THE UNIVERSITY OF ZAMBIA
QUALITY ASSURANCE DIRECTORATE

GUIDELINES FOR CALCULATION OF COURSE CREDITS

1. INTRODUCTION

The University of Zambia adopted the Grade Point Average (GPA) system in 2013 so as to bring the degree classification to comparable levels with other degree classifications in the world. However, the system has not yet been utilised for this purpose.

This paper serves to propose an amendment to the description given to a course credit at the University of Zambia so that it is in line with the definition provided by the Zambia Qualification Authority (ZAQA). The aim of doing this is to facilitate alignment of the credits earned in a given study programme with the requirements of the Zambia Qualifications Framework (ZQF) developed by ZAQA.

2. NATIONAL QUALIFICATIONS FRAMEWORKS AND CREDITS

National qualifications framework (NQF) can be defined as including all the structures and activities that lead to the award of a qualification (Coles & Bjørnåvold 2010). Coles & Werquin (2006) note that a 'national qualifications system is a broad concept that includes all aspects of a country's activity resulting in the recognition of learning. These systems include the means of developing and implementing policy on qualifications, institutional arrangements, skills identification arrangements and processes for assessment, awarding and quality assurance'. Key components of a qualification system could include:

(i) An institutional infrastructure for governance, financing, operations and quality assurance;
(ii) A basis in standards for the development of curricula;
(iii) Providers of learning provision (including organisations providing work-based learning);
(iv) Procedures for assessment of learning outcomes;
(v) Moderation procedures for assessed outcomes;
(vi) An awarding process that links qualification with assessed learning outcomes;
(vii) A certification process;
(viii) An accreditation processes for qualifications;
(ix) A hierarchy of qualifications that define vertical progression within the qualifications system;
(x) A credit system that enables learning to be transferred from one setting to another;
(xi) A means of validating learning that is achieved outside formal instruction; and
(xii) A quality assurance system that includes reference to international benchmarks.

As indicated in the list above, a credit system is a critical component of an NQF. Many countries and regions have therefore defined what constitutes a credit that can be earned during the process of attaining a given qualification.

3. THE CONCEPT OF CREDIT

A credit is a numerical value on a Qualifications Framework standard that represents the estimated time needed for a learner to achieve required specific learning outcomes. It is a measurement unit for 'notional' or 'average learning' time which includes all the activities which the learner is expected to undertake in order to achieve the learning outcomes. Such activities include but not limited to:-

(i) lectures;
(ii) seminars/tutorials;
(iii) assignments;
(iv) practical training; and
(v) independent study.

In this framework these activities should, normally, be designed as shown in Table 35.

4. UNIVERSITY OF ZAMBIA DEFINITION OF A COURSE CREDIT

The University of Zambia adopted a course credit system as provided in Table 2 below. It is clear from the table that the credit units are calculated by dividing the contact hours of a course by a factor of 30. This means that 30 contact hours constitute one credit unit. It is also clear from the table that by providing a range of contact hours and assigning one value as a credit unit (e.g. a range from 135 to 149 hours gives 4.5 credit units), the University obtains credits with discrete values rather than a continuum of real numbers for its various courses.

Table 1: University of Zambia Course Credit System

Range of contact hours (Workload)	**Credit units**
≥ 150	5.0
135 to 149	4.5
120 to 134	4.0
105 to 119	3.5
90 to 104	3.0
75 to 89	2.5
60 to 74	2.0
45 to 59	1.5
≤44	1.0

Table 2 provides a typical calculation of course credits. Note that a student taking the courses shown in the table would accumulate **28 credits** in one academic year.

Table 2: Typical calculation of course credit units at the University of Zambia

COURSE CODE	**COURSE TITLE**	**CONTACT HOURS**													**CREDIT UNITS**
		Lectures		**Tutorials**		**Laboratory**		**Seminars**		**Field Work**		**Assessments and Self Study**		**Total Hours**	
		Hrs/ Wk	**No. of Wks**	**Hrs/ Wk**	**No. of Wks**	**Hrs/ Wk**	**No. of Wks**	**Hrs/ Wk**	**No. of Wks**	**Hrs/ Wk**	**No. of Wks**	**Hrs/ Wk**	**No. of Wks**		
BIO 1401	Cells and Biomolecules	3	15	1	15	3	15	0	0	0	0	0	0	105	3.5
BIO 1412	Molecular Biology and Genetics	3	15	1	15	3	15	0	0	0	0	0	0	105	3.5
CHE 1000	Introductory Chemistry	3	30	1	30	3	30	0	0	0	0	0	0	210	7
MAT 1100	Foundation Mathematics	3	15	1	15	3	30	0	0	0	0	3	0	210	7
PHY1010	Introductory Physics	3	15	1	15	3	30	0	0	0	0	0	0	210	7
	TOTAL													**840**	**28**

5. ZAQA DEFINITION OF A COURSE CREDIT

The Zambia Qualification Authority (ZAQA), a statutory body established under the Zambia Qualification Authority Act No. 13 of 2011 has developed the Zambia Qualifications Framework (ZQF) in line with the provisions of the Act. According to the Guidelines for Registration and Accreditation of Qualifications in the ZQF, ZAQA has recommended a system for representing credits allocated to each component of the qualification (i.e. courses) whereby one course credit represents ***10 notional hours of learning***. This learning includes classroom, supervised and self-directed hours, assessment time, workplace training, assignment writing, online learning and fieldwork. A normal year of fulltime studies is considered to be 1200 hours giving 120 credits.

6. NOTIONAL HOURS OF LEARNING

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 such as face-to-face; distance and online (Rhodes University, 2014). The emphasis is on the term 'notional' because it is well known that the actual time which learners need in order to achieve designated learning outcomes varies considerably. It is based on how long it would take an average full-time student entering a university and studying that subject, at that level, for the first time would take to gain the knowledge, skills and understanding to achieve the learning outcomes.

How the notional hours are structured depends on the requirements and interests of the subject, discipline, department or school. Therefore, professional judgement is required. Notional learning hours must reflect the time spent on all of the activities relating to the programme which are calculated by those who are best qualified through experience and knowledge of the discipline, field of study, profession, trade or area of skill. Table 3 gives an example of the percentage time allocation for different learning activities, proposed the Tanzania Commission for Universities (2014).

Table 3 Normal Learning Matrix

UQF Level[1]	% on Lectures		% on Seminars and Tutorials		% on Assignments		% on Independent Studies and Research		% on Practical Training	
	FTF[2] mode	ODL[3] Mode	FTF mode	ODL Mode	FTF mode	ODL Mode	FTF mode	ODL Mode	FTF mode	ODL Mode
6	60	20	10	5	10	30	10	35	10	10
7	40	20	20	5	10	30	20	35	10	10
8	40	20	20	5	10	30	20	35	10	10
9	30	20	20	20	20	30	20	20	10	10
10	10	10	10	10	10	60	60	10	10	10

Source (Tanzania Commission for Universities, 2014)

[1]UQF levels:
6: Ordinary Diploma, 7: Higher Diploma, 8: Bachelors Degree, 9: Masters Degree and Postgraduate Diploma, 10: Doctorate Degree.

[2]FTF: Face-to-Face

[3]ODL: Open and Distance Learning

An average fulltime student is expected to spend 40 to 50 hours on learning activities per week. Using such a guideline is intended to help departments balance the teaching and workload of a course and to guide students in assessing the approximate workload expected of them, in this instance 40 to 50 hours per week over a 30-week academic year. This model also assumes that the ratio of contact time to self-directed learning time will decrease the further students progress through the system. As indicated above, ZAQA considers a normal year of fulltime studies to be 1200 hours giving 120 credits. Examples of combinations of courses with different credits that result in the prescribed total number of credits per academic year is given for the first year of the Bachelor of Science and the second year of the Bachelor of Laws programmes in Table 4 and Table 5, respectively.

Take a Bachelor of Laws (LLB) course such as ***LPU 2911 Legal Process***, taught over a period of 15 weeks with a total of 8 hours per week. The hours can be apportioned as follows:

(i) 3 hours of lectures per week
(ii) 1 hour tutorial per week
(iii) 4 hours for answering assignments and self-directed study, etc. per week.

This course would have 120 nominal hours of learning (i.e. 15x8) and therefore 12 credits.

Take another course from Bachelor of Science, BSc (NQS) such as ***CHE1000 Introductory Chemistry*** taught over a period of 30 weeks with a total of 10 hours per week. The hours can be apportioned as follows:

(i) 3 hours of lectures
(ii) 1 hour tutorial
(iii) 3 hours laboratory practical work
(iv) 3 hours for answering assignments, writing lab reports and self-directed study, etc.

This course would have 300 nominal hours of learning (i.e. 30x10) and therefore 30 credits.

Table 4: Course combination for the first year of the BSc (NQS) programme

PROGRAMME:	**BACHELOR OF SCIENCE (NQS)**
YEAR:	**1**

COURSE CODE	**COURSE TITLE**	**HOURS OF LEARNING**												**CREDIT POINTS**
		Lectures		Tutorials		Laboratory		Seminars		Fieldwork		Assessments and Self Study		Total Notional Hours	
		Hrs/ week	Weeks	Hrs/ week	Weeks	Hrs/ week	Weeks	Hrs/ week	Weeks	Hrs/ week	Weeks	Hrs/ week	Weeks		
BIO 1401	Cells and Biomolecules	3	15	1	15	3	15	0	15	0	15	3	15	150	15.0
BIO 1412	Molecular Biology and Genetics	3	15	1	15	3	15	0	15	0	15	3	15	150	15.0
CHE 1000	Introductory Chemistry	3	30	1	30	3	30	0	30	0	30	3	30	300	30.0
MAT 1100	Foundation Mathematics	3	30	1	30	0	30	3	30	0	30	3	30	300	30.0
PHY1010	Introductory Physics	3	30	1	30	3	30	0	30	0	30	3	30	300	30.0
	Total													**1200**	**120.0**

Table 4: Course combination for the second year of the LLB programme

PROGRAMME:	**BACHELOR OF LAWS (LLB)**
YEAR:	**2**

COURSE CODE	**COURSE TITLE**	**HOURS OF LEARNING**												**CREDIT POINTS**
		Lectures		Tutorials		Laboratory		Seminars		Fieldwork		Assessments and Self Study		Total Notional Hours	
		Hrs/ week	Weeks	Hrs/ week	Weeks	Hrs/ week	Weeks	Hrs/ week	Weeks	Hrs/ week	Weeks	Hrs/ week	Weeks		
LPU 2911	Legal Process	3	15	1	15	0	15	0	15	0	15	4	15	120	12
LPR2920	The Law of Contract	3	30	1	30	0	30	0	30	0	30	4	30	240	24
LPR2930	The Law of Torts	3	30	1	30	0	30	0	30	0	30	4	30	240	24
LPU 2940	Criminal law	3	30	1	30	0	30	0	30	0	30	4	30	240	24
LPU 2951	Constitutional law	3	15	1	15	0	15	0	15	0	15	4	15	120	12
LPU 2962	Administrative Law	3	15	1	15	0	15	0	15	0	15	4	15	120	12
LPU 2972	Legal Writing	3	15	1	15	0	15	0	15	0	15	4	15	120	12
	Total													**1200**	**120**

7. GLOBAL PERSPECTIVE

There has been a worldwide paradigm shift where countries have realised the importance of quality assurance in the education systems. In view of this, countries have instituted qualifications registration and accreditation agencies to supervise the implementation of National Qualifications Frameworks (NQFs). The trend shows that most countries have instituted these frameworks.

National qualifications frameworks classify qualifications by level, based on learning outcomes. This classification reflects the content and profile of qualifications - that is, what the holder of a certificate, diploma or degree is expected to know, understand, and be able to do. The learning outcomes approach also ensures that education and training sub-systems are open to one another. Thus, it allows people to move more easily between education and training institutions and sectors.

7.1 Africa

Some examples from African countries that have adopted the credit system are given in Table 6.

Table 6: Course Credits from African Countries

Country	**Credit points per year**	**Hours per credit point**	**Authority**
Kenya		15 (lecture hours)	Commission for Higher Education
Namibia	120	10	Namibian Qualification Authority
South Africa	120	10	South African Qualifications Authority
Tanzania	120	10	Tanzania Commission for Universities
Tunisia	120	10	Ministry of Higher Education
Uganda		15	National Council for Higher Education

7.2 Asia and Oceania

Some examples from Asian and Oceania countries that have adopted the credit system are given in Table 7.

Table 7: Course Credits from Asian and Oceania countries

Country	**Credit points per year**	**Hours per credit point**	**Authority**
Malaysia	120	40	Malaysian Qualifications Agency
Australia	120	10	Australian Qualifications Framework Council
China	180 - 240	18	Chinese Education Council

7.3 Europe

During the period 1989-1995 the European Commission developed the European Credit Transfer System (ECTS) in close collaboration with some 145 higher education institutions. The ECTS is a standard for comparing the study attainment and performance of students of higher education across the European Union and other collaborating European countries. For successfully completed studies, ECTS credits are awarded. One academic year corresponds to 60 ECTS credits that are normally equivalent to 1500–1800 hours of total workload, irrespective of standard or qualification type. Table 4 shows the credit points and hours per credit for some European countries.

Table 4: Credit points and hours per credit for some European countries

Country	**Credit points per year**	**Hours per credit point**
Austria	60	25
Belgium	60	25-30
Bulgaria	60	25-30
Croatia	60	25-30
Cyprus	60	30
Czech Republic	60	26
Denmark	60	28
England, Wales and Northern Ireland	120	10
Finland	60	27
France	60	29
Germany	60	25-30
Greece	60	30
Hungary	60	30
Italy	60	25
Latvia	60	30
Lithuania	60	28
Malta	60	25
The Netherlands	60	28
Poland	60	25-30
Portugal	60	28
Romania	60	30
Scotland	120	10
Spain	60	25-30
Sweden	60	26.667
Iceland	60	25-30
Norway	60	25-30
Switzerland	60	30
Bosnia and Herzegovina	60	25
Serbia	60	30
Turkey	60	25-30
Ukraine	60	30

7.4 United States of America

In a university in the United States, students generally receive credit hours based on the number of "***contact hours***" per week in class, for one term; more well known as Semester Credit Hours (SCH). A contact hour includes any lecture or lab time when the professor is teaching the student or coaching the student while they apply the course information to an activity. A SCH is ***15-16 contact hours per semester***. ***Most university courses*** **are *3 Semester Credit Hours*** (SCH) or **45-48 contact hours.** This means that they usually meet for three hours per week over a 15-week semester. Homework is time the student spends applying the class material without supervision of the professor. This includes studying notes, supplementary reading, writing papers, or other unsupervised activities such as lab-work or field work. Because students are generally expected to spend ***three hours outside class*** studying and doing homework for ***every hour spent in class***, ***15 SCH is the typical full course load***.

8. OBSERVATIONS

It can be observed from the details provided above that the definition of credits in higher education systems varies from country to country and region to region, and that it may be based on different parameters, such as student workload, learning outcomes, and contact hours. However, credits provide one of the means for measuring, describing and comparing learning achievement. As an accumulation and transfer system, credit is developed assuming that learning can be accumulated and transferred regardless of the place and types of education (Adamu, 2012)

It may also be observed from the discussions in Sections 6 and 7 that, where a country has adopted a single definition of a credit through a statutory body, the higher education institutions in that country use that definition. One of the benefits of having a national standard for a credit this is that there is a common benchmark for recognition of studies and achievements at various levels of qualifications across the higher education system. Another benefit is that it allows for a system of credit transfer within one country's institutions.

Recognition of studies has been identified as a major challenge for the internationalisation of higher education in Africa (Adamu, 2012). In Africa, there are several systems of education that emerged out of various national, colonial and other legacies. This resulted in lack of recognition among different forms of certification, thereby limiting harmonisation of higher education, mobility of students across the region, and ultimately African integration (Adamu, 2012). There are various sub-regional initiatives on recognition of studies. Adamu (2012) indicated that the African Union and other higher education stakeholders are supporting the application of the Arusha Convention to enhance recognition of studies and collaboration between higher education institutions. However, the diverse credit systems and study programmes in each African country leave institutions with no system to measure and compare the learning outcomes achieved by students in other institutions or other countries. This makes the recognition of studies across institutions very difficult.

9. RECOMMENDATIONS

The following recommendations are being made for the approval of the Senate:

(a) The University should adopt the definition of one course credit recommended by ZAQA, i.e. that one course credit represents ***10 notional hours of learning***.

(b) The University should apply the concept of notional hours of learning in evaluating credits, i.e. to include learning which takes place in a classroom, supervised and self-directed hours, assessment time, workplace training, assignment writing, online learning and fieldwork. This is applicable to face-to-face, distance and online modes of delivery.

(c) The University should consider a normal year of fulltime studies to be a minimum of ***1200 hours*** giving ***120 credits***, i.e. after consolidation of all the notional hours and the resulting course credits. Typical examples of how these hours and credits may be evaluated at UNZA is given in Table 4 and Table 5.

(d) The award of diplomas and degrees should be based on learning outcomes and the corresponding total number of credits earned in a programme of study. For example, a student graduating with a diploma would have accumulated a minimim of 360 credits, while a student taking a five-year programme would accumulate a minimum of 600 credits to graduate.

(e) The University should begin to utilise the approved Grade Point Average (GPA) system in the classification of various degrees awarded at the completion of programmes of study taking into account this proposed course credit system.

10. REFERENCES

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