University of Venda

A Brief Guide

To

DETERMINING WORKLOAD IN RELATION TO CREDITS AND NOTIONAL HOURS

Institutional Planning and Quality Assurance Directorate

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1. INTRODUCTION

As part of our planning for a new module/course, we have to calculate workload in relation to credits and notional hours. The concept of the *credit* (also referred to a credit points or credit weighting) has been adopted in South Africa and developed as an indicator of volume of teaching and learning. It is integral to the function of the National Qualifications Framework (NQF) to improve coherence of the higher education system and facilitate the articulation of qualifications. It establishes common parameters and criteria for qualification design and facilitate the comparability of qualifications across the system.

It is important to note that credits are increasingly becoming a requirement when seeking study oversees. The "CAT" system (Credit Accumulation and Transfer) is already in use in the UK, and is currently in preparation in South Africa. Credit accumulation and transfer (CAT) is "the process whereby a student's achievements are recognised and contribute to further learning even if the student does not achieve a qualification. In terms of the CAT scheme, any and all credits for an incomplete qualification may be recognised by the same or a different institution as meeting part of the requirements for a different qualification, or may be recognised by a different institution as meeting part of the requirements for the same qualification. Individual mobility between programmes and institutions is thus determined by curriculum requirements and is flexible" (HEQSF, 2013:11).

In terms of Section 13 (h) (ii) of the NQF Act, SAQA is responsible for developing policy and criteria, after consultation with the QCs, for credit accumulation and transfer. "In the interim, a maximum of 50% of the credits of a completed qualification may be transferred to another qualification, provided also that no more than 50% of the credits required for the other qualification are credits that have been used for a completed qualification. The purpose of this provision is to avoid the awarding of multiple qualifications for the same work undertaken and to ensure that qualifications with different purposes are not embedded within each other. As exceptions, and subject to limits, credits for a completed qualification may be recognised by the

same or another institution as meeting part of the requirements for another qualification" (HEQSF, 2013:11).

Central to these requirements is the need to identify expectations about the amount of teaching and learning undertaken in a programme or qualification. The designs of programmes make assumptions about the volume of learning that is likely to be necessary to achieve the intended outcomes. This measure of volume is expressed in terms of study time, for example the number of academic years required, or the number of notional hours of study expressed in credits (HEQSF, 2013:9-10). Using clearly stated outcomes or competencies and calculating notional hours in relation to them is international good practice from Australia to India to the United States to the new European Union initiative in determining workload.

The South African Qualifications Authority (SAQA) introduced the concept of credits related to 'notional hours' as part of a system of outcomes-based education (OBE). SAQA equates one credit with ten notional hours of learning. Notional hours are defined in terms of the amount of time it takes for the average student to achieve the learning outcomes. One interesting aspect of notional hours is that the concept looks at workload from the students' perspective. We do not look at how much content we would like to teach but at how much time it takes the average student to achieve deep learning of the knowledge, skills, attitudes and values that are embodied in a particular module/course.

2. DEFINITIONS

2.1 Qualification

A qualification is the formal recognition and certification of learning achievement awarded an accredited institution. This is the degree, diploma, or certificate that an accredited provider awards to student on the successful completion of a programme of study (HEQSF, 2013:6).

The learning outcomes of all South African qualifications should include critically cross-field or generic outcomes/skills to promote lifelong learning as well as discipline, domain-specific or specialised knowledge, skills and reflexivity.

2.2 Programme

A programme is a purposeful and structured set of learning experiences (i.e. the teaching, learning and assessment activities) that leads to a qualification (HEQF, 2013:7). A programme may comprise of a number of modules. A programme could be drawn from a single discipline or it could be derived from two or more disciplines. Programmes may be discipline based, professional, career-focused, trans-, inter- or multi-disciplinary in nature. A programme has recognised entry and exits points. All higher education programmes must have a core component. In an outcomes-based approach, a programme is designed to enable students to achieve pre-specified exit level outcomes. The purpose of a programme gives rise to its learning outcomes and structure.

2.3 Module

A module is a coherent collection of classes which together form a discreet segment of a programme of study. It is a discrete learning experience that is described by explicit learning outcomes assessed at a named level. Modules may be subject to prerequisite or co-requisite conditions.

A module is a learning component (building block) within a programme of study for a qualification. A qualification comprises fundamentals, core and / or elective modules. A module is further described in terms of the number of credits that it contributes to a qualification. The learning outcomes, content, and delivery and assessment methodology must be defined such that the appropriate credit and level can be ascribed. A module has the following characteristics:

- It is an identifiable teaching/learning component that may be undertaken in a year, in a semester or shorter period as determined by the credit allocation.

- A module has its own purpose; outcomes and assessment criteria which should be aligned with that of the programme.
- Student's performance in the component is assessed and recorded in the central record system of the University.
- The component has a unique identifying "module code" that is assigned to it in the institution's central record system.

Two sets of credits are associated with modules: the DHET funding credits, and the SAQA credits representing notional hours of learning on a specific level.

2.4 Credit

Credit refers to a quantified means of expressing equivalence of learning. A credit is awarded to a learner in recognition of verified achievement of a unit of learning, usually measured in hours of study or achievement of threshold standard or both. Credits are a measure of workload of typical student based on the necessary to complete a given teaching/learning unit. They are an indication of the 'volume' or 'weight' of the outcomes of learning which make up a programme.

Credits can also be referred to as a quantified means of expressing the equivalence between programmes of learning, or an award made to a learner in recognition of the verified achievement of designated learning outcomes at a specified level.

Credit is usually expressed as a numerical value linked to (notional) learning time. Commonly, 1 credit point is allocated for 10 notional hours of learning. However, the definition of (notional) learning time may vary.

2.5 Notional Learning Hours

Notional learning hours are the estimated learning time taken by the 'average' student to achieve the specified learning outcomes of the course-unit or programme. They are therefore not a precise measure but providing students with an indication of the amount of study and degree of commitment expected. Notional learning time is equal to all activities required for the achievement of a set of outcomes, and this might include any or all of:

- Formal learning
- Informal learning
- Practical work and practice to gain and refine skills and knowledge
- All forms of assessment and preparation for assessment

Notional Learning time is not about how long individual learners take. It is not a precise (scientific) measurement. It must involve comparisons, must be based on expert judgment and is dependent on series of rules of thumb. It should be validated by use and acceptance.

2.6 Level Descriptors

The CHE describes Level Descriptors as an attempt to describe the nature of generic achievement, its complexity and relative demand at each level of a qualifications framework. Level Descriptors are thus broad generic qualitative statements against which more specific learning outcomes can be compared and located. Sets of level descriptors can be used in a general way to determine the pegging of qualification types on a framework, but because they describe learning across domains and learning pathways, level descriptors are, by definition, general and indicative, which means that they can never be prescriptive or fully comprehensive. They simply serve to provide a share understanding of the education and training advancement achieved at each level. Thus it is important to understand the NQF Levels and their level descriptors serve only as general reference points for more specific curriculum decisions. These levels of learning need to be re-described more specifically for different qualification types, variants and specializations and recontextualised in the learning outcomes for particular programmes and qualifications. They are nevertheless essential for the articulation and progression functions of the NQF (New Academic Policy 2001:85-6).

3. THE TYPES, DURATION, LEVEL AND CREDIT VALUE OF THE UNIVERSITY'S PROGRAMMES

Simply indicating volume of learning gives no indication of the nature of learning or level of competence the degree requires. Some attempt at providing an indication of these more

qualitative elements lie elsewhere in the South African Qualifications Framework (the NQF). Notional hours and credits operate within the overall system of the NQF, which in its simplest form, looks like this for Higher Education:

Table 1. Types, Level, Credit Value and Duration of university qualifications

Programme Type	NQF Exit Level	Min Total credits	Minimum credits at particular NQF levels	Min Years F/t	Min Years P/T	Min Research Credits
1 Higher Certificate	5	120	120 @ Level 5	1	2	0
2 Advanced Certificate	6	120	120 @ Level 6	1	2	0
3 Diploma 240-credit	6	240	120 @ Level 6	2	3	0
4 Diploma 360-credit	6	360	120 @ Level 6	3	4	0
5 Advanced Diploma	7	120	120 @ Level 7	1	2	0
6 Bachelor's degree 360-credit	7	360	120 @ Level 7	3	4	0
7 Bachelor's degree 480-credit	8	480	120 @ Level 8	4	5	0
8 Postgraduate Diploma	8	120	120 @ Level 8	1	2	0
9 Bachelor Honours Degree	8	120	120 @ Level 8	1	2	30 credits
10 Master's degree	9	180	120 @ Level 9	1	2	60 credits
11 Professional Master's degree	9	180	120 @ Level 9	1	2	45 credits
12 Doctoral degree	10	360	360 @ Level 10	2	4	360 credits

3.1 The NQF Level

The level Indicators (NQF Levels 5-10) are linked to Level Descriptors and help 'peg' a qualification on the National Qualifications Framework. For a Bachelor's Degree, Level 5 is equivalent to 1st year level modules/courses, Level 6 equivalent to 2nd year level modules/courses provided that all 120 credits are offered at Level 6, and Level 7 (the exit level for a Bachelor's degree) is equivalent to 3rd year courses. For our purposes, this means that Level 5 Higher Certificate is roughly equivalent to the 1st year of a university degree. This does not mean, however, that a holder of a Higher Certificate gains automatic entry into 2nd year of a Bachelor's degree, but rather that they may do, depending on whether or not they meet the requirements for prior learning in place for the relevant second year courses.

That said, one must be careful of identifying academic years with NQF levels in too direct a manner. Using Diploma -360 and 240 credit as an example:

- A 240 credit Diploma is not automatically a two-year qualification that exactly equates with second year of a bachelor's degree;
- A three year Diploma must have 360 credits, of which at least 120 are at level 6 on the NQF. In all probability the size and shape of a 360 credit Diploma will be three years;
- A person completing the requirements for a Diploma may (provided they otherwise meet the entrance requirements) be admitted to a cognate Bachelor's degree at Level 7.

3.2 Minimum Credits per Qualification

This column (see Table above) indicates the minimum credits required to achieve a qualification (the minimum volume of teaching/learning required), and the minimum number of credits that may be designed for the exit level of the qualification.

4. CREDIT ALLOCATION

SAQA's formulation acknowledges that it is impossible to treat all students equally, hence the concept of the 'average student'. Students vary in innate abilities, background, educational achievements, etc. Each student will thus spend a different amount of time on a module/course but should be encouraged to move at a pace that meets the lecturer's expectations of the amount of work that should be completed by a certain stage of the module.

Practical work and service learning may increase the amount of time spent on a module/course but, as students are assessed during these sessions, the other types of assessment could be reduced to balance the situation.

When working in a semester system we have to plan and estimate differently from when we are working in a year system. We have to ask ourselves if the average student really spends 120

notional hours on a twelve-credit module/course in a semester system if the way we plan the learning facilitation and assessment do not oblige him/ her to do so.

'Credits' are thus an indicator of the volume of learning required for the completion of a module/course/qualification and are based on the concept of a '*notional hour'*. A *notional hour* includes any activity in which a student is involved that relates to their mastering of an outcome (e.g. this could include: set readings, contact hours, preparing for and writing an assignment, individual study, assessment, and so on). Credits are independent of the mode of teaching and learning (e.g. face-to-face; distance; on-line; etc.). The standard of *TEN notional hours* equaling *ONE credit* has been adopted following the models in the UK and Australia.

The calculation of credits in terms of workload is a difficult issue. The number of hours of student work required to achieve a given set of learning outcomes depends on student ability, teaching and learning methods, teaching and learning resources, curriculum design. Different approaches are used to calculate the student workload, the one mostly used to calculate the workload is:

- The total number of contact hours for the course unit
- The number of hours per week X number of weeks
- Preparation before and finalizing of notes after the attendance of the lecture / seminar;
- The amount of independent work required to finish the course successfully

Independent work can contain the following items:

- The collection and selection of relevant material;
- Reading and study of the material;
- Preparation of an oral or written examination;
- Writing of a paper or dissertation;
- Independent work in a lab;
- Preparation for contact teaching sessions (revising course material, preliminary exercises, other intellectual training)
- Doing task/exercise given during teaching time;

- Doing assignment;
- Other spontaneous work

Two applicable teaching methods are contact based learning and self-directed (virtual teaching).

Contact-based Learning

- Information transmission (lecture, demonstrations)
- Activity based teaching (guided exercise, active demonstrations, seminars)
- Assignment based teaching (research project, home essay..)
- Literature based learning

Self-direct (Virtual teaching)

- Via a computer network in electronic learning environments
- Teacher/tutor is present via electronic instrument, students working with computer, searching for material, reading and writing (electronic) materials
- No face-to-face contact (distance learning)

4.1 Method for Credit Allocation

The calculation of workload in terms of credits is not automatic process. The SAQA formula is 10 national study hours per credit. List all the activities required, including assessment and how long the average student should take to accomplish these. Divide the total number of notional study hours by 10. It is assumed in South Africa that the generic annual academic calendar consists of 30 weeks, and that on average a learner spend 40 learning hours in a programme-especially in the case of full-time student.

The formula for a 120 credit qualification is as follows:

- 1 SAQA credit X 30 (weeks) X 40 (hours) = 120 (notional hours)

For this formula, it is clear that a 120 credits learning programme ***cannot*** be completed in 6 months by a part-time student. In a case where a part-time student can afford to complete a 120 credits learning programme, it is a clear that the academic standards and the integrity of the learning programme is compromised.

Notional learning hours

Notional learning hours are not a precise measure but provide students with an indication of the amount of study and degree of commitment expected. Notional learning time includes the following:

- Teaching contact time (lectures, seminars, tutorials, laboratory practicals, workshops, fieldwork etc.)
- Time spent on preparation and carrying out formative and summative assessment (written coursework, oral presentations, exams etc.)
- Time spent on private study, whether in term-time or the vacations.

The steps in estimating workload for a twelve –credit module of 120 notional hours (adapted from UNISA model)

STEP 1

Calculate the number of week's students will have available and the number of hour per week that would entails for a twelve-credit module with 120 notional hours of work for the average student. Academic should indicate the time allocated of teaching and learning methods/activities used for a module (use Table below):

Table 2. Time allocation for a module

Contact –based Leaning			**Self-direct Learning**		
Activities		Hours	Activities		Hours
L	Lectures		SS	Reading (self-study)	
T	Tutorials		R	Research	
P	Practicals		E	E-learning	

S	Seminars		O	On-line learning	
G	Problem-based Groups		R	Revision	
W	Workshop		A	Assignments/Projects	
FT	Field Trips				
FP	Field placement				
I	Clinical work /Internships				
WB	Work-based placements	Self-directed Total			
SL	Service learning				
A	Assessment				
	(Exams and Tests				
Contact-based Total				Total hours	

STEP 2

List all possible activities: reading, tasks/ activities, listening, viewing, tutorials, satellite, videoconferencing, group discussions, service learning, assignments, peer collaborative learning, interviews with counselors for study or career guidance, online forums, etc. (Check Table1)

STEP 3

Calculate the reading load of guides, assignments, tutorial letters, textbooks, recommended reading. Here are a number of benchmarks from research carried out by various institutions:

- UNISA research (Pretorius and Ribbens 2005; Matjila and Pretorius 2004; Pretorius and Bohlmann 2003) suggests that the average first-year student, from a background where reading was neglected, might be able to read fairly easy material at about 100 words per minute but with really low comprehension. This research also found that students coming from backgrounds where reading was promoted might be able to read twice as fast and comprehend two or three times more than the week reader.

- The Central Queensland University estimates that 'a reasonable study rate range from less than 5 pages per hour from conceptually difficult text to about 10 pages an hour for reasonable text (Nouwens 1997)
- Welch (1998) also gives data from the UK including the Open University, which range from 8 to 20 pages an hour. In the UK most students probably have English as their primary language and that has to be factored into the higher reading speeds.

Based on this information, let us use five to ten pages an hour as a norm and 7.5 pages as the average for a first-year student, from whom English is not a primary language, studying a reading text with comprehension – reading and re-reading, and taking notes. It is then a question of looking at the number of pages in a guide and a textbook that are predominantly text and calculating the number of notional hours students would need to read those texts with comprehension. The number of words per page might differ for the study guide and the textbook. Do a quick calculation for each, using a page that contains mainly text. The time to understand complex diagrams that make up space and require additional processing can be calculated separately, as can be the time to work on equations or other calculations.

Tool for calculating the workload for a module of twelve credits or 120 notional hours

What follows is a list of (potential) activities for a module (assuming 90% of students are using English as additional language).

Activities	Estimated student time in hours
Reading and comprehending study guide of 200 pages, including note-taking (at five to ten pages an hour; average of 7.5)	27
Reading and comprehending textbook of 200 pages, including note –taking (average of pages an hour)	27

Reading and comprehending Tutorials Letter 101 of 50 pages (average of 7.5 pages an hour)	7
Completing activities in guide and reading feedback	20
Completing self-assessment in guide and reading feedback	4
Attending tutorials/group visit/ satellite broadcasts/ videoconferences at learning centre(preparation and attendance) (Nadeosa benchmark: 10% of notional hours for contact)	(12)
Completing four assignments (five hours to produce 200 words, half on reading) : (Nadeosa benchmark 15% of notional hours on formative assessment = eighteen hours) • Reading • Drafting and revision • Writing/typing final copy	20
Reading and comprehending other tutorial letters	8
Listening to tape	(1)
Viewing a video	(1)
Participating in three online discussion forums (four substantial contributions per forum = two hours per forum plus reading others' contributions =two hours per forum = total of twelve)	(12)
Peer collaborative learning	(5)
Study / career counseling	(1)
Practical / laboratory work / service learning	(12)
Revision	5
Examination	2
Total	120 (164)

Based on this estimate, the module is overloaded in terms of input from text so that a blended approach that includes multimedia and student support activities becomes impossible. There

are activities and formative assessment opportunities, which is good, but the module caters only for the independent student who learns well from text. Students who learn better from interaction, practical opportunities or audiovisual media are disadvantaged.

Using a three-year bachelor's degree as an example

A three-year degree is weighted at a minimum of 360 credits. This means that a student must complete courses/modules to the value of 360 credits in order to obtain a bachelor's degree (Please note that credits do not reflect performance, but the time expected of a student to meet requirements of the course/module.

Credits do not suggest that time spent registered for a course guarantees a pass. Equally, simply amassing a variety of credits does not guarantee a degree – the student must meet all other requirements for the degree structure and assessment). Practically this means a student must complete 120 credits per year. In terms of notional hours this means that a three year Bachelor's degree should be planned around 3600 hours of teaching and learning, or 1200 hours per year divided up over the (on average) 30 teaching weeks including examinations. Using such a guideline is intended to help lecturers balance the teaching and workload of a module/course and to guide students in assessing the approximate workload expected of them – in this instance 40 to 50 hours per week over a 15 week semester.

Obviously, this is an approximation, as there is a wide range in the number of hours that different students study for the same course/module, and that there is little correlation between the number of hours studied and achievement. However the informed estimate of 10 hours per module/course per week does not seem unrealistic. This model also assumes that the ratio of contact time to notional self-directed learning time will decrease the further students' progress through the system. So for example, assuming a first year with 120 credits, and four full courses/modules, if UNIVEN were to weight a 1st and 2nd year module/course at 30 credits

for a full course (thus a semester course would carry 15 credits). Thus a first year course could be structured as follows:

Social Work 101 + 102 (30 credits: i.e. one of four courses/modules a student takes in his/her first year)	300 hours over 30 weeks (including examinations) = 150 hours per semester = 10 hours per week
For example this course could be designed as follows: 4 lecture contact hours 1 tutorial 5 hours of set readings, tutorial preparation, self-directed study, etc. per week.	

5. WHAT DOES THIS MEAN FOR CURRICULUM DESIGN

In practice it is a lot less bureaucratic than it appears. Credit weighting (linked as it is to the NQF, Level Descriptors and Notional Hours) could help lecturers to be in a better position to make an informed judgment about modules/courses and qualifications from other institutions, but it also could help in the design of a new, or revision of an existing module/course and learning programme.

- Lecturers can plan modules/courses using the concept as a guideline to relative weighting of contact hours, online-learning, self-directed learning, assessment task etc.;
- Lecturers can use the credit weighting to help make students aware of what is expected of them both in terms of level of competence, and in terms of time management and utilization;

- Lecturers can use credit weighting to help avoid the problems associated with one module/course consuming an excessive amount of students' time through reading/assessment loads;
- Lecturers can use credit weighting to ensure an evenness among courses across a degree or learning programme, and even across the university's degree and programme offerings;
- Lecturers can use credit weighting to make transparent the increasing responsibility for self-managed learning as a student progresses through a degree or a learning programme (for example, in a Bachelor of Arts, most students register for two majors, yet must still complete 120 credits worth of learning in that year. In most cases contact hours could remain 4-5 per module, per week, leaving 35036 hour per week for independent learning, compared with a first year doing four courses, and therefore being expected to do only around 20 hours of self-managed learning).

Lecturers are expected to use 10 notional hours per module/course per week as a guide to guard against excessive workloads.

6. CONCLUSION

How the notional hours are structured depends on the requirements and interests of the subject/discipline/department/school/lecturer. There are a few points to note here:

- The Higher Education Qualifications Sub-Framework (2013) clearly states that credit weightings assigned are minima;
- Any use of notional hours must be aligned with stated purpose of the module/course, outcomes, assessment methods and criteria, and stated teaching methods;
- Resource and teaching/learning implications must be taken into consideration in the selection of any combination or use of notional hours.

Staff members at the Institutional Planning and Quality Assurance are available to discuss the use of Credits and Notional Hours in module/course design. Lecturers are invited to contact the IPQA to make such arrangements.

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