



Southern African Association for Institutional Research

Foundations of HEMIS 2015

Qualifications and Courses: Key concepts and issues

Prepared by Herman Visser



1

Acknowledgements

- Council for Higher Education (CHE) documentation
- Department of Higher Education and Training (DHET) documentation
- Presentations by the author on related aspects

Purpose

The purpose of this session is to **explain** the **nature and scope** of the South African *Higher Education Management Information System* (HEMIS), in particular the role of qualifications and courses



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

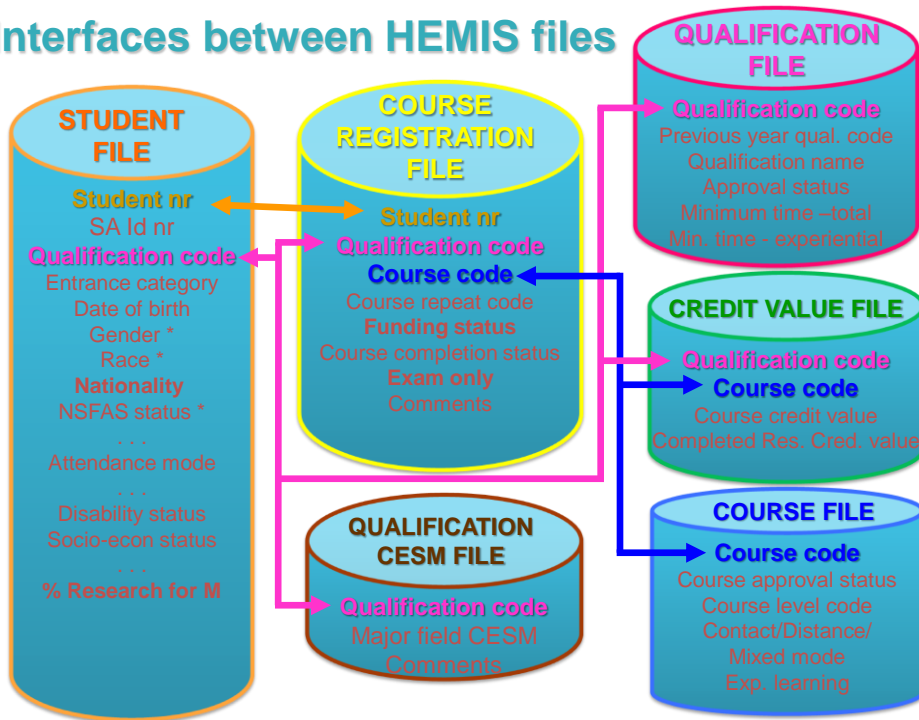
Role of Qualifications and Courses

- Qualifications play a very important role in funding and quality assurance
- Courses are the building blocks that leads to a qualification
- The importance of ensuring the role of qualifications and courses are properly understood cannot be emphasized enough
- It is critical that qualifications and course are reported correctly



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Interfaces between HEMIS files



HEMIS Qualification approval status



- An indicator of whether or not the qualification has been approved for funding by the Minister
- Approved (A) / Not approved (N)

Please take note of the process and links between qualifications, PQM and funding

Process for the introduction of new and revised Programmes



Internal approval process Qualifications/Programmes

- Varies from institution to institution
- Normally initiated from academic departments
- Depending on the internal committee structures will be going through a number of steps before it serves at Senate as highest academic authority
- Final approval by Council

External approval process Qualifications/Programmes

- After internal approval process have been completed successfully
- Obtain in principle approval from DHET to register the proposed qualification/ programme on the NQF (HEQSF)
- Register the proposed qualification/ programme on the NQF (HEQSF)
- Obtain approval for funding purposes from DHET



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Naming of Qualifications

- The naming of qualifications must be in line with the appropriate national academic policy applicable
- The approved name as on the PQM must be used for HEMIS purposes
- Institutions may use an internal name and provision will in future be made to capture that on HEMIS as well
- The naming of qualifications as registered by SAQA is not consistent with the above



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Official “forms”

- Online program to capture applications
- Accreditation and Approval of Academic Qualifications (CHE)
- Application for Additions and Changes to Approved Academic Programmes (DHET)
- With minor changes (< 50%) the DHET is informed for notification purposes
- Registration of Qualification (SAQA)

Updates need to be made to the Approved PQM



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Internal forms

- Each Institution decides what is required
- It is useful to use the official forms plus a coversheet that contains additional information that is required in the approval process and to have the application as complete as possible



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Structural integrity

In order to ensure the structural integrity of the academic structure the documentation that serves at Senate and where appropriate Council and external bodies and Senate/Council Minutes and feedback documents should be used as source documents for:

- *Calendar*
- *Updating of the Student database*



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Qualification type (Legacy)



- Code the Type of institution and the Level of the qualification
 - Universities (01 to 08)
 - Universities of Technology (21 to 30)
 - Occasional students (ZZ)



NOTE:

Provision is made that Comprehensive institutions may offer all of the qualification types above



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Qualification type Universities

- Undergraduate Diploma /Certificate (01)
- General Academic First Bachelor's Degree (02)
- Professional First Bachelor's Degree (03)
- Post-graduate Diploma/Certificate (04)
- Post-graduate Bachelor's Degree (05)
- Honours Degree (06)
- Master's Degree (07)
- Doctoral Degree (08)



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Qualification type Universities of Technology

- National Certificate (21)
- National Higher Certificate (22)
- National Diploma (23)
- Post-diploma Diploma (24)
- National Higher Diploma (25)
- Baccalaureus Technologiae Degree (26)
- Master's Diploma in Technology (27)
- Magister Technologiae Degree (28)
- Laureatus in Technology (29)
- Doctor Technologiae Degree (30)



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Qualification type (HEQSF) Undergraduate



- **Higher Certificate** (41) – NQF exit level 5, minimum tot credits = 120
- **Advanced Certificate** (42) – NQF exit level 6
minimum total credits 120, including PGCE
- **Diploma** (43) – NQF exit level 6
minimum total credits 240 (exceptions) or 360
- **Advanced Diploma** (44) – NQF exit level 7, min. total credits=120
- **Bachelor's degree** (45) – NQF exit level 7, min tot credits = 360, exception BEd NQF exit level 7, minimum total credits = 480
- **Bachelor's degree** (46) – NQF exit level 8, min total credits = 480
- **Professional Bachelor's degree** (*exception*) may follow on 1st Bachelor's degree min tot credits = 240, e.g. LLB



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Qualification type (HEQSF) Postgraduate



- **Postgraduate Diploma** (47) – NQF exit level 8, min tot credits = 120
- **Bachelor Honours Degree** (48) – NQF exit level 8, minimum total credits = 120
- **Master's Degree** (49) – NQF exit level 9, min tot credits = 180
excluding Master's degrees in Health Sciences, e.g. MMed, MedVet, MDent
- **Professional Master's Degree** – NQF exit level 9, minimum total credits = 180
- **Doctoral Degree** (50) – NQF exit level 10, min tot credits = 360
- **Professional Doctorate** – NQF exit level 10, min tot credits = 360



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

HEQSF implications for HEMIS

- The changes to the HEQSF as published in the government gazette of January 2013 implies changes in qualification types
- It is an opportunity to create meaningful distinctions between the various qualification types, possibly also exceptions



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

HEQSF articulation with other Sub-Frameworks of the NQF

It needs to be noted that the HEQSF articulation with other Sub-Frameworks of the NQF will have to be specified in the admissions/entrance requirements:

- General and Further Education and Training Qualifications Sub-Framework (GENFETQSF)
- Trades and Occupations Qualifications Sub-Framework (OQSF)



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Category of Education Subject Matter (CESM)



- Subject areas are classified into 20 CESM categories (before 2010, 22 CESM categories)
- Each of these categories have further hierarchical subcategories (reported to the third order)
- Each qualification has a major field of study for the qualification



- Each course (subject) is linked to a CESM category (to third order)
- CESM categories are clustered together in funding groups for funding purposes



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Major fields of study



- The major field(s) of study for an instructional programme can be categorized by one or more CESM categories
- The major field(s) of study for a particular student is/are the subject area(s) in which the student may specialize in the final year of study



- Can be more than one (list all)
- If a student has several areas of specialisation, the order in which it is reported is of no consequence



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

CESM Categories

- 01 Agriculture, etc
- 02 Architecture/Built Environment
- 03 Visual & Perf. Arts
- 04 Business, Econ, Man.
- 05 Communication, etc
- 06 Computer & Inf. Science
- 07 Education
- 08 Engineering
- 09 Health Sciences, etc
- 10 Family Ecology, Cons. Science
- 11 Languages
- 12 Law
- 13 Life Sciences
- 14 Physical Sciences
- 15 Mathematical Sciences
- 16 Military Science
- 17 Philosophy & Religious Studies
- 18 Psychology
- 19 Public Admin & Social services
- 20 Social Sciences



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

HEMIS Course Approval Status



- An indicator of whether or not a course forms **part of a qualification that has been approved for funding** by the Minister - Approved (A) or Not approved (N)
- Normally approved by the Senate of the institution to form part of a qualification



A person registered for a course which has not been approved for subsidy purposes cannot be considered to be a student and must not be included in the HEMIS submission



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Process for the introduction of new and revised Courses



Internal forms for Courses

- Each Institution decides what is required
- No official forms required as Senate decides
- It is useful to make use of standardised forms and where appropriate combine it with the Forms for Qualifications/ Programmes

Structural integrity

In order to ensure the structural integrity of the academic structure the documentation that serves at Senate and where appropriate Council Senate/Council Minutes and feedback documents should be used as source documents for:

- Calendar
- Updating of the Student database (academic structure)



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Course levels



- If a course is offered at **more than one level** it must in all instances be reported at the lowest level that it is offered



- **Concurrent registrations** for courses at different levels are not acceptable to the DHET and must not be reported in HEMIS. Adjustments will be made in subsidy earnings totals of institutions where the FTE totals are inflated in this manner. Substantial numbers taking more than a standard course load will not be allowed.



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Legacy Course levels and Level weights: Universities



- **Lower Undergraduate (X1)**
Undergraduate diplomas/certificates

- **Intermediate Undergraduate (X1)**
General academic first Bachelor's degree

- **Higher Undergraduate (X2)**
Instructional offerings at a level of comprehension usually associated with a professional first bachelor's degree (not for general academic first bachelors degree)



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Legacy Course levels and Level weights: Universities



- **Preparatory Post-graduate (X1)**
Instructional offerings at a level of comprehension usually associated with first degrees or undergraduate diplomas/certificates



- **Lower Post-graduate (X2)**
Honours and equivalent offerings



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Legacy Course levels and Level weights: Universities



- **Intermediate Post-graduate (X3)**

Typically Masters degree

- Non-research
- Research



- **Higher Post-graduate (X4)**

Typically Doctoral degrees

- Non-research (currently none approved)
- Research



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Legacy Course levels and Level weights: Universities of Technology



- Courses offered at Universities of Technology are also grouped in course levels with similar weights to those of the University course levels



- In the Valpac reports, the course levels are now combined into a single structure
- The HEQSF consolidated the course levels into a single hierarchy for all institutions



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Course Levels (HEQSF)



- Lower pre-diplomate (41)
- Lower undergraduate (42)
- Intermediate undergraduate (43)
- Higher undergraduate (44)
- Lower postgraduate (45)
- Intermediate postgraduate (non-research) (46)
- Intermediate postgraduate (research) (47)
- Higher postgraduate (non-research) (48)
- Higher postgraduate (research) (49)



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Funding credits



The properties of a qualification determine the total number of units of state subsidy (funding credits) approved by the Minister of Higher Education and Training for that qualification:

- Approved total years
- Approved formal years
- Approved experiential years



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Funding credits (continued)



Approved total years

Minimum total number of years (to nearest 1/10) of full-time post-secondary study needed for completion of the instructional programme leading to the particular degree/diploma



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Funding credits (continued)



Approved experiential years

Approved number of years (to nearest 1/10) of full-time study needed for completion of the experiential part of the instructional programme leading to the particular qualification (degree/diploma/certificate)

- Directed experiential learning
(E.g. hospital internship)
- Independent experiential learning
(E.g. practical experience in an office)



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Funding credits (continued)

Approved formal years



The difference between the approved total time and the approved experiential time (Approved total time - Approved experiential time) is normally used to determine the funding credits

Some exceptions, e.g. MBA – still waiting for final decision on MBA with changed entry requirements



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Study Time Examples

QUALIFICATION	APP.TOTAL TIME (YRS)	APP. EXP. TIME (YRS)	APP. FORMAL TIME (YRS)
Diploma	3,0	1,0	2,0
B A	3,0	0,0	3,0
PGCE	1,0	0,0	1,0
Hons B Com	1,0	0,0	1,0
MA	1,0	0,0	1,0
MBChB	6,0	1,1	4,9
D Phil	2,0	0,0	2,0

Qualification weight/ Funding credit



- For subsidy-purposes, all qualifications are given a weight relative to a first bachelor's degree

- Student/lecturing staff ratio



For subsidy-purposes, different student/lecturing staff ratios have been introduced for the different subject matter areas (funding groups)



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Course Credit/ Funding Credit



- Each distinct instructional offering must be allocated a weight (course credit) which is the funding credit

- E.g. subject with papers Business Management III may consist of five topics or papers



- Interchangeable offerings (options) should carry the same credit or weight
- Calculated for qualification course combination



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Credit Values/ Funding Credits



- Basic assumption – normally the total credit for all instructional offerings of a full-time student is one (1) per year – see study time



- Determining the credit values of the instructional offerings
- Reflect the fraction of the academic year/qualification that the offering contributes to (3 decimal places)



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Calculation of the Course Credit for Teaching

Undergraduate degree with no experiential time and a fixed curriculum

Example 1:

Approved total time = 3,0 years

Approved experiential time = 0,0 years

Approved formal time = 3,0 years

				<u>TOTAL</u>
First year:	5 courses	1 / 5	= 0,200 each	
			5 X 0,2000 =	1,000
Second year:	3 courses	1 / 3	= 0,333 each	
	with 2 papers each 0,333/2 = 0,167 & 0,166			
	3 X 0,167 + 3 X 0,166 = 0,999 therefore need to add 0,001 to one of the papers with a weight of 0,166, then 4 X 0,167 + 2 X 0,166 =			1,000
Third year:	2 courses	1 / 2 = 0,500 each		
	with 3 papers each 0,500 / 3 = 0,167; 0,166; & 0,166			
	2 X 0,167 + 4 X 0,166 = 0,998 therefore need to add 0,001 to two of the papers with a weight of 0,166, then 4 X 0,167 + 2 X 0,166 =			<u>1,000</u>
TOTAL				3,000

Southern African Association for Institutional Research

Calculation of the Course Credit for Teaching

Undergraduate degree with no experiential time and a fixed curriculum

Example 2:

Minimum total time = 3,0 years
 Minimum experiential time = 0,0 years
 Minimum formal time = 3,0 years

				<u>TOTAL</u>
First year:	10 modules	1 / 10	= 0,100 each $10 \times 0,1000 =$	1,000
Second year:	10 modules	1 / 10	= 0,100 each $10 \times 0,1000 =$	1,000
Third year:	2 courses	1 / 2	= 0,500 each $10 \times 0,1000 =$	<u>1,000</u>
				3,000



Calculation of the Course Credit for Teaching

Example 3:

Professional first B degree (4 years) with experiential learning (6 months) in the fourth year and a fixed curriculum

Formal

First year	10 modules	1 / 10	= 0,100 each	=	1,000
Second year	10 modules	1 / 10	= 0,100 each	=	1,000
Third year	10 modules	1 / 10	= 0,100 each	=	1,000
Fourth year	5 modules	1 / 5	= 0,100 each	=	<u>0,500</u>
					3,500

Experiential learning

Internship equivalent to 5 modules (6 months) = 0,500

Total

4,000



Calculation of the Course Credit for Research Offerings



- In most cases, the total credit for master's degrees are 1,000 and for doctoral degrees are 2,000. Due to the fact that the research degrees are normally spread over more than one year, a special mechanism had to be devised



- The total credit value are divided by the average time that students took to complete the qualification over the last three years
- For practical reasons, qualifications are clustered together



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Calculation of the Course Credit for Research Offerings



Number of graduates for the degree or cluster
Number of years the graduates were enrolled

= Average time for completion

Credit value = $\frac{\text{Total credit value} \times \text{Average time for completion}}{\text{Average time for completion}}$



Where Total credit value would typically be 1,000 for research masters and 2,000 for doctoral degrees



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Applying the Graduates test to Course credits



- Students often do not follow the fixed curriculum and the original credit values would then have to be adjusted. This needs to be confirmed each year based on the course credits of the students that graduated in the particular degree
- The course credits could be adjusted per year for each degree for practical reasons



- An adjustment factor is then calculated that will satisfy the Graduates test (originally 2% test, later 0% test) and multiplied with the original course credits to obtain an adjusted course credit that would satisfy the Graduates Test



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Implications for funding



- The PQM is based on approved qualifications
- Funding groups are based on the CESM-categories and the funding levels are based on the course levels
- The Teaching input funding grid of funding groups and funding levels is determined by the CESM and course level of courses
- Output subsidy is based on qualifications and their relative weights
- Qualifications and courses play a pivotal role in funding



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Problem areas

- The allocation of CESM-categories for qualifications and courses can be problematic due to lack of clarity, ambiguous definitions
 - The new CESM-categories improved some aspects but there are still some aspects that are not settled yet
 - The fact that funding groups are deducted from CESM-categories further aggravates problems
 - Course levels, NQF-levels and funding levels are not aligned in all cases - HEQSF aims to resolve this
- ...



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Problem areas (Continued)

- The allocation of course weights can be problematic
- Where the same course with the same NQSF-credits are offered for more than one qualification, different course credit values can create confusion
- The boundary between contact and distance education is not clear in all cases



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Discussion and Questions



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH

Terminology

- HEMIS = Higher Education Management Information System
- Valpac = Validation Package
- PQM = Programme and Qualification Mix
- SAQA = South African Qualifications Authority
- NPHE = National Plan for Higher Education
- MHET = Minister of Higher Education and Training
- DHET = Department of Higher Education and Training
- CESM = Categorisation of Education Subject Material
- CHE = Council for Higher Education
- NQF = National Qualification Framework
- NSFAS = National Student Financial Aid Scheme
- HEQSF = Higher Education Qualification Sub-Framework
- HEQC = Higher Education Quality Committee
- EFC = Enrolled Funded Credits also FTE = Full-Time Equivalent
- CFC = Completed Funded Credits
- WFTE = Weighted FTE
- TIU = Teaching Input Units
- TOU = Teaching Output Units
- ROU = Research Output Units
- TDG = Teaching Development Grant
- RDG = Research Development Grant



SOUTHERN AFRICAN ASSOCIATION FOR INSTITUTIONAL RESEARCH