemented at the moment. Even though adoption of legal documents to the effect of the use of ECTS credit does not guarantee its correct application, the moment this decision is made the whole higher education system requires changes, e.g. accreditation procedures and internal quality assurance, programme registration, etc… The challenges of the legal decisions on the national level *vs* the support to implementation on the national level will be briefly touched upon later.

The table also reveals several dominant national approaches to ECTS implementation. The first thing to note is that some countries clearly state the exact absolute number of hours per academic year and per credit while others use a "corridor" approach (1,500-1,800 hours range per academic year and 25/30 hours per credit). The "corridor" approach signals a more flexible and considerate view on credit as well as the appreciation of diversity and needs of different students.

Another interesting thing the table allows to observe is the level of the normative document in the hierarchy of the legal documents. Europe displays such a great variety of approaches to introduction of ECTS that it is quite surprising that the same system is being introduced. The statutes of the proclamations range from laws, ministerial decrees, recommendations of the rectors/presidents, national qualification authorities and simple introduction of good practices as recommended by ECTS key features. Comparing different legal ways of implementing ECTS in various countries to the practices and approaches used within the institutions it becomes apparent that not so much a legal act or broad agreement among higher education institutions decide the way the credit system is implemented. Tradition and education culture that prevail in one or another country mainly decide whether the system introduced serves its purpose and becomes a tool for higher education institutions or is just a political statement to legally keep in forefront of the countries stating curricula reform and affinity with European affairs.

The three main ways/approaches of ECTS credit introduction at national level may be distinguished:

1. Legal – based on law and/or ministerial decrees (strong presence of the state authorities and regulations);
2. Consensus-based – based on rectors'/presidents' conferences, qualification authorities, informal agreement among the higher education institutions of a country (the state authorities are not actively involved, the decision is taken by the immediate actors of higher education system – higher education institutions and/or quality assurance agencies)
3. Recommendation-based – no express regulations from the state and no recommendations. The institutions are free to decide what system to use and

ECTS is seen as a good practice. The institutions relate directly to European documents in the spirit of open co-ordination method.

Each of the mentioned ways deserves brief comments in order to investigate the success of the three approaches.

The legal approach is used by most of the countries: Austria, Belgium (both Flemish and French), Cyprus, Denmark, Estonia, Finland, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Malta, The Netherlands, Portugal, Norway, Poland, Romania, Slovenia, Spain, Sweden, and Turkey.

It has to be noted that the degree of prescription in the legal document with regard to the credit description and its use depended very much on the year of the legal act, realities existing in the higher education of the country as well as the goals pursued by the state authorities. Therefore, the legislation of such countries as Sweden, Norway or Denmark, which used their national credits before, was quite un-prescriptive concentrating mainly on the range of credits and student workload hours per year.

For example the Swedish Higher Education Ordinance amendments issued in 2006 proclaims that: "The scope of the education is to be indicated in higher education credits, with full-time studies for a normal 40-week academic year corresponding to 60 higher education credits" (Chapter 6. The education. Provisions relating to all education. Scope of education. Section 2).

The Norwegian Act Relating to Universities and university Colleges, No 15/1 April 2005 says that: "The academic year is normally 10 months. Teaching terms shall be decided by the board. A full academic year shall be equivalent to 60 credits" (Section 3-8. Teaching. (1)).

The Danish Act on Universities NO. 403, of 2003 is even less discerning by specifying only that: "60 ECTS points are equal to 1 year of a full-time programme" (The University Act; Part 2; 4.2.).

It has to be noted that these documents do not explicitly connect credit to learning outcomes, however the Swedish Ordinance amendments refer to the requirements in terms of learning outcomes that should be met for a certain qualification. These requirements are expressed in basic learning outcomes and serve as reference points to study programme developers.

In comparison, the Italian Decree No 509 adopted by the Ministry for Universities and Scientific and Technological Research in November 1999, is the most elaborate one as part of an extensive higher education reform and the institutions of higher education previously did not extensively use any credit system. Therefore, decree was very explicit on the definition of a credit: "university educational credit (credito formativo universitario) shall mean the learning workload including individual study, required of a student (equipped with adequate initial preparation) to acquire the knowledge and

abilities in the educational activities envisaged by the degree course" (Art. 1. Definitions. 1).

Further on the decree elaborates that: "The university educational credit, hereinafter referred to as a credit, corresponds to 25 hours of work per student. By means of ministerial decree the quoted number of hours for single classes may be increased or decreased within a 20% limit for stated reasons". (Art.5. University Educational credits. 1.). Further on it states: "The average annual learning workload of a full time university student is conventionally fixed at 60 credits" (Art.5. University Educational credits. 2.). On the one hand, the Decree also sets norms for the amount of time for personal studies (not less than half of the overall time) and fixes the rule that credits are obtained only after passing evaluation. On the other hand, it passes full responsibility to the institutions of higher education on such issues as partial or full recognition of credits, periodic check of acquired credits as well as recognition of prior and experiential learning.

Though on the one hand, such a detailed regulation seems to go against the declared autonomy of higher education institutions, the introduction of a credit system in Italy was means and ways to start the reform of the whole national higher education system. The old system which rested on institutional autonomy and elitism of universities led to many years of studies and ineffective use of financial resources. Keeping in mind that Italian institutions of higher education at that time had very limited experience with credits the decree tried to ensure basic common understanding of the credit system and its function. Therefore, its prescriptive nature can be justified and may be considered even helpful at a certain point of history.

It is of interest also to mention the University Organisation and Studies Act (Universities Act 2002) (No 120/20002) adopted by the National Council of the Republic of Austria on 9 August 2002. The Act makes ECTS compulsory by the statement: "The scope of degree programme must be defined in accordance with the European Credit Transfer system (ECTS, Decision No. 253/2000/EC of the European Parliament and of the Council, Official Journal No.L 28, 3 February 2000) and must be expressed in ECTS credits. These credits are to be used to establish the workload required to complete individual course units, whereby the workload must amount to 1500 hours in the first year, for which 60 credit points are awarded" (Part II, Chapter 1, 26). The interesting thing about this statement is that it gives a slightly flawed view on the ECTS system on the one hand, while on the other hand it relies on the decision of the European Parliament, which has no clear guidance on ECTS and its main points, and just fleetingly mentions it as a tool for mobility. The decision No. 253 is on establishment of the second phase of the Community action programme in the Field of education "Socrates".

The interesting thing is that the Act, faulty as it might have been, has served its purpose. Institutions started introducing ECTS, as the knowledge of the system had already floated around. Again, that act has simply played on the character and traditions of the country. Even though the knowledge already existed in the society a certain push and quote of an authority (decision No 253) made the institutions of higher education to react to and act upon their knowledge.

The Finnish experience should be noted for its good practice. The legal framework provided by the Government Decree on University Degrees (No794/2004) established ECTS system by stating: "The measure for the extent of studies shall be a credit unit. Courses shall be quantified according to the work load required. The average input of 1600 working hours needed for studies of one academic year shall correspond to 60 credits" (Section 5. Extent of studies). The Decree makes only fleeting references to learning outcomes, however direct reference is made to the statutes of the European communities dealing with sectoral regulations of degree provisions (e.g. dentistry, pharmacy, surgery).

After the Decree three big national projects were started – two for the universities and one for the universities of applied sciences. These projects were run by the institutions themselves in order to ensure the same understanding of the system across all the institutions as well as to provide them with clear methodological approaches. The two succeeding universities' projects (w5w – 2004-2005; w5w2 – 2007-2009) were coordinated by the Kuopio and Oulu universities and supported implementation of the Bologna process, development of national curriculum and study counselling practices. The national project run by the Finnish universities of Applied Sciences was initiated by the Rector's Conference of Finnish Polytechnics ARENE ry? and concentrated on implementation of the ECTS system and a learner-centred curriculum in comparison to teaching oriented one. It has to be noted that all the measures, i.e: Decree, and the three projects mentioned above had very clearly articulated references to the Bologna process and the developments in European higher education. All the measures adopted helped to create an outreach to the institutions of higher education and to develop common understanding of the educational reforms and realities.

So, to briefly summarize the legal approach to the introduction of ECTS in different European countries, one may safely state that the precision and prescriptiveness of the legal acts adopted by the countries depended on the experience of the institutions as well as traditions, collaborative culture and mental framework of the countries in which these institutions function.

The consensus-based way of introducing ECTS at national level was used by such countries as France (Recommendations by the University Presidents' conference); Ireland; Switzerland (Swiss University Conference); and the United Kingdom. It has to be noted that the dominant approach to the changes in these countries are driven by the philosophy shared between the governments and the institutions that the right to teach and to choose what and how to teach constitutes the most important element of academic autonomy. The institutions, being sensitive to the requirements of accreditation as well as taking into account validation challenges by professional organizations are keen to establish a common language and tools for communication among themselves, the professional world and Higher Education Institutions abroad. The credit system – ECTS or ECTS compatible (as in the UK) - has served this purpose.

Higher education systems in both Ireland and the United Kingdom have developed quite detailed and elaborate methodological material on the use and application of the credit which have been issued as national guidelines rather than legal requirements. Both systems entrusted the work to the working groups with clear authorship. Both systems give clear references and explanations on student workload and notion of learning outcomes. Both of them are expressively linked to national qualification and credit frameworks. Both Irish and British (English, Welsh, and Scottish under the same umbrella) systems are guided by the same educational philosophy employed by ECTS and rest on the same main elements employed by the system – student workload based credit related to learning outcomes; however, a closer look at the systems allows one to detect different features that give each system its unique character.

While comparing those two models – legal and consensus-based – of ECTS implementation one might be surprised that the consensus-based model provides much more elaborate methodological support for the institutions as the implementation of the credits system is seen as a tool to ensure coherence and response of higher education to the needs of society. A consensus-based model, as a rule, is permissive rather that prescriptive and is more likely to be easily accepted by the institutions as it develops profound understanding of the system adopted and tools implemented. Compared to the legal path of introducing ECTS it gives methodological guidelines that may be easily adapted and changed in reaction to the changing reality and needs. At the same time the methodological guidelines developed under the consensus-based model provide clear reference points for the accreditation of the programmes. Naturally the accreditation requirements cannot go against commonly understood, accepted and acted-upon methodology.

In this light the Finnish experience merits still greater attention as it combines both the legal and consensus-based model – very broad "prescriptiveness" with methodologies developed by the institutions of higher education.

The recommendation-based model is being used by the Czech Republic, Iceland, and Slovakia. This model leaves the decision on introduction of ECTS in the hands of each particular institution. The institutions look up directly to the European (not national) level for the recommendations and methodological issues. Such guidelines as ECTS Key Features and ECTS Users' Guide are the main documents guiding the institutions. In other words, the issue of the introduction of the credit system seems to have been overlooked at national level and the institutions tend to lean towards informal consensus-based model. The institutions enjoy the freedom to interpret and introduce an ECTS credit system based on European level documents. The very fact that ECTS is being introduced in these countries is very telling. The institutions feel the need to communicate among themselves and the professional world. They are not forced to accept the law or bow to consensus, yet the tendency to use the ECTS credit system is clear and judging by the ECTS/DS label application results these countries my offer some good practice example.

To finalise, it has to be said that each country has chosen its own way of introducing the ECTS system. Even though the Bologna process was the main driving force behind many solutions and national legal acts, each country has chosen the ways that most suited its co-operational-cultural-traditional framework and its goals. In many ways the paths chosen have influenced advancement of implementation and the level of institutional awareness of the intricacies of the ECTS system. This issue will be dealt with in the next part.

Part II

Implementation of ECTS at higher education institution level

Implementation of the European Credit Accumulation and Transfer System (ECTS) at higher education institution level faces several problems. These problems spring from the fact that proper implementation of the system requires the change of approach to the design and management of the study programme rather than mechanical introduction of a few new elements that have not been earlier explicitly referred to in the study programmes. The student oriented approach is at the core of the Bologna reform and the ECTS system. There is no hiding the fact that this student oriented or output rather than input based approach attract heaviest criticisms from Bologna skeptics. ECTS is blamed for many imaginary things among them taking all rights from professors and giving them to the students. This resistance to and criticism of the system is very indicative and bringing to surface very deep layers of educational cultures and traditions prevailing in European higher education systems. In this imaginary "struggle" for student-professor supremacy in higher education the critics overlook the essence of the ECTS. "Student oriented" in ECTS language is not about the power and leadership in the classroom it is about the shift from the dominant **approach** to study programmes and teaching which is **based on the available expertise of teachers** to the **holistic approach** when the final goal and outputs (programme learning outcomes?) are well defined and give clear perspective for both students and professors.

For many European higher education systems and institutions ECTS brought not only new philosophy that will require time to take roots but also the need to use new elements in their approach to study programmes design: (1) student workload; (2) learning outcomes and competences; (3) use of ECTS credits. This part of the booklet will briefly discuss these three elements, how the use of these elements is addressed at the level of a higher education institution, and is reflected in institutional regulations.

The main ECTS elements

Student workload

Perhaps the most difficult problem is estimation of a student workload required to achieve the objectives of a study programme or in ECTS language – learning outcomes of the

programme. Therefore the topic of student workload requires closer attention in the present publication.

The first scientific field that the term "workload" was used was the human science to express the standards of efficiency of the employees. Some years later the computer science used the same word to indicate the volume of data that a computer could manage and the number of the numerical actions it could perform, in a certain time. There are some other definitions of the term "workload" in the scientific world. In Tuning Project by student workload one estimates the amount of time students spend in order to fulfill the demands of their studies in a *typical academic week* time. Student workload in ECTS consists of the time required to complete all planned learning activities such as attending lectures, seminars, independent and private study, preparation of projects, examinations, and so forth.

Although workload is a useful proxy for measuring the amount of learning required to achieve learning outcomes of the course it is the responsibility of the course examiner and moderator to ensure that tasks required within a course are appropriate for the times allocated in the student workload. However this is not so easy. It is well understood that the amount of time required to complete learning activities differs among the various fields. The amount necessary for individual work of students is not the same between arts and science??? If it is all 60 ECTS credits per academic year, the time involved should be about the same, but the time spent in labs or independent study, for instance may vary greatly between subject areas/fields/disciplines. Moreover, numerous factors influence workload; learning environment, expected academic outcomes, ways of teaching, cultural differences, students learning approach are just some of them, as well as the way the students themselves perceive workload. The perceptions of students for the aspects of courses can often differ greatly depending on the intentions of the designer of the study program or the expectations of the teacher. A number of researchers claim that it's the students' estimation of their workload that we have to take into consideration, more than any objective index. It seems that students' perceptions are affected by both the extent of their interest in a topic and the level of difficulty of the study of the topic. These two variables are related. Some researchers have found that students tend to regard themselves as carrying heavier workload the greater the number of separate sources of information or reference they are asked to consult in a given period. The same feelings can be derived also by psychological factors associated with family difficulties, illness, etc. There is strong support for the opinion that workload is directly connected to learning and teaching procedure in every field of the education. Heavy workload tends to be the most frequent reason of impermanent or even permanent interruption of studies. First year students especially, tend to lack/loose their interest, evolving feelings of anxiety whenever they find difficulties with a part of a course. (for more details see, e.g., Alexandros Tampakis and Evangelos Vitoratos, Estimation of student workload. Correlation of teaching and learning methods with examination results. A case study. Proceedings of the 2009 EMUNI Conference on Higher Education and Research, Portorož, Slovenia, 25-26 September.) Footnote

Students' perceptions of workload usually are monitored within courses through the evaluation surveys and at the end of a program through various questionnaires. It is

confirmed that there exists a strong relationship between students' perceptions of workload and the quality of learning. Students' perception of workload has an effect on the way they approach their learning and, hence, the quality of their learning. Research over a number of years shows that students who apply a reproductive approach to learning usually rely only on rote learning and memory for assessments and worry about the time the task is taking. Perceptions of workload are also exacerbated by conflicting or confusing course content and poor student to student and/or teacher to student relationships. Students with perceptions of a heavy or inappropriate workload tend to experience pressure or stress. Therefore, managing students' perceptions of workload can assist students to develop effective learning and study practices, and indirectly may improve student learning outcomes. Some recommendations on how to manage students perceptions of workload that can be found in scientific literature are summarized in Annex I.

A good and interesting example of a case study focusing on problems related to actual student workload and responsibility for time spent studying is given in the paper STUDENT WORKLOAD – STUDENT OR TEACHER RESPONSIBILITY; CASE STUDY IN HIGHER EDUCATION, SLOVENIA by Jasna Kržin Stepišnik, Olga Kolar, DSc. Nada Trunk Širca, DSc. Dušan Lesjak, presented at the 20th international congress on Effectiveness and improvement. See the short summary of the case study in Annex ….

The ECTS Users' Guide defines the term "workload" as: "Indication of the time students typically need to complete all learning activities (such as lectures, seminars, projects, practical work, self-study and examinations) required to achieve the expected learning outcomes".

The project "Tuning Educational Structures in Europe", supported by the European Commission, has devoted a lot of attention to the problem of student workload. As has already been mentioned the Tuning projects were developed ECTS from a credit transfer to credit accumulation system. As Tuning focuses on learning outcomes and general (generic) competences and subject related competences it shows that approaches to teaching, learning and assessment have an impact on workload. Tuning has offered a very broad and non-prescriptive methodology on determining student workload. It has to be noted that the methodology has been tested and agreed upon by great numbers of European higher education institutions. Therefore, it could be claimed that Tuning offers a methodology that has been checked and agreed upon on the European level. Tuning has identified a four-step approach in determining student workload within the study programme.

I. Introducing modules/courses units	There are non-modularized systems and modularized systems. In a non-modularized system each course unit can have a different number of credits although the total for one year will still be 60. In contrast, in a modularized system the course units/modules have a fixed workload, 5 credits for example, or a multiple of this number. The workload of a module is based on the total amount of tasks a student is expected to do as part of the overall programme of study. These tasks are defined with a view to the learning outcomes to be achieved, and the time (work hours) a student needs to achieve them. For example, a module of 5 credits allows for around 125 hours of work of a typical student.
II. Estimating student workload	Each module is based on a number of educational activities: types of courses: lecture, seminar, research seminar, exercise course, practical, laboratory work, guided personal study, tutorial, independent studies, internship, placement or 'stage', fieldwork, project work, etc. types of learning activities: attending lectures, performing specific assignments, practicing technical or laboratory skills, writing papers, reading books and papers, learning how to give constructive criticism of the work of others, chairing meetings, etc. types of assessment: oral examination, written examination, oral presentation, test, paper, portfolio, thesis, report about an internship, report on fieldwork, continuous assessment, etc. Teachers estimate the time required to complete the activities foreseen for each course unit / module. The workload expressed in time should match the number of credits available for the course unit. Teachers must develop suitable strategies to use to best advantage the time available.
III. Checking the estimated workload through student evaluations	The most common method to check whether the estimated student workload is correct is the use of questionnaires to be completed by students, either during the learning process or after the completion of the course.
IV. Adjustment of workload and/or educational activities	Monitoring process or an updating of the course content might lead to an adjustment of the workload and/or of the educational activities of the course unit/module. In a modularized model it will be necessary to adjust the amount of learning material and/or the types of teaching, learning and assessment activities, because the number of credits (e.g., in our example, 5 or a multiple of 5) is fixed. In a non-modular model also the number of credits can be changed, but this will have an effect on other units, because the total number of credits of the programme of study is fixed (e.g. 30 per semester, 60 per year etc.). An adjustment of workload and/or activities is required anyway when student workload does not correspond to the actual workload.

The offered methodology clearly shows that determining student workload is not a one-time task but requires constant monitoring. Any changes of course content or educational activities might require adjustments involving the whole study programme therefore most of the colleagues that teach in the same programme. This approach to determining and adjusting student workload (through content, activities, assessment) in order to reach learning outcomes of the programme or course unit within the estimated /allocated time makes the ECTS approach to study truly student-oriented.

As a more discriminating guide to student workload calculation may be found in the book by Asko Karjalainen, Katatiina Alha and Suvi Jutila, ***Give me time to think. Determining student workload in higher education***, Oulu University Press 2006, ISBN 951-42-8020-2. The book considers various aspects of student workload and may offer some advise for those who start implementing the ECTS system, Lithuanian universities included. The Finnish study time is similar to that used in Lithuania. It is based on the norm that a student's annual working time is 1600 hours, which is divided between courses and study modules so that all the academic years are commensurable. The two semester system involves the student spending approximately 800 hours per semester studying for a degree. Studies should be planned so that the student is able to study full time approximately 160 hours during a study month (corresponding to a calendar month). One working week is five days long and consists of approximately 40 hours of work. If the student studies effectively for 10 months a year, he or she is expected to study 40 hours a week. If the student's working (studying) time on the annual level is 9 months, then the approximate weekly amount of working hours is 44. In Finland it is recommended that on the working week level, the calculation should follow *the minimum rule*, i.e. that approximately only half of the weekly hours can be used for contact teaching. In other words, there can only be about 20 hours of contact teaching per week. Students must always be provided time for their assignments, other independent work and *the thinking process* needed for learning. It is also possible to design studies so that the number of contact teaching hours increases or decreases the standard 20 during a week or period, which is then compensated during another week or period. A more detailed summary of the book may be found in Annex…

Learning outcomes and competences

There still is a lot of confusion between the two terms "learning outcomes" and "competences" as in different context these two terms are used with a slightly different shade of meaning that ranges from complete inter-changeability of the two terms to different meanings that bring different implications while designing the programme. It has to be noted that on a meta-level the terms are often used as similar and/or interchangeable, while at the study programme level, as a rule, one may find a clear dividing line between the two.

The ECTS Users' guide of 2009 describes competences as: "A dynamic combination of cognitive and metacognitive skills, knowledge and understanding, interpersonal, intellectual and practical skills, ethical values and attitudes." Fostering competences is the

object of educational programmes; they should be formed/developed in various modules/course units and assessed at different stages.

The same ECTS Users' guide describes learning outcomes as "Statements of what a learner is expected to know, understand and be able to do after successful completion of a process of learning" (ECTS Users' guide, 2009).

In other words, the learning outcomes are the property of the study programme that indicate aim and content of the study programme ?? Describing Los like this may be confusing for people who think that Los are aims and objectives… .Learning outcomes show the level of competences that are reached)at module or course unit level or academic year level or at programme level) They are expressed through the competences and show their level while competences belong to students and after the graduation are taken out by the students to their working environment. Learning outcomes specify the requirements for award of credit. They are formulated by academic staff. The actual competences acquired by the individual learner may, of course, go beyond the stated learning outcomes.

Another confusion stems from the fact that learning outcomes and 'aims and objectives' are often used synonymously, although they are not the same. Adam (2004) notes that 'Aims are concerned with teaching and the teacher's intentions whilst learning outcomes are concerned with learning' and Moon (2002) suggests that one way to distinguish aims from learning outcomes is that aims indicate the general content, direction and intentions behind the module from the designer/teacher viewpoint.

However, learning outcomes and objectives are more difficult to distinguish as objectives can be written in terms that are very similar to that used in learning outcomes. Indeed, in the UK polytechnic sector in the 1970s, objectives were written that identified what students should be able to do; this was well before they were known as learning outcomes.

Universities and study programmes are encouraged to describe learning outcomes at degree and course unit/module levels. But writing learning outcomes is a great challenge to university staff in most countries as, on the one hand, it requires different approach to study programme design and well established team-working culture within the university. On the other hand, there is a clear need for guidance and exchange of experience on writing and using learning outcomes in different languages and cultural settings.

Refer somewhere in this part also to the new Tuning publication on Programme Learning Outcomes

The use of ECTS credits

Having discussed the two main elements of the European credits accumulation and transfer (ECTS) system – student workload and learning outcomes, a few words on the

use of credits within the institution is in place. Some basic facts have been mentioned in the first part of the booklet while describing history of the ECTS.

It has to be noted that according to the ECTS the following basic rules should be observed by a higher education institution while setting the rules for the usage of ECTS credits.

1. Credits are allocated to all educational components of a study programme (such as modules, courses, placements, dissertation work, etc.) and reflect the quantity of work each component requires to achieve its specific objectives. Student workload in this context is very important notion.

2. Credit may be allocated to all types of study programmes, irrespective of their length, composition or nature. Programmes may consist of year-long modules (depending on a notion of modules used) or shorter courses. They may cover work placements and research. They may be first, second or third cycle. Credits can also be used for stand-alone courses offered to learners not engaged in a full cycle programme of study.

3. Credits in ECTS can only be obtained after successful completion of the work required and appropriate assessment of the learning outcomes achieved.

The proposed way of credit allocation is to base the allocation of credits to the different components of a study year on a realistic estimation of the student workload required for the average student to achieve the learning outcomes established for each of the components. One has to make sure that the total number of credits for one academic year is 60. Subsequently, one has to check the original allocation of credits on a regular basis by gathering and analyzing bottom-up information on actual student workload.

There might be another way to credit allocation. The staff team decides what subjects/modules merit the same amount of working hours and allocate the same amount of credits. Then it is must be decided what can be done and achieved in let us say 125 – 150 working hours for 5 credit module. These two modules should be compared after having the data of two years in order to answer the main question whether both modules really require the same amount of time and the estimated workload for the modules is realistic. The necessary adjustments should follow if necessary.

It has to be noted that there is not an easy way to allocate credits correctly and to be sure that workload estimations and credits will be right in the first attempt. This is a long and careful process requesting student feedback, is analysis, and proper teamwork spirit of the teaching staff.

ECTS methodology clearly indicates that there is no direct link between contact hours and credits. For example, a lecture hour may require three hours of independent study by the student, while a two-hour seminar might involve a full week of preparation. A student-workload based system like ECTS therefore cannot be based on contact hours,

even if a university uses the indication of the number of contact hours for other purposes, such as calculating staff time.

Likewise linking credits to status or prestige of the course is not the right way to allocate credits. ECTS credits only express student workload measured in time. They say nothing about the status of a course unit or the prestige of a teacher. For example, an introductory course might require more student time than an advanced one. The specific characteristics of each course unit should be described in the Information Package/Course Catalogue.

The correct use of all ECTS elements and of credits is essential for proper understanding of what takes place in one or another programme or one or another educational system. As already mentioned the knowledge and correct use of the system fosters advancement in such fields of academic life and cooperation as recognition, quality assurance, recognition of experiential learning, establishment of joint degrees, and mobility.

Despite the numerous different settings in which credits are used to the advantage of students and study programmes, the two main application spheres remain dominant from the student perspective – credit accumulation and credit transfer with the aim to obtain a qualification. The higher education institution regulations are the best indication how these issues are solved at each particular institution and whether the credit system brings benefit only to programme designers or also to students.

Higher education institutions' credit frameworks and regulations on the use of credits

All institutions of higher education are governed by internal regulations that provide general framework and basic rules within the institution. Even though the institutions in a certain given country might be governed by the same national laws and regulations the reflection of these in every institution of that particular country display a number of differences depending on the institutional culture and profile. Therefore, some glimpses of how the three main challenges – student workload, learning outcomes and use of credit – are regulated by the institutions themselves seem to be in place in the present paper.

It has to be noted that the internal university/institution regulations, as a rule, exist mainly in the national languages. Therefore the obvious target universities to be analyzed were those that obtained the ECTS label (footnote explaining the label). One of the requirements of the label was publicly available information, or to be more exact, institutional level regulations on the credit allocation methodology and use of a credit. Still at many institutions granted the ECTS label in 2009 and 2010 the regulations are in their national language and only brief statements that the credit is based on the student workload are available on their webpages.

Having discussed three credit system introduction models in the previous sections – legal, consensus-based, and recommendation-based - some available examples of higher

education institution regulations have been chosen in order to get an idea of how far the institutions themselves regulate the use of credit system.

Legal model and institutions of higher education

To have a closer look at how the legal model of introduction of the system has been "assimilated' by the institutions of higher education four institutions holding ECTS label have been chosen:

1. University of Agder, Norway;
2. Arcada university of Applied Sciences, Finland;
3. University of Aarhus, Denmark;
4. University of Bologna, Italy.

It should come as no surprise that regulations at each institution display a completely different approach to regulating the use of credits and different level of prescriptiveness in respect to employment credits and learning outcomes. The main feature uniting all the four examples of regulations is that all of them make very clear and strong references to the legal acts of the country. In the cases of Arcada university of Applied Sciences and University of Bologna these references are included into the texts of the institutional regulations while both Adger and Aarhus universities publish national legal acts on their webs as separate general framework documents.

It has to be noted that **Agder university** gives no description of either credit or learning outcomes but uses these terms as already established and requiring no special explanation. Chapter 2, paragraph 11 *Academic responsibility* states that: "All study programmes and courses should as a rule have one faculty which has academic responsibility for the study programme/course". This makes it obvious that the main responsibility of the intricacies of the teaching/learning work is devolved to the faculties and the academic staff. The regulations pay more attention to the course size which is set at the scopes of 5, 7.5, 10,15,20,25 or 30 credits with the provision that the Board can permit other courses sizes if these are necessary for cooperation with other institutions or national curriculum. Modes and frequency of assessment are also given considerable attention setting up to 2 smaller examinations for the courses with a scope of up to 15 credits and allowing up to 3 smaller examinations for bigger units than 15 credits. In general, university regulations together with the national legal act provide a broad framework for the university staff to deal with academic issues related to employing credit and learning outcomes for setting up the university studies.

Arcada university of Applied Sciences, providing polytechnic education, is an institution that offers only first and second cycle degrees. The institutional regulations make direct reference to the Act on Polytechnics (351/2003) and the Decree on Polytechnics (352/2003) and subsequent amendments of these national documents. However, the institutional regulations clearly state that: " An academic year is divided into 4 periods and is 60 ECTS credits in scope with the workload distributed as evenly as possible over the 4 periods. An academic year involves a work contribution of 1600h on the part of the student and the curricula should be designed so that a student can earn at

least 60 ECTS credits during an academic year." This statement shows that the credits are not linked to the learning outcomes. However the regulations provide general learning outcomes for bachelor and master degrees. These are broad statements that, again, are referred to the amendments of the Decree on Polytechnics and serve as reference points to the study programme developers. The Paragraph 8, *Courses,* of the regulations, that sets the scope of the course "at least five ECTS credits", also sets requirements for the course description and the need of stating "the expected learning outcome" while Paragraph 15, *Assessment of study attainments,* states that: "The examination requirements should be in accord with the learning outcomes expected in a course".

It could be noted that the regulations make reference to the most important components of the ECTS system, however they do not make obvious the methodology used to employ and connect them. The basic rules of the use of credits are not mentioned either, but this could be due to the fact that credits have existed in the Finnish higher education system and there seemed to be no need to state the obvious.

University of Aarhus offers an interesting case for discussion as it offers academic regulations for every single study programme. As in the case of Agder university, the Aarhus university webpage contains the full text of the Ministerial Order Concerning the Act on Universities (The University Acts) as the main text for the reference. The academic regulations for each study programme stem directly from this document (with repeated references to it) and provide detailed description of a programme in terms of:

1. The academic direction and primary subject areas of the programme;
2. Academic skills and qualifications;
3. Authority (references to national legal acts);
4. Admission requirements and prerequisites;
5. Transitional rules;
6. The structure of the programme;
7. Individual degree programme disciplines and examinations;
8. Other rules and regulations (e.g. credit and flexibility, registration and withdrawal, exemption, appeals and complaints, etc.) with numerous reference to national legal acts.

It has to be noted that these rules do not provide any explanations on credit allocation methodology. Both study programme and course/module descriptions employ the notion of competences but not the learning outcomes and the connection between the student workload necessary to develop them are not explicit. In other words, though this approach – designers of the study programme relating directly to national legal acts – seem to provide a lot of academic freedom. Presenting the minute and detailed regulations sets for each study programme the academic staff itself decides what level of freedom and flexibility it wants to retain.

University of Bologna regulations give a very clear set of regulations on the use of the ECTS system. The regulations start with clear definitions. The most important for the present paper being:

"University Educational Credit**,** hereafter Credit, shall mean the overall learning workload, including the individual study, required of a student (equipped with adequate initial preparation) to acquire the knowledge and skills envisaged by the relevant degree programme."

"Learning outcome shall mean the set of skills and knowledge which characterize the cultural and professional profile envisaged by the degree programme."

"ECTS (European Transfer and Accumulation System) shall mean the set of regulations approved by European countries for the transfer and accumulation of University credits between European universities."

Having established the common understanding of the terms used the regulations go further in stating the request that specific learning outcomes should be determined by "adopting the system of criteria promoted among European countries. The learning outcomes are identified after prior consultation with the relevant professional categories and highlight the specific nature of the course unit."

The rights to establish study programmes are devolved to Faculty Teaching Committee that, among other things, has to "ensure coherence between the credits assigned to the course units and the expected learning outcomes."

The university regulations reiterate the Ministerial decree by stating that: "each university credit corresponds to a workload of 25 hours, including lectures, practical exercises, laboratories, seminars and other teaching/learning activities (including the hours of home study)." The workload for home study is fixed not lower than 50% of the overall workload.

The Article 16 of the university regulations deals with the general rules of use of credits - request to allocate them to each course unit, recognition of previous studies, and transfer of credits.

It could be said that the University of Bologna regulations provide common understanding and a broad but clear framework on of the use of ECTS system within the university. This is truly a European document with clear references to European developments and national regulations. The strive to ensure coherence between student workload and learning outcomes as well as the bodies responsible for it are clearly identified. The document is in the spirit of the ECTS philosophy giving guidance for the internal quality assurance and the route the university intends to take and develop.

The examples of the universities representing legal model of ECTS introduction clearly speak to the fact that there is no and cannot be a uniform way of approaching introduction of ECTS at the institution. To what extent prescriptive, how, and what regulations are developed depend on many factors: legal acts, higher education system, (in)correct use of credits before the ECTS (based on student workload or not), institutional culture and internal rights and responsibilities of the staff within the institution and other realities.

However the introduction and use of the system should cater not only for the new, student oriented, approach to study ideology but also to internal quality assurance. By this it is meant that, for example, University of Bologna regulations give hints as to the elements the internal quality assurance of the institution should pay attention to. The right approach and positioning of the credit system within the institution helps to create coherence in approaching other institutional challenges and mainly quality assurance issues.

Consensus-based model and institutions of higher education

To analyze how a consensus-based model of credit system implementation is reflected in the institutional regulations two different universities have been chosen at random. The random approach has been used because there are no institutions holding the ECTS label which represent the consensus-based model to ECTS introduction. The two institutions that were taken as an examples are:

1. University of Kent, United Kingdom;
2. University College Dublin, Ireland.

One has to bear in mind, that the countries that employ a consensus based model for credit implementation have developed a quite detailed and, one could say, sophisticated methodology and guidelines for the institutions of higher education. The analyzed examples show that in most cases this "national level methodology" has been further elaborated at the institutional levels adapting it to the institutional need and traditions.

The institutional regulations of the **University of Kent** give reference to the *University of Kent Credit Framework for Taught Programmes.* It is a very comprehensive document dealing with the main elements of the credit system – credits (workload) and learning outcomes – and rules of the use of credit in different stages of student progression and/or learning path.

As the United Kingdom uses ECTS compatible system only a brief look at the University of Kent credit framework will be offered. The credit framework states that: "Each programme of study comprises an approved set or sets of modules and is divided into a number of stages. Each module is at a specified level and a student is awarded a specified number of credits at that level following successful completion of the module."

A very important fact here is that credits have levels that should be clearly specified and that framework is very particular that "each module must be at one, and only one" of the listed levels while many European systems just start talking about the very broad framework of course/module levels or sub-levels of a study programme. In many educational systems levels are mostly defined by the cycles of study – bachelor and master.

The University of Kent Credit Framework clearly defines the meaning of the study programme elements that are used in designing the programme:

"One credit corresponds to approximately ten hours of "Learning time" (i.e. including all taught or supervised clsses and all private study and research). Thus obtaining 120 credits in an academic year of 30 weeks require 1200 hours of learning time, equivalent to 40 hours per week".

"A module is a self contained component of a programme or programmes of study with defined learning outcomes, teaching and learning methods and assessment requirements. The university has agreed that each module should normally correspond to a multiple of 15 credits, i.e. to 15, 30, 45… credits…". One has to be reminded that that the university uses a UK system which is ECTS compatible, i.e. one academic year is agreed to correspond to 120 credits.

The University of Kent regulations pay particular attention to the use of credit. From the simple and basic statements that: "A student who successfully demonstrates via assessment that he/she has achieved the specified learning outcomes for a module will be awarded the number and level of credits prescribed for a module. Assessment methods vary between modules and assessment is designed so that achievement of the pass mark or above will demonstrate achievement of learning outcomes" the regulations deal with numerous aspects of using credits. Such issues as "ageing of the credits" (when credits are eligible towards an award for maximum of 8 years), condonement (award of credits in the event of serious medical of personal problems of a student), compensation (award of credits when student marginally fail the module but the average grade is comparatively high) are addressed by the Credit Framework document.

The regulations include broad frameworks of student progression rules and rules for credit transfer. Student progression rules are quite detailed and based on the accumulated number of credits rather than marks and number of courses (the latter being a very common case in many EU institutions of higher education). The regulations clearly state that: "Where a student is granted exemption from part of the programme of study on the basis of credit transfer, the marks obtained by the student for such prior learning will not be used for classification purposes…". This statement shows how deeply "credit thinking" is embedded into institutional culture and practice and should draw closer attention of those institutions which still insist the only way to measure student's achievements is the grade, and it has to be expressed in their institution's grading scale/system.

It should be noted that that University of Kent *Credit Framework for Taught Programmes* is very consistent in using the term "credit" alongside the term "learning outcomes". Likewise, it creates a very broad framework which helps the university staff to treat all their students applying the same rules. The institutional Credit framework sets no requirements for the study programmes themselves, except for clarifying the concepts, such as: credit and module. The issues of the study programmes are dealt with at the departmental levels.

University College Dublin approach is interesting and valuable because besides precise and, at the same time, quite broad regulations the institution (as all Irish institutions) use ECTS and makes directs references to the system.

The General regulations start with clear definitions of modules and credits. Some of the definitions should be briefly commented upon.

"A module is a coherent and self-contained unit of learning, teaching and assessment, which comprises a definite volume of learning activity, expressed in terms of learning outcomes, which are in turn linked to assessment tasks. The volume of educational activity is expressed in hours of student effort and it is linked directly to the credit value."

"An undergraduate module size of 5 ECTS credits is standard across the university. Larger modules (10, 15 or 20 ECTS) are permitted for specific educational purposes, but normally only at level 3 or above."

"Graduate taught modules (excluding research and dissertation modules) may be delivered in sizes of 2.5, 5, 7.5, 10,15 or 20 ECTS credits."

The interesting fact is that the size of the module has wider boundaries/margins the higher the level of studies. This approach should allow greater flexibility for mature students therefore greater diversification of study programme profiles. By the way, the level of modules is defined as: "The level of a module is an indication of the level of difficulty of the learning outcomes and the material that will be encountered, and broadly indicates the stage in an academic career when a student is likely to attempt the module."

In defining the credit the regulations refer directly to ECTS saying that: "The European Credit Transfer System (ECTS) provides a framework to clarify the relationship between educational activity and credit value. It was developed to facilitate educational mobility for students and inter-institutional co-operation amongst higher education institutions within the European Union. One ECTS credit corresponds to a norm of 20 to 25 hours of total student effort." With the next sentence mentioning that student effort includes all the activities in the process of learning the above quotation is the only definition of a credit.

It is interesting to observe that the definition makes direct reference to the European level without mentioning Irish credit methodology, and… slightly bends/adjusts credit value definition for its own purposes, i.e. the norm of 20-25 hours of student effort per credit instead of the European norm of 25-30 hours per credit is mentioned.

The general rules of the university use ECTS terminology (e.g. pre-requisites; co-requisites; core, option, elective modules, etc…), but of course, they address institutional needs and traditions with much greater discrimination than ECTS methodology lets on, though not so much prescriptivenes as to hamper and intervene with the study process and study programmes design which is the responsibility of the academic staff. Even the so called "programme specifications" i.e. descriptions of the programme, observe the basic requirements given in the ECTS Users' Guide for such descriptions.

A good example of student workload calculation is provided in the University's *Standardised Timetabling Framework* for the UCD (University College Dublin) modularised curriculum.

This document outlines the preferred option for a common timetabling framework for the new modular curriculum at UCD. The document addresses two major policy issues: the need for guidance on the range of class contact time appropriate for a 5 ECTS credit module; the value and necessity of introducing a standardised 'slotted' timetable framework for all programmes at UCD, without which student opportunities would be greatly limited by timetable conflicts.

The document goes on to describe the proposed approach to implementing the common timetabling framework. It is explained that the framework itself may change as required by the implementation process, but the general principles will remain as presented in the document.

The following principles are declared in the document:

The ECTS system defines the student workload per credit (20-25 hours per credit (the EU norm for a full-time semester load is cited to be based on 40-50 hours of student effort per week over a 15 week semester (which includes teaching, revision and assessment time). This gives a total student effort of 600-750 hours for a semester. The successful completion of a semester leads to the award of 30 ECTS credits, so that 1 ECTS credit corresponds to 20-25 hours of student effort, and 5 ECTS credits should require 100-125 hours student effort. Given that it is unlikely and even undesirable that students will work more than 40 hours per week, UCD will adopt the norm that 1 ECTS credit corresponds to 20 hours student effort so that 5 ECTS credits requires 100 hours student effort)) but does not prescribe how this should be divided between classes, assignments and independent study. However, the development of a timetable requires some guidance as to the class contact hours associated with each module. It is a fundamental principle that learning depends upon the activities and engagement of the learner, and the role of the teacher is to facilitate successful learning activities and behaviors. It is important in curricular design to provide the right amount of learning in the classroom, yet leave space for independent learning on the part of the student. The proposals contained in this policy document attempts to strike this balance.

Internationally, the following activities are considered equivalent on the basis of student effort:

- 1 hour per week lecture, tutorial or seminar which requires an additional 2 hours of student effort outside the classroom;
- 2 hours laboratory or practical work, where 1 hour work is expected outside the laboratory to complete an assignment or report, or review the material covered in the session;
- 3 hours per week laboratory or practical work, where no additional work outside the laboratory is required on assignments, reports or reflection.

A 5 ECTS credit module will typically comprise between 24 and 36 hours of lectures, seminars or tutorials depending upon the amount of independent activity expected of the student) or the equivalent of 24 to 36 hours where classes and practicals/laboratory sessions are combined. A 5 ECTS credit module should not exceed 36 hours of lectures, seminars or tutorials, or their equivalent (A module with 36 hours of lectures, each requiring 2 hours independent study, corresponds to 108 hours student effort. A module with 24 hours lectures and 12x3 hour practicals also corresponds to 108 hours student effort).

The following class contact hours would, therefore, be acceptable for an individual 5-credit module:
• 24-36 hours of lectures, seminars or tutorials;
• 24-30 hours of lectures plus 6 tutorial, practical or laboratory sessions;
• 18-24 hours of lectures plus 12 tutorial, practical or laboratory sessions.

However, it should be recognized that where most or all modules in a programme use the upper limit of class contact time, there is a high risk of overloading the student. A student pursuing 6 modules each requiring attendance at 36 lectures will be in the classroom 18 hours per week, while a student pursuing 6 modules with 24 lectures and 12 2-3 hour practicals is occupied 24-30 hours per week (a programme with 6 modules each requiring 108 hours student effort over 15 weeks requires a student to work a 42 hour week). These workloads will not leave sufficient time for independent learning or for essays assignments and projects unless the nature of the course requires a limited amount of private study. This would not be appropriate for more advanced modules especially, and Programme Boards will be required to monitor the total workload expected of students and take appropriate action.
Where module designers are considering developing with 36 hours of lectures, there may be educational advantages and there are certainly logistical advantages in holding the number of lectures at 30, and this approach is encouraged. Similarly, where courses involve extensive laboratory work, consideration could be given to reducing the lecture hours in some 5-credit modules to 18 hours.

After having analysed the two examples of the two universities from the different educational systems but the same consensus-based approach to the introduction and the use of credit system one may draw a number of conclusions. Again it has to be reiterated that both – UK and Ireland – have nationally agreed on and very broad methodologies of credit systems. The examples analysed show that the institutions adapt and develop these methodologies to their own needs or, as in the case of College University Dublin, refer directly to the European level methodology in order to define basic terms employed in their institutional system. It has to be noted that both examples show a very high and sophisticated use of a credit system. What is most important the regulations refering to credits and credit systems are used not as straight-jackets for the academic staff to design programmes but as means to convey the routes and rules of student progression in seeking their degrees. The academic requirements for the study programmes are described in broad terms and remain the responsibility of the academic staff.

Recommendation-based model and institutions of higher education

The recommendation-based model of introducing the ECTS credit system in the system of higher education is characterized by the absence of express regulations from the state and any particular recommendations at national level. As already previously mentioned the institutions are free to decide whether and what credit system to use and those deciding to introduce ECTS refer directly to European documents.

How introduction of ECTS is reflected in the documents at the higher institution level may be illustrated by the examples of the two institutions – ECTS label holders:

1. Brno University of Technology, Czech Republic;
2. University of Economics Prague, Czech Republic.

Brno University of Technology (BUT) declares that "the rules regulating organization of study programmes are contained in the internal directives of the BUT" however *Study and Examination Regulations* publicly available on the university's webpage give a fair view of the university's approach to the ECTS.

The following statements give clear indication on the breadth/scope? and the level of prescriptivenes in establishing the understanding of a credit:

"The assessment of the course of study in bachelor's and master's degree study programmes at the BUT is executed through a uniform credits system (hereinafter referred to as "ECTS"):

a) one credit represents 1/60 of student's average yearly load in a standard study period,
b) each course within respective study program is assigned a number of credits, which represent relative amount of student's load required for successful completion of particular course in particular area of study,
c) on successful completion of the course defined according to Article 6 a student obtains a number of credits assigned to respective course…".

This quotation allows drawing several conclusions. Though ECTS is mentioned, the system is not properly explained. The description of the credit, though technically correct, stems from the early descriptions of the credit – i.e. pre-Bologna ECTS which was mainly used for transfer purposes. No concrete absolute value is attached to the BUT credit in the regulations, however this does not automatically mean that the academic staff does not have it established.

It has to be noted that the Article 6 enumerates forms of assessment (examination, colloquium, pass/fail evaluation) but makes no reference to the learning outcomes. Learning outcomes are not mentioned at all in this document, however, as an afterthought, the webpage of the university carries a public statement:

"Credits are allocated according to the study workload needed to achieve expected learning outcomes in individual courses. The total number of credits for one semester is 30 (60 credits per year).
Primary allocation of credits depends on contributions on individual courses to a week's study workload of 40 hours covering lectures, exercise, seminars, projects, training, self-study and examinations. Initial numbers of credits are corrected every year on the basis of the actual study workload of students in individual courses."

Actually, this statement, though aimed at showing that all ECTS elements are employed (workload and learning outcomes) only proves that the use of learning outcomes is still in the initial states of discussion at the institution.

It has to be noted that the regulations encompass the basic rules of the use of ECTS credits for students' progression, and devolve all the rights and responsibilities for the study plans to the "Study Program Boards". To have a better understanding of the quality of the credits system used at the university one has to look at the study programmes themselves.

University of Economics Prague regulations actually refer to ECTS but do not elaborate much on the ECTS elements. Therefore the quotation below is the only reference to the credit system used:

"The completion of obligations in study is evaluated using a credit system compatible with the principles of ECTS.
The total number of credits required for completion of study in the study program corresponds with a thirty-fold of the number of semesters of the standard period of study thereunder."

The rest of the regulations mostly deal with student progression rules, credit transfer rules which correspond to those promoted by the ECTS and grading. However, the institutional framework does not provide clear and coherent description of a credit used in the institution. Learning outcomes are not referred to in any part of the document.

The examples of the regulations of the two institutions belonging to the national recommendation-based ECTS introduction model show, that the institutional framework to the main ECTS elements, credits in particular, is so broad that it is of no methodological use for the academic staff. The teachers should go to the European level documents to come into grips with the understanding of how ECTS credit should be understood and employed for programme design purposes.

The quality of the ECTS system used remains under question precisely because of the lack of the clear and transparent institutional framework.

Conclusions

The reader may wander why so much attention is being devoted to the institutional frameworks of ECTS at the higher education institution level. The answer is very simple and very complicated. The bigger the institution - the greater is its disintegration as well as strife for independent decisions within the faculties/departments. As a rule, academic staff perceives the institution from a particular faculty position, ignoring the fact that from the outside the institution is perceived as a whole not as selection of separate units. Therefore each institution has to be governed by the same basic rules and standards they agree on, that provide transparency to outsiders and leave a lot of space for the academic freedom.

Regulations on the institutional credit frameworks should serve exactly this purpose. They should provide basic rules which govern student progression and study process. The simpler and clearer such regulations the more re-assured the user is of the institution's services. These users, of course, primarily are students, that should expect to be treated, at least formally, in the same way irrespective of the faculty or department they have chosen to study at a particular university.

The analysis of the regulation of the eight institutions that have been fleetingly introduced here does not allow drawing far-reaching conclusions. However, some things became obvious:

1. The model adopted by the national higher education system for the introduction of the ECTS credit system has no direct influence on the level of implementation and understanding of the ECTS at the institutional level. For the quality and the usefulness of a student workload based credit system it appears not to matter whether or not ECTS is fully enshrined in law. Legal acts provide just a general framework which, if not followed by the clear methodology, is of little help to the institutions that just start implementing ECTS.
2. The most helpful (to both students and staff) and coherent are the regulations of those institutions that belong to the national systems that have well established credit framework and credit employment methodology, i.e. at present, countries with consensus-based model – Ireland and UK; this indirectly might lead to the conclusion that the consensus based model better suits higher education culture.
3. The institutional regulations that concentrate on and explain the basic elements of the ECTS system as well as the use of credits help to ensure correct understanding of the implemented system across all units and may foster inter-faculty initiatives.
4. Very broad statements in the regulations that the university uses with regard to the ECTS system are very welcome being political and strategic, but are of little use to the institution in general as they shows no general practice applied and send no messages to the end users. The academic staff in particular that has to employ and apply various elements of the system has to be aware of the commonly agreed institutional boundaries in employing the system, its benefits to the programme developers and students.
5. The use of credits based on student workload necessary to achieve learning outcomes requires profound understanding of the system by each member of the academic staff. There exists no unique formula to calculate student workload that should be applied to all study field and all study programmes. Likewise the

learning outcomes of the course units/modules should be coherent among themselves as well as with those at the study programme level. Hence, institutional regulations should foster common understanding of and cater for the needs of different study programmes taking into account many controversial and painful issues, such as profile of the programme, available resources (in the broadest sense), the level of students and others.

6. Finding the right balance in the regulations between maintaining the framework and avoiding prescriptiveness requires deep understanding and knowledge of the credit system used and the academic "philosophy" it is based on. The institutional credit framework should be seen as a window that allows the look outside as well as inside the institution – to tell the others what is going on in the institution, and to show that the institution knows what it is doing.