Student Workload and Learning Outcomes based Credit System: The example of Engineering

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Credit

In **1989**, European Credit Transfer System (ECTS) was introduced as a pilot scheme in the ERASMUS programme.

Objective: *facilitate academic recognition for the ERASMUS students by providing instruments for increased transparency and comparability, to assist recognition and portability of credits obtained in partner institutions.*

Key Features

- Student-centred system based on student workload.
- Achieve objectives (learning outcomes) of a programme of study.
- 60 credits = workload of a full-time student during one academic year.
- Around 1500-1800 work hours per year.
- 25-30 student work hours per credit.

What is a credit?

- Learner workload = time required to complete all planned learning activities.
- Credits are allocated to all educational components as a function of workload.
- Workload = contact hours with teachers, individual study, laboratory activities, group work, writing reports, tests and exams

Calculate Workload?

* Have an idea on how much required time each student spends in each learning activity.
* Consider enough time for effective learning and reflection.
* Base workload calculation on previous surveys from student reports.
* Expect significant standard deviations among student workloads.

Example

Activity	#	Hours	Workload
Lectures	20	2	40
Seminars	15	2	30
Lab work	7	2	14
Curriculum, articles (3,3 pages per hour)	200	0,3	60
Curriculum, book chapters (5 pages per hour)	100	0,2	20
Term paper Presentation of term paper (including preparation for the presentation)	1 1	40 4	40 4
Project work	1	60	60
Preparation for exam (One fifth of the time frame given in the curriculum)	1	80	80
Written exam	1	3	3
Total			421
Conversion to ECTS credits (hours/1600x60)	15,7 credits		

Civil Engineering Survey of Workload

* 1800 Students – 5 year program
* Sample of 10% students of each year
* Reporting each week during one year
* Dedicated staff
* Statistical treatment
* There is no correlation between contact hours and workload

Civil Engineering Survey of Workload (cont.)

* Workload varies among years
* Students work less than 40 hours a week during classes
* Type of assessment is correlated with workload
* Grades are not correlated with workload
* First and last years students have higher workloads
* Credit allocation was not realistic when base don contact hours

Conclusions

* Credits in ECTS need to be monitored constantly according to workload
* Transfer of credits among schools needs to consider the form credits were calculated
* Students need to be involved in the defintion of credits allocated to each unit
* Feedback from students is fundamental in a student centered learning

THANK YOU!

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