

Examination of the new units of study in Creative Technology

General observations about TOM (Twents Onderwijs Model)

TOM means for the university of Twente to have programmes of study for bachelor's degrees which are built of units of study with a study load of 15 EC (420 hrs). So every bachelor's examination at the University of Twente will consist of 12 units of study.

Teaching and examination of each of these units is offered in a 10 weeks period (quarter), except the final project module (bachelor's thesis) and modules in parallel to the final module, which take a 20 weeks period (semester).

Important considerations to adopt this model (**not** the organizational or financial ones) are:

1. Studying units in series, and not in parallel is more effective
2. Integral assessment of students over a larger spectrum of goals is desirable, and better than testing and marking separate units.
3. In larger units the options to offer the students "learning in context" (which is translated into: learning in projects) are better than they are in smaller units.

Curriculum changes CreaTe

In 2013-2014 we will see a major change in the Creative Technology curriculum.

As a consequence of the introduction of TOM (twents onderwijsmodel), all units of study of the first year will have a study load of 15 EC (420 hrs). These 15 EC units are called *modules*.

So the first year will consist of four units only, and each of these units will be taught and examined in a ten weeks period.

In the Creative Technology practice of next year, these four modules will cover (roughly) the contents of the existing courses in the four quarters of this year. E.g. the second module of the first year of .CREATE^{TOM} will be combine Sketching, Physical Computing, Introduction to Mathematics and Modelling, and Smart Environments.

Later we will have a further discussion about the details of these "mergers" of existing courses into a single unit. A minor detail in these discussions, but not unimportant, will be the names of the mergers.

In fact, in the change of next year we emphasize aspect 2 of TOM, and postpone aspect 1. Aspect 3 is a core aspect of Creative Technology anyway.

This note is about the examination of 15 EC merger units only.

Examination of units of study, the general view

By law, the examination of a unit of study consists of two parts:

Testing the student, i.e. gathering data about the student's knowledge and skills in relation to the contents and learning goals of the unit;

Evaluating the test outcome,(i.e. the data gathered), and giving a mark

The most common form of test is the questionnaire, i.e. the written test.

Less common is the oral interrogation.

Other ways to gather data about the student's knowledge and skills are becoming more common and more important. In many cases the students hand in essays, or they present (in text or by any other means) a product or prototype. Even peer reviewing can be a way of testing the students' knowledge and skills.

Interestingly enough the law says that the data gathering part of the examination (including the right to a “second chance”) must be laid down in the Teaching and Examination Regulations. These regulations are set by the programme director, under the authority of the faculty dean. We may interpret this as follows: it is an essential part of the security and transparency of students on their way to a diploma to know how the tests they must take are organized (including re-sits), and the dean is supposed to guarantee this security and transparency (or to appoint someone for that task).

But the evaluation of test outcome is not within the powers of the dean (nor of the programme director). The examination board appoints examiners, and may set guidelines and/or give instructions to these examiners, the examiners evaluate and give marks, taking these guidelines and instructions into account..

Obviously this will work only if the examiners can influence the way in which the tests are organized.

Examination of “merger” units of study

If the units of study are large, and within the unit one can distinguish different subjects (or, to put it bluntly: the larger unit is in fact a merger of smaller units), a number of questions arise regarding examination.

1. Do we organize the tests (the probing) separately per subject, i.e. along the lines of the merged units, or shall we have integral tests covering all subjects?
2. If we have separate tests per subject, can we have re-sits per subject?
3. How does evaluation of test results work. If we separate in subjects, will there be separate evaluations and marks per subject, and how do these separate evaluations and marks add up to an integral evaluation and a mark for the whole unit (adding up is used metaphorically)?
4. What will be the re-sit policy for the whole unit (in addition to a policy for sub tests in different subjects, as under item 2.)?

We will give a tentative answer to each item in this list (text in italics below). The OLC advice is sought for each item (and its tentative answer).

INTEGRAL TESTS VERSUS SUBTESTS PER SUBJECT.

Although integrated testing is what TOM wants, it seems unrealistic to expect that we can have a solid system of integral testing next year. We probably should change the nature of the units (less merger, more unit) to achieve this.

So:

There will be subtests along the lines of the (old) merged units, organized by the expert teachers for that subject.

RE-SITS FOR SUBTESTS

University policy allows the separate registration of sub test results. But it would be against the spirit of the module concept to treat these registrations as if they represent results for separate courses, with separate resit policies. On the other hand, it makes sense to organize testing in such a way that a student gets an opportunity for repair. (This would mean that testing takes place throughout the 10 weeks of the module, and that a student can offer corrections to earlier responses at a next test. One single final test at the end of the 10 weeks period is not intended)

So

There will be no resits for subtests, but the subtest will be organized in such a way that, if necessary, students get a chance to deliver additional proof of their knowledge and skills within the module period (the 10 weeks the module is taught and examined).

EVALUATION OF TEST RESULTS

The examination Board will appoint a number of examiners for each module, one of them is appointed to be **the** examiner of the module. These examiners with final responsibility we call *module-examiners*.

Evaluation of test results takes three steps.

Firstly the examiners evaluate and mark the test results per subject (=old unit). NOTE: Portfolio is a subject in each module, and the tutor is an examiner.

*The module examiner combines the sub results into a final mark, **following the instructions of the examination board.***

If the mark is sufficient, the module examiner sets this mark to be the mark for the module. The evaluation is complete.

If the mark is not sufficient, the module examiner re-evaluates the student's results (in consultation with other examiners), and decides whether or not the student is entitled to have a supplementary test. If not, the insufficient final mark is the mark for the module

If the supplementary test is granted, the examiners review the results of this test, and set the mark for the module, taking their evaluation of the supplementary test into account. A second supplementary test (or a resit of a supplementary test) does not exist.

It is possible for the module examiner to postpone the supplementary test to a later date, but never longer than 10 weeks after the end of the original module.

This whole procedure requires that the examination board issues instructions (also incorporated in the RET) how to deal with results of subtests to determine a final result for a module.

Issues that arise are:

Is there a minimum mark that must be scored for each subtest (e.g. each subtest ≥ 5) in order to have a sufficient final mark?

Is there a maximum to the number of sub results that can be insufficient (e.g. at most one result $< 5,5$) while still leading to a sufficient final mark

Will the final mark be an average or a weighted average, or is there a totally different algorithm?

It also requires (from an administrative viewpoint) that for each module $n+2$ sub test results are registered. (n subjects, 1 tutoring, 1 supplementary test)

RE-SIT POLICY FOR MODULES

In accordance with university policy there will be no option to re-sit the module.

If the mark for the module is insufficient (even after a supplementary test), the student has to take the module again, next year, including all tests in all subjects. This is university policy.