

Enrolment Plan: Round 2

Presentation to the HEDA User Group
November 2016

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Objective

- **To sketch CPUOT's response to the DHET invitation to review our Student Enrolment Plan 2014-2019, for the years 2017-2019**
- **To outline the development of a revised Enrolment Planning module to assist in the revision**

Background

- **In early 2013, IDSC developed the Enrolment Planning module to assist in developing the Student Enrolment Plan 2014-2019**
- **This was reported at the November 2013 User Group and written up for publication by Amanda and myself**
- **The great advantage for CPUT was that the model generated both the DHET submission and an internal enrolment plan, by Faculty, Department, Qualification ID, and Offering Type**

Internal Report

	A	B	G	H	I	J	K	L	M	N	O	P	Q	
4	Key	(All)												
5	UGPG	(All)												
6	QualificationType	(All)												
7	QualificationID	(All)												
8	Type	FCE												
9														
10	Sum of Value	Column Labels												
11	Row Labels		2004	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
12	⊕ APPLIED SCIENCES		781	1,041	1,132	1,138	1,151	1,219	1,271	1,354	1,370	1,532	1,558	1,609
13	⊕ BUSINESS		3,501	4,330	4,412	4,117	4,873	5,118	5,128	5,128	5,131	5,136	5,137	5,137
14	⊕ EDUCATION & SOCIAL SCIENCES		1,036	1,165	1,112	1,093	1,614	1,627	1,742	1,858	1,813	1,779	1,745	1,762
15	⊕ ENGINEERING		1,905	2,219	2,702	2,969	2,964	3,035	3,092	3,175	3,735	3,845	3,951	4,040
16	⊖ HEALTH & WELLNESS SCIENCES		319	1,092	1,093	1,051	1,004	1,107	1,218	2,180	2,204	2,206	2,169	2,189
17	⊕ BIOMEDICAL SCIENCES (182)		43	167	167	199	132	230	220	311	323	330	318	315
18	⊕ DENTAL SCIENCES (183)		76	98	95	105	110	112	136	161	207	211	205	215
19	⊕ EMERGENCY MEDICAL SCIENCES (184)		0	105	105	93	100	102	104	105	106	82	83	84
20	⊕ NURSING AND RADIOGRAPHY (185)		89	615	638	555	538	549	614	1,453	1,419	1,403	1,412	1,421
21	⊖ OPHTHALMIC SCIENCES (186)		49	52	37	37	50	45	75	80	80	110	80	80
22	⊖ ND: OPTICAL DISPENSING (4L)													
23	AU		0	27	7	1	0	0	30	0	0	30	0	0
24	FT		49	24	30	36	50	45	45	45	45	45	45	45
25	PT		0	1	0	0	0	0	0	0	0	0	0	0
26	⊖ Bachelor of Health Science in Optometry													
27	FT							0	0	35	35	35	35	35
28	⊕ WELLNESS SCIENCES (187)		62	55	51	62	74	69	69	70	70	70	70	73
29	⊕ INFORMATICS & DESIGN		1,436	1,457	1,500	1,517	1,505	1,529	1,535	1,557	1,606	1,639	1,663	1,682
30	Grand Total		8,978	11,304	11,951	11,885	13,111	13,634	13,986	15,251	15,859	16,137	16,223	16,419

Revising the Enrolment Plan

- **Almost from the moment that CPUT submitted its 2014-2019 Student Enrolment Plan, it became clear that it would not be able to meet its enrolment targets**
- **The opportunity to revise the targets was welcome, but the timeframe was tight**
 - **Result: We didn't think too clearly about how to do the revision, before plunging in**
- **Because our focus was on the total enrolments, we decided to ask the Faculties for revised totals**
 - **Whereas the original model had started from First-time Cluster Enrolments (FCEs)**

The Problem

	Planned/expected enrolment						Average annual increase: 2012-2019
	Proposed target 2014	Proposed target 2015	Proposed target 2016	Proposed target 2017	Proposed target 2018	Proposed target 2019	
First-time entering undergraduates	8701	9285	9829	10120	10657	11085	4,9%
Total undergraduate	31592	32491	33255	33933	34100	34083	1,2%
Postgraduate to masters level	459	1008	1473	1936	2272	2876	29,5%
Masters	896	1006	1056	1043	989	946	0,9%
Doctors	220	244	257	251	245	232	2,4%
Total postgraduate	1575	2258	2786	3230	3506	4054	14,7%
Occasional students	614	593	514	460	411	412	-6,4%
TOTAL ENROLMENT	33781	35343	36555	37623	38017	38549	2,0%
ACTUAL ENROLMENTS	33186	32674	34751				
PERCENTAGE VARIATION	1,8%	7,6%	4,9%				

The Context

- **Faculties were asked to reconsider their enrolment targets in the light of four factors:**
- **The funding framework**
 - Institutions that did not meet their enrolment targets would have their subsidy reduced
- **The new reporting regime being driven by the Auditor General's office**
 - Universities are now audited according to their pre-determined objectives and must account for shortfalls

The Context

- **The development and introduction of new HEQSF-aligned qualifications during the planning period**
 - CPUT may be introducing as many as 200 new qualifications by 2019
- **A four-year Medium-Term Plan that was already under development**
 - This was broader than the Enrolment Plan, but covered many of the same areas

Some Considerations

- **How realistic is the timeframe for the introduction of new HEQSF qualifications?**
- **What are the arrangements for phasing in and phasing out of qualifications?**
- **How long will the old qualifications be offered?**
- **Is the progression to higher qualifications clear?**
- **Where Diplomas and Degrees will be offered, are there adequate resources?**

Process

- **The process of developing the new Enrolment Planning model started almost immediately after the DHET's workshop with institutions in March 2016**
 - Faculties were provided with a spreadsheet extracted from the existing Enrolment Planning Model and asked to review their projections for 2017-2019, plus 2020 for the Medium-Term Plan 2017-2020

Enrolment Review Spreadsheet

YEAR	2014	2015	2016	2017	2018	2019	2020	
APPLIED SCIENCES (Original Projections)	3 296	3 422	3 482	3 645	3 688	3 707		Ave, 2014-19:
Percentage Increase		3,8%	1,7%	4,7%	1,2%	0,5%		2,3%
APPLIED SCIENCES (Revised Projections)	3 296	3 422	3 482	3 645	3 688	3 707	0	Ave, 2014-20
Percentage Increase		3,8%	1,7%	4,7%	1,2%	0,5%	-100,0%	#NUM!
AGRICULTURE (2)	353	374	393	414	445	472	0	
FULL-TIME WELLINGTON								
Advanced Diploma in Agricultural Management	0	0	0	10	16	20		
Advanced Diploma in Agriculture	0	0	0	10	16	20		
B TECH: AGRICULTURE (HS)	30	32	35	16	9	6		
Bachelor of Applied Science in Animal Health	0	0	0	0	0	0		
Doctorate in Agriculture (360)	0	2	4	6	7	8		
M TECH: AGRICULTURE (KE)	4	5	5	6	8	0		
Master of Science: Agriculture	0	0	0	0	0	8		
ND: AGRICULTURAL MANAGEMENT (JZ)	179	187	193	198	204	209		
ND: AGRICULTURE (HT)	137	143	149	156	162	168		
Postgraduate Diploma in Agriculture	0	0	0	0	5	8		
PART-TIME WELLINGTON								
Advanced Diploma in Agricultural Management	0	0	0	3	5	6		
Advanced Diploma in Agriculture	0	0	0	3	5	6		
B TECH: AGRICULTURE (HS)	1	1	1	1	0	0		
Doctorate in Agriculture (360)	0	1	2	2	2	3		
M TECH: AGRICULTURE (KE)	3	3	4	4	4	2		
Master of Science: Agriculture	0	0	0	0	0	4		
Postgraduate Diploma in Agriculture	0	0	0	0	2	3		

Early Development

- **Thys effectively reverse-engineered the 2013 model, to start from the total enrolments**
- **He provided an Excel model with an extract of historical data for the years 2011 to 2015**
- **He then went on sabbatical leave and Riekert stepped in**
- **Once populated with the total projected enrolments the model would calculate the First-time Cluster enrolments, FTEN enrolments, graduates, etc.**
- **The 48 tables of the DHET submission were then generated, in the required format**

Projections Input Table

A	B	C	D	F	H	I	J	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
Calendar Year	Approved ID Co	Offering Type	Faculty Code	Department Code	Approved ID	Offering Type	Qualification Type Code	Headcount Base	Base Growth % YOY	Growth % YOY	Headcount Man	Headcount Total	%FCE Base	%FCE Model	%FCE	Headcount FCE	Headcount Seniors	%FTEN Base	%FTEN Model	% FTEN	Headcount FTEN
2011	1A	01	60	74	NHC: ACCOUNTANCY	FULL-TIME: BELLVILLE CAMPUS	22	0	0,88%			506,00	0,00%	25,00%		189,00	317,00	0,00%	23,71%		180,00
2012	1A	01	60	74	NHC: ACCOUNTANCY	FULL-TIME: BELLVILLE CAMPUS	22	0	0,88%			246,00	0,00%	25,00%		4,00	242,00	0,00%	23,71%		3,00
2013	1A	01	60	74	NHC: ACCOUNTANCY	FULL-TIME: BELLVILLE CAMPUS	22	0	0,88%			24,00	0,00%	25,00%		1,00	23,00	0,00%	23,71%		1,00
2011	1A	02	60	74	NHC: ACCOUNTANCY	PART-TIME: BELLVILLE CAMPUS	22	89	0,88%			118,00	33,71%	31,29%		45,00	73,00	28,09%	22,38%		31,00
2012	1A	02	60	74	NHC: ACCOUNTANCY	PART-TIME: BELLVILLE CAMPUS	22	89	0,88%			115,00	33,71%	31,29%		31,00	84,00	28,09%	22,38%		24,00
2013	1A	02	60	74	NHC: ACCOUNTANCY	PART-TIME: BELLVILLE CAMPUS	22	89	0,88%			149,00	33,71%	31,29%		36,00	113,00	28,09%	22,38%		25,00
2014	1A	02	60	74	NHC: ACCOUNTANCY	PART-TIME: BELLVILLE CAMPUS	22	89	0,88%			101,00	33,71%	31,29%		37,00	64,00	28,09%	22,38%		23,00
2015	1A	02	60	74	NHC: ACCOUNTANCY	PART-TIME: BELLVILLE CAMPUS	22	89	0,88%			89,00	33,71%	31,29%		30,00	59,00	28,09%	22,38%		25,00
2016	1A	02	60	74	NHC: ACCOUNTANCY	PART-TIME: BELLVILLE CAMPUS	22	89	0,88%		87	87,00	33,71%	31,29%		29,33	57,67	28,09%	22,38%		24,44
2017	1A	02	60	74	NHC: ACCOUNTANCY	PART-TIME: BELLVILLE CAMPUS	22	89	0,88%		75	75,00	33,71%	31,29%		25,28	49,72	28,09%	22,38%		21,07
2018	1A	02	60	74	NHC: ACCOUNTANCY	PART-TIME: BELLVILLE CAMPUS	22	89	0,88%		74	74,00	33,71%	31,29%		24,94	49,06	28,09%	22,38%		20,79
2019	1A	02	60	74	NHC: ACCOUNTANCY	PART-TIME: BELLVILLE CAMPUS	22	89	0,88%		74	74,00	33,71%	31,29%		24,94	49,06	28,09%	22,38%		20,79
2020	1A	02	60	74	NHC: ACCOUNTANCY	PART-TIME: BELLVILLE CAMPUS	22	89	0,88%		74	74,00	33,71%	31,29%		24,94	49,06	28,09%	22,38%		20,79
2011	1A	FT	60	74	NHC: ACCOUNTANCY	FULLTIME (CAPE TOWN CAMPUS)	22	879	0,88%			510,00	44,94%	45,30%		212,00	298,00	42,43%	42,85%		207,00
2012	1A	FT	60	74	NHC: ACCOUNTANCY	FULLTIME (CAPE TOWN CAMPUS)	22	879	0,88%			788,00	44,94%	45,30%		470,00	318,00	42,43%	42,85%		446,00
2013	1A	FT	60	74	NHC: ACCOUNTANCY	FULLTIME (CAPE TOWN CAMPUS)	22	879	0,88%			972,00	44,94%	45,30%		404,00	568,00	42,43%	42,85%		380,00
2014	1A	FT	60	74	NHC: ACCOUNTANCY	FULLTIME (CAPE TOWN CAMPUS)	22	879	0,88%			928,00	44,94%	45,30%		366,00	562,00	42,43%	42,85%		341,00
2015	1A	FT	60	74	NHC: ACCOUNTANCY	FULLTIME (CAPE TOWN CAMPUS)	22	879	0,88%			879,00	44,94%	45,30%		395,00	484,00	42,43%	42,85%		373,00
2016	1A	FT	60	74	NHC: ACCOUNTANCY	FULLTIME (CAPE TOWN CAMPUS)	22	879	0,88%		864	864,00	44,94%	45,30%		388,26	475,74	42,43%	42,85%		366,63
2017	1A	FT	60	74	NHC: ACCOUNTANCY	FULLTIME (CAPE TOWN CAMPUS)	22	879	0,88%		1024	1024,00	44,94%	45,30%		460,16	563,84	42,43%	42,85%		434,53
2018	1A	FT	60	74	NHC: ACCOUNTANCY	FULLTIME (CAPE TOWN CAMPUS)	22	879	0,88%		0	0,00	44,94%	45,30%		0,00	0,00	42,43%	42,85%		0,00
2019	1A	FT	60	74	NHC: ACCOUNTANCY	FULLTIME (CAPE TOWN CAMPUS)	22	879	0,88%		0	0,00	44,94%	45,30%		0,00	0,00	42,43%	42,85%		0,00
2020	1A	FT	60	74	NHC: ACCOUNTANCY	FULLTIME (CAPE TOWN CAMPUS)	22	879	0,88%		0	0,00	44,94%	45,30%		0,00	0,00	42,43%	42,85%		0,00

Input Challenge

- This proved to be a particularly difficult time for a UoT to generate a new enrolment plan
- CPUT will introduce many new qualifications between 2016 and 2019
- None of these qualifications was included in the extraction for the model, as there was no history
- We had to capture hundreds of rows of information (per offering type and year) to bring in the new qualifications
- We encountered at least one Apple-Windows issue
 - ‘Resize Table’ option

Tweaking the Model

- **The model was bounced back several times between CPUT and IDSC**
- **More than 50 E-mails were exchanged between April and August**
- **We would break the model and Riekert would have to fix it**
- **Riekert worked nights and weekends to respond to our urgent requests**
- **We spent nights and weekends populating the model and interrogating the output**
- **Scarce Skills were something of an afterthought**

Outcome

- **We were able to produce the DHET tables and an internal table for internal use, showing the projections by Faculty, Department, Qualification ID, and Offering Type**
- **This provides us with a tool that departments can use to manage their enrolments**
- **Progress can be tracked centrally through our Enrolment Monitor dashboard**

Old and New Projections

	Planned/expected enrolment							Average annual increase: 2012-2019
	Proposed target 2014	Proposed target 2015	Proposed target 2016	Proposed target 2017	Proposed target 2018	Proposed target 2019		
First-time entering undergraduates	8701	9285	9829	10120	10657	11085	4,9%	
Total undergraduate	31592	32491	33255	33933	34100	34083	1,2%	
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Total postgraduate	1575	2258	2786	3230	3506	4054	14,7%	
Occasional students	614	593	514	460	411	412	-6,4%	
TOTAL ENROLMENT	33781	35343	36555	37623	38017	38549	2,0%	
REVISED TARGETS				33631	34388	35738	0,9%	
PERCENTAGE VARIATION				10,6%	9,5%	7,3%		

Enrolment Monitor

Total Enrolments with Planned Targets						
	Target	Enrolled	Ind			
APP SCI	3 482	3 350				
BUS	12 297	13 075				
EDU	4 609	4 195				
ENG	8 005	7 682				
HEALTH	4 471	2 946				
FID	3 692	3 543				
TOTAL	36 555	34 791				

 - Total Enrolments within 5% of planned.
 - Total Enrolments within 10% of planned.
 - Total Enrolments more than 10% below planned.
 - Total Enrolments exceed planned by more than 10%

- Ind - Target Indicator

Round 3

- **Perhaps a web-based version, or unbreakable Excel**
- **A choice between starting with First-Time Cluster enrolments or Total enrolments**
- **An enhancement to pick up actual enrolments after each registration, showing the effect in relation to the projections**
- **The next iteration should be ready by 2019, for use in preparing the next Student Enrolment Plan**

Thank you!