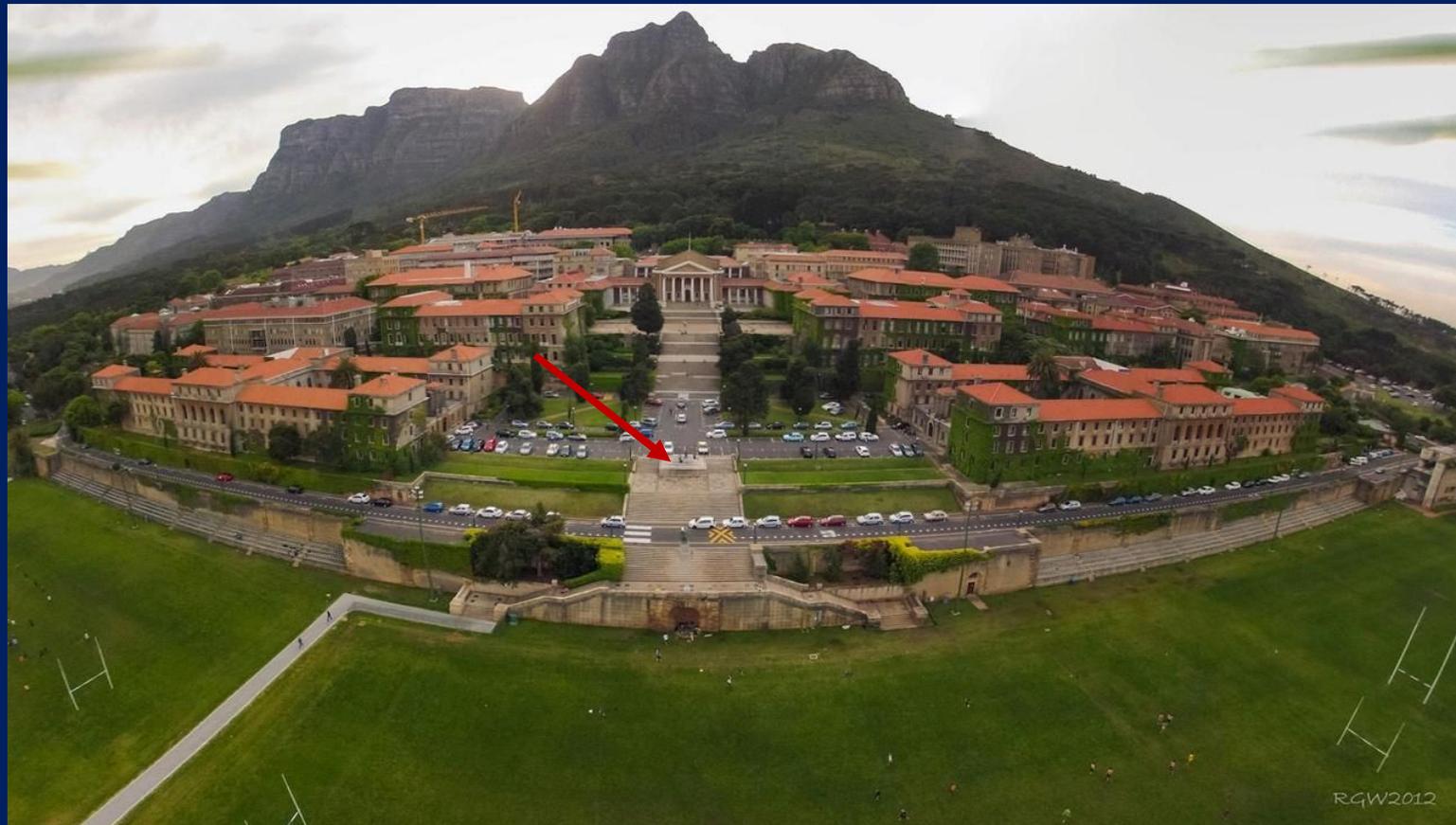


Building UCT's Enterprise Data Warehouse - The Journey so Far

Session #8008

June 28, 2016



Presenter

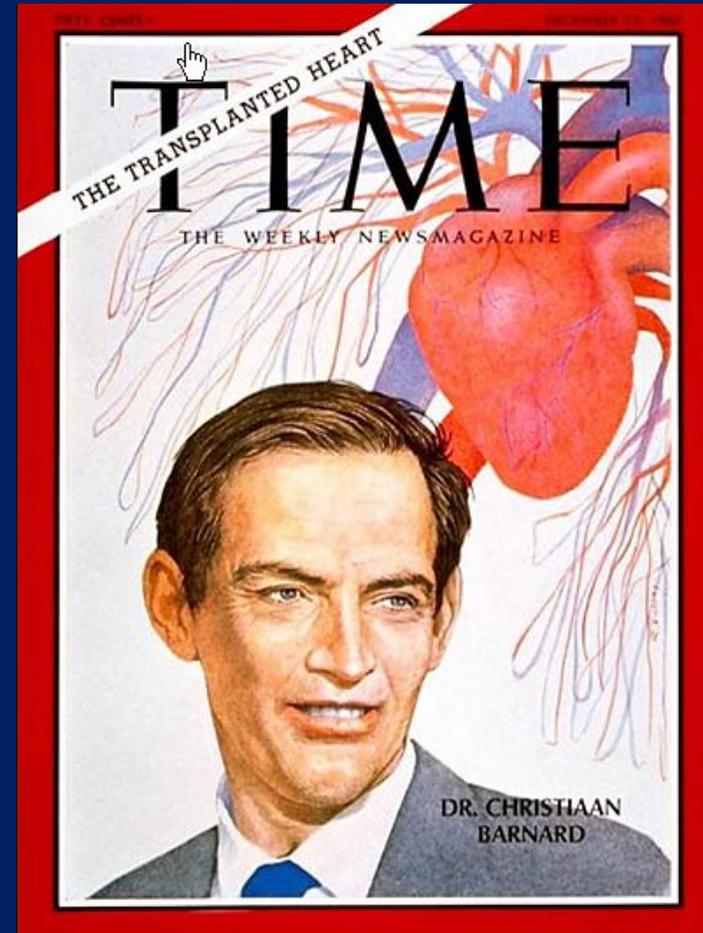
- Sean Bester
- 2005 - 2011 Lead developer involved in the implementation of PeopleSoft Campus Solutions at UCT
- 2012 Responsible for implementing Business Intelligence solutions at UCT

Agenda

- What is a Data Warehouse?
- Why Build a Data Warehouse?
- What's involved in implementing a Data Warehouse /BI project?
- What is Business Objects ?
- BI Launch Pad and Example Reports
- Questions

University of Cape Town

- Over 25 000 Students
- Top-rated African University
- Strong Research Focus
- 5 Nobel Prize Winners
- World's First Heart Transplant



University of Cape Town ERP Systems

- Oracle PeopleSoft Campus Solutions 9
 - Up to Bundle
#37 Applied
 - People Tools 8.54.19
- SAP Finance
- SAP HR
- SAP Business Objects

What is a Data Warehouse?

Data warehouse:

- Consistent store of data
- Data obtained from a authoritative source
- Data can be used to support of a decision-making process.

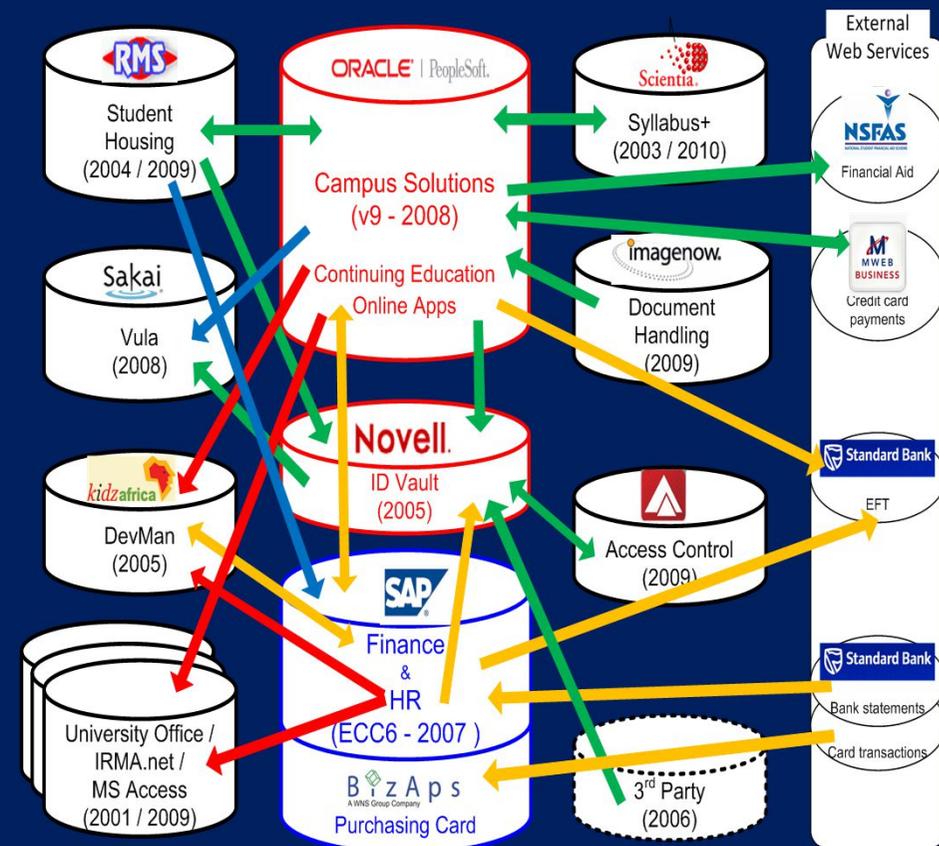
Goal of UCT's Data Warehousing BI initiative

- Easy access to data
- Slice and dice data from every aspect
- Make decisions, rather than argue about numbers

Why Build a Data Warehouse?

University of Cape Town ERP Systems

- PeopleSoft
 - Admissions
 - Student records and Progression
 - Student Financials
 - Financial Aid
- SAP Finance
- SAP HR
- RMS Student Housing
- Syllabus +



What's involved in implementing a Data Warehouse /BI project?

- Identify Business Sponsor/ Champion
- Collect Business Requirements
- Design Dimensional Data Model
- Develop the Extract, Transform, Load (ETL) Process
- Develop BI portal together with initial reports

Identify Business Sponsor/ Champion

- Build good relationship
- Business owner of excel process to become your key BI user

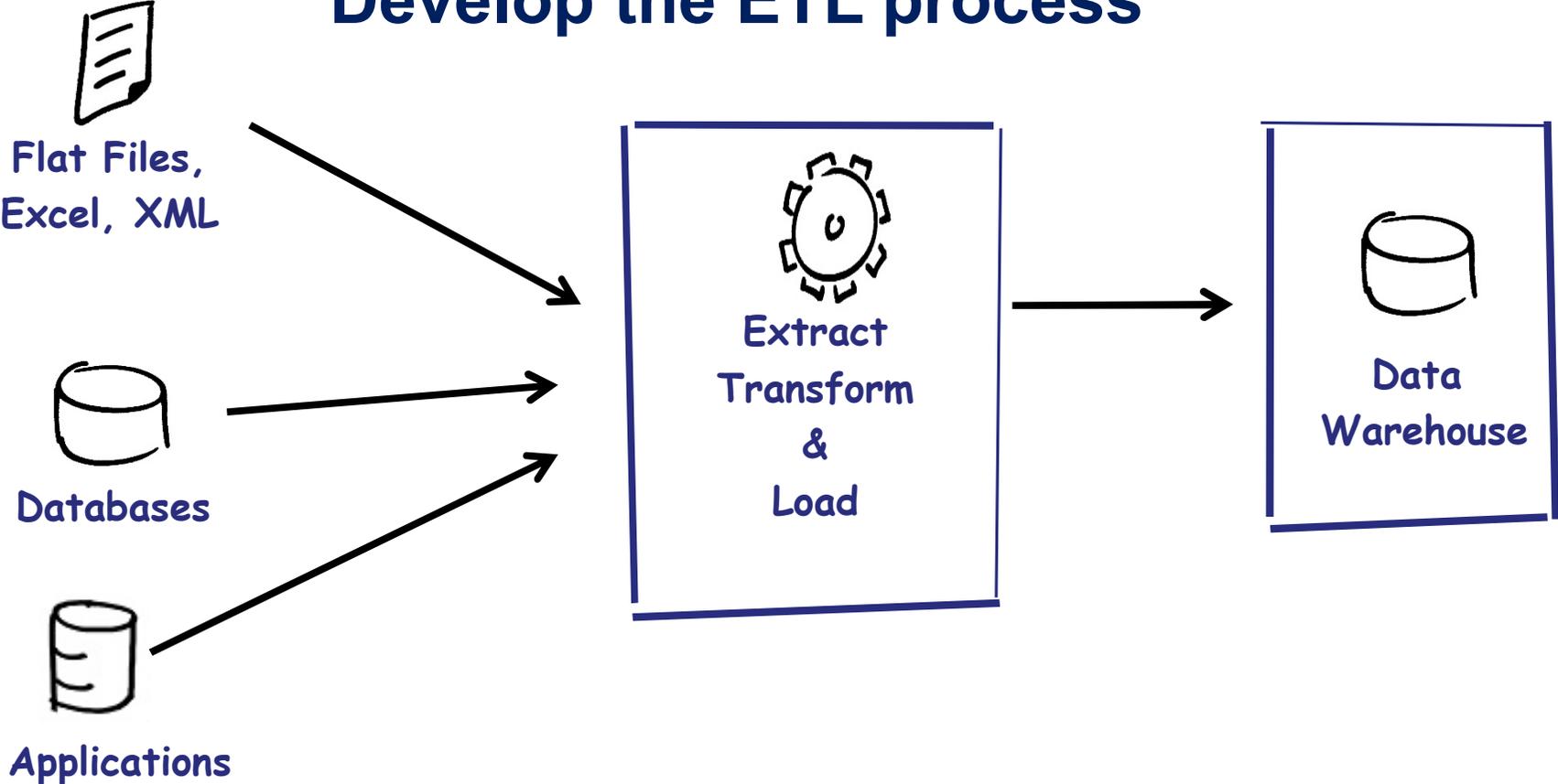
Collecting Requirements

- Select one Business Process
- Focus on user needs
- Focus on KPI's

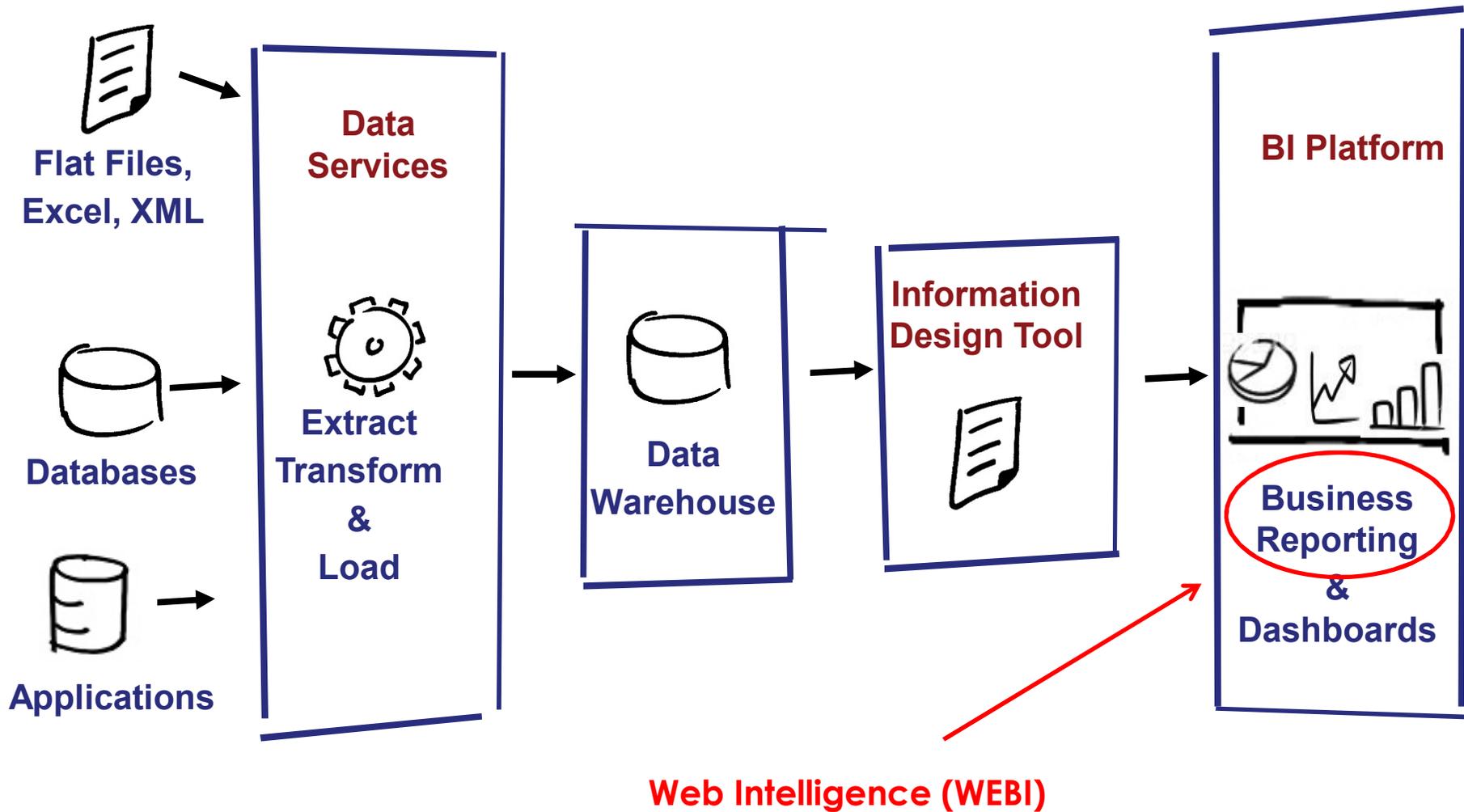
Dimensional Data Model

- Design Critical
- Get good training
- Make everything as simple as possible

Develop the ETL process



What is Business Objects ?





UCT Enterprise Data Warehouse

Admissions

Student
Records

Student
Financials

Financial
Aid

RMS
Housing

SAP HR

Financials
(GL)

Fund
Management

Procurement
& Payments

Libraries

Micro
Lab
Statistics

Exit
Survey

HEMIS

NSC
Results

Learning
Activity (Vula)

NBT

Reporting

BI Launch Pad



SAP Welcome: Sean Bester | Applications ▾ Preferences Help menu ▾ | Log off

Home Documents

▼ My Recently Viewed Doc...

- 004 - ASR EBE Postgra...
- HR025 - Leave Summa...

▼ 0 unread messages in M...

No unread messages

See more...

▼ My Applications



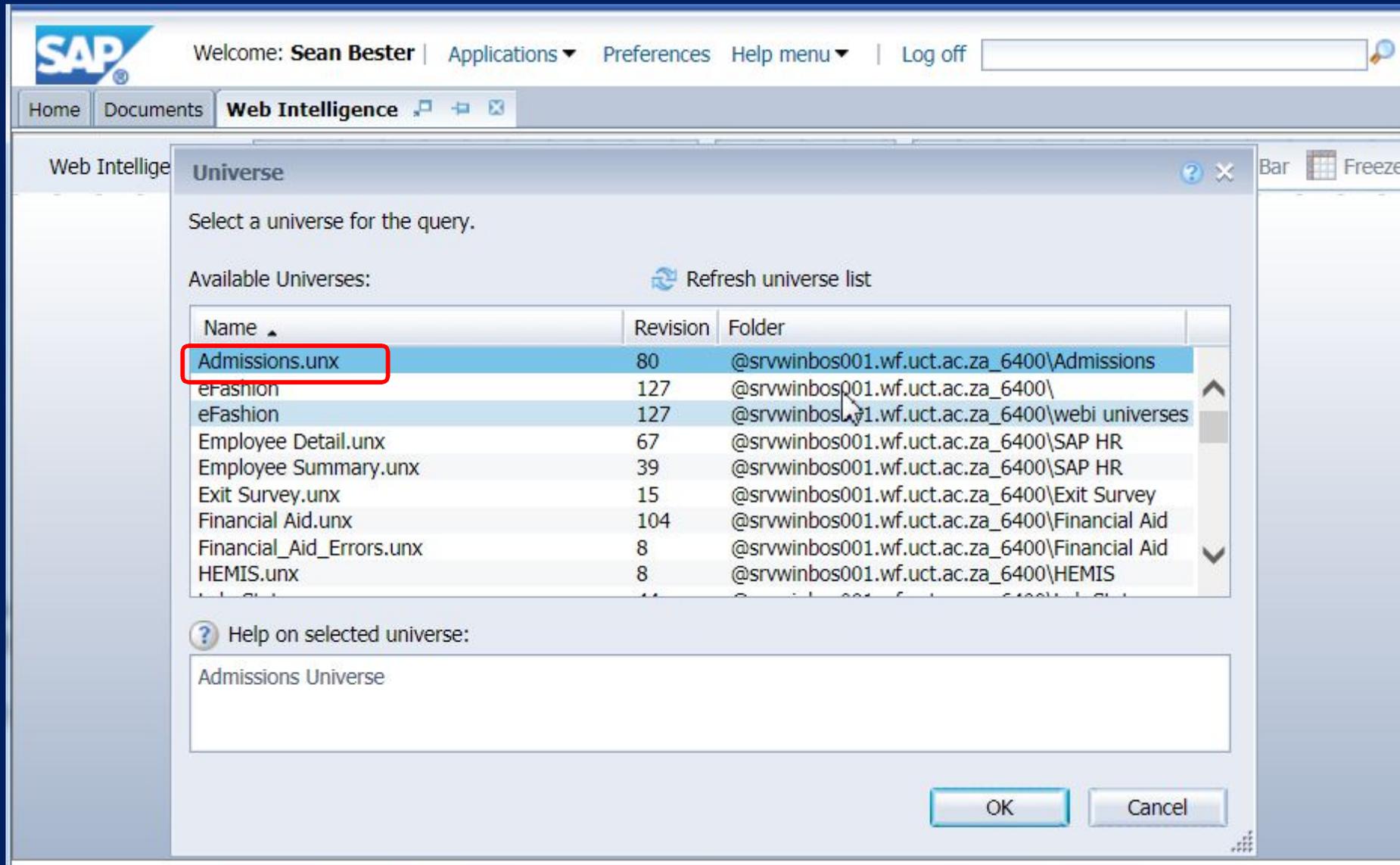
▼ My Recently Run Docum...

No recently run documents

▼ 0 Unread Alerts

No unread alerts

Count of Applications vs Registrations per Faculty for a particular Term



Welcome: Sean Bester | Applications ▾ Preferences Help menu ▾ | Log off

Home Documents **Web Intelligence**

Web Intelligence **Universe**

Select a universe for the query.

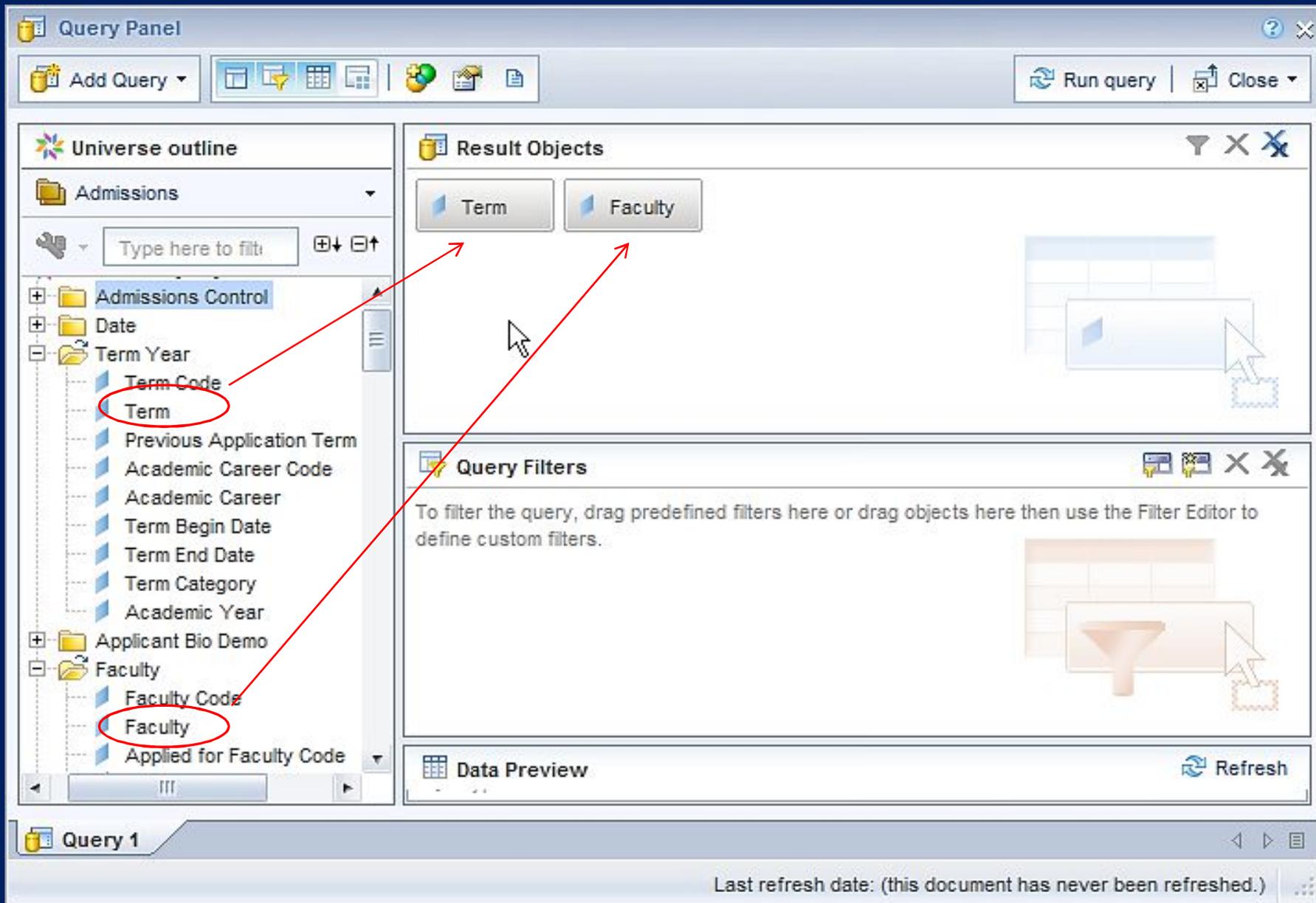
Available Universes: Refresh universe list

Name ▾	Revision	Folder
Admissions.unx	80	@srvwinbos001.wf.uct.ac.za_6400\Admissions
eFashion	127	@srvwinbos001.wf.uct.ac.za_6400\
eFashion	127	@srvwinbos001.wf.uct.ac.za_6400\webi universes
Employee Detail.unx	67	@srvwinbos001.wf.uct.ac.za_6400\SAP HR
Employee Summary.unx	39	@srvwinbos001.wf.uct.ac.za_6400\SAP HR
Exit Survey.unx	15	@srvwinbos001.wf.uct.ac.za_6400\Exit Survey
Financial Aid.unx	104	@srvwinbos001.wf.uct.ac.za_6400\Financial Aid
Financial_Aid_Errors.unx	8	@srvwinbos001.wf.uct.ac.za_6400\Financial Aid
HEMIS.unx	8	@srvwinbos001.wf.uct.ac.za_6400\HEMIS

? Help on selected universe:
Admissions Universe

OK Cancel

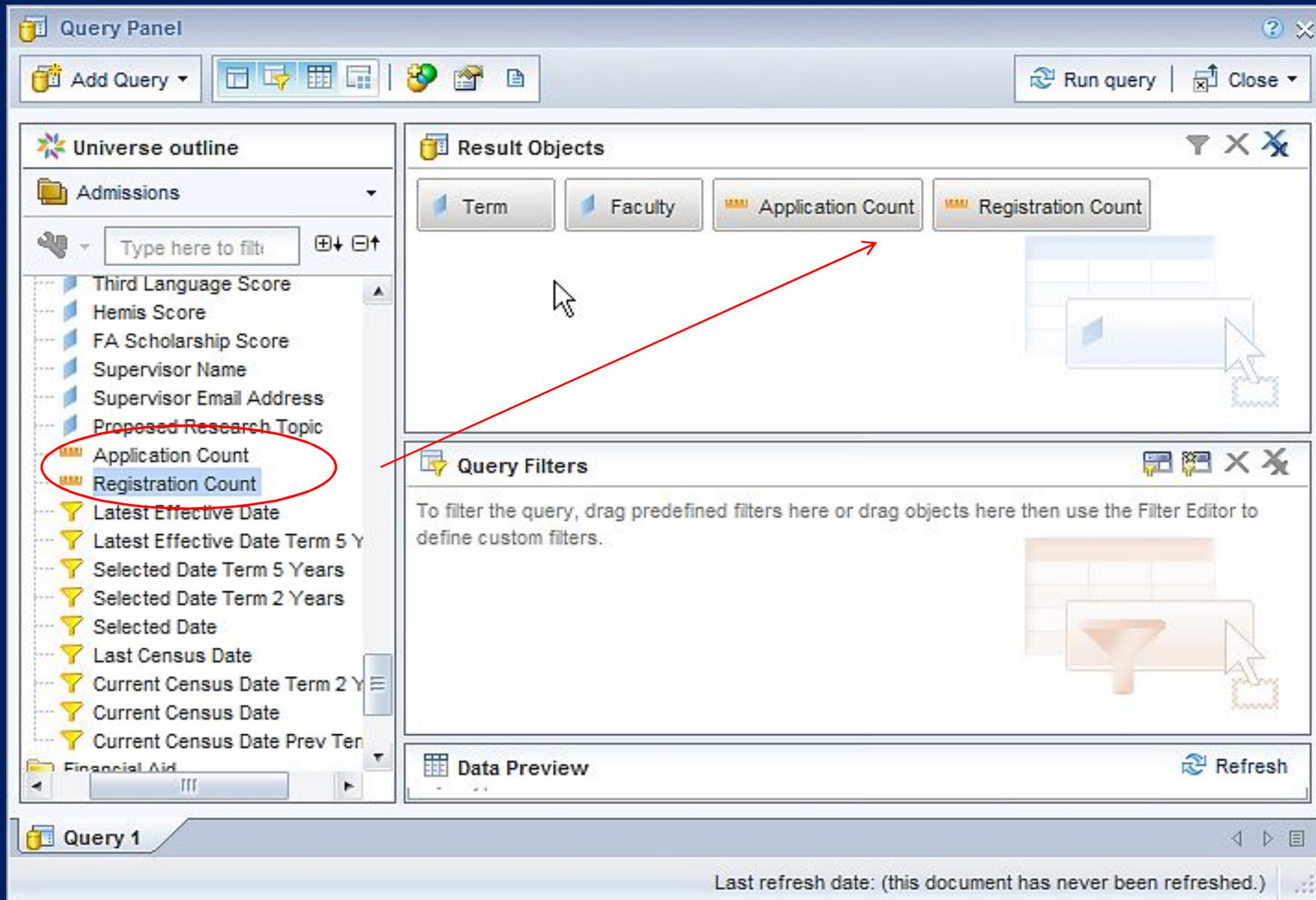
Count of Applications vs Registrations per Faculty for a particular Term



The screenshot displays a 'Query Panel' window with the following components:

- Universe outline:** A tree view on the left showing a hierarchy of data objects. 'Term' and 'Faculty' are circled in red. Red arrows point from these circles to the 'Term' and 'Faculty' buttons in the 'Result Objects' panel.
- Result Objects:** A panel containing two buttons labeled 'Term' and 'Faculty', which have been selected for the query.
- Query Filters:** A panel with instructions: 'To filter the query, drag predefined filters here or drag objects here then use the Filter Editor to define custom filters.'
- Data Preview:** A panel at the bottom with a 'Refresh' button.
- Footer:** A status bar at the bottom right showing 'Last refresh date: (this document has never been refreshed.)'

Count of Applications vs Registrations per Faculty for a particular Term

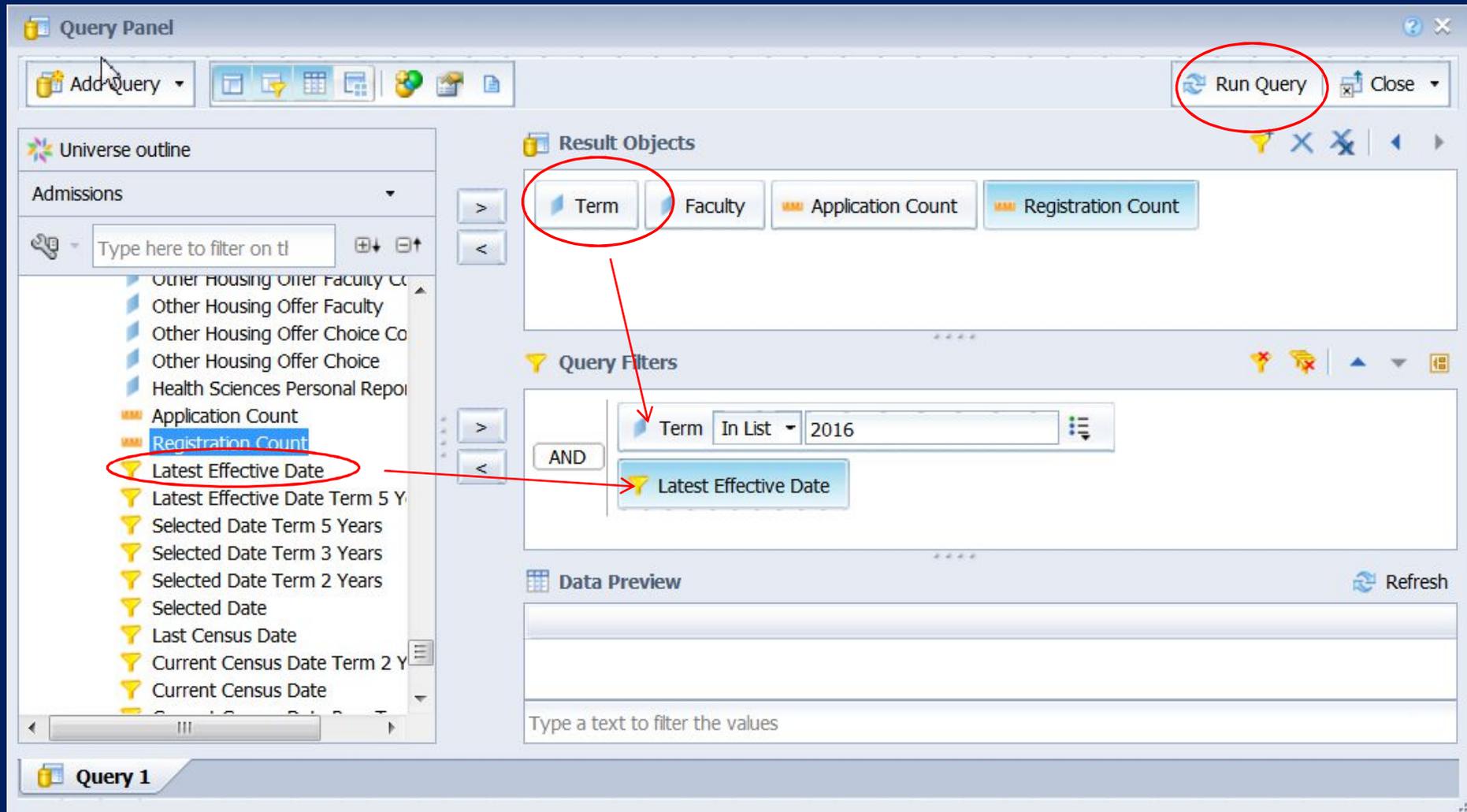


The screenshot displays a software interface for configuring a query. It is divided into several sections:

- Query Panel:** The top bar contains an 'Add Query' dropdown, a toolbar with icons for saving, refreshing, and closing, and buttons for 'Run query' and 'Close'.
- Universe outline:** A tree view on the left showing a hierarchy of data sources. Under 'Admissions', several fields are listed, including 'Application Count' and 'Registration Count', which are circled in red.
- Result Objects:** A section on the right showing the selected fields for the query. It contains buttons for 'Term', 'Faculty', 'Application Count', and 'Registration Count'. A red arrow points from the circled 'Application Count' and 'Registration Count' in the 'Universe outline' to the 'Application Count' button here.
- Query Filters:** A section below 'Result Objects' with instructions: 'To filter the query, drag predefined filters here or drag objects here then use the Filter Editor to define custom filters.'
- Data Preview:** A section at the bottom right with a 'Refresh' button.

At the bottom of the interface, there is a status bar that reads: 'Last refresh date: (this document has never been refreshed.)'

Count of Applications vs Registrations per Faculty for a particular Term



The screenshot displays a software interface for creating and running queries. The main window is titled "Query Panel" and contains several sections:

- Query Panel Header:** Includes an "Add Query" dropdown menu, a toolbar with various icons, and a "Run Query" button circled in red. A "Close" button is also present.
- Universe outline:** A tree view on the left showing a hierarchy of data objects. "Application Count" and "Registration Count" are highlighted in blue. "Latest Effective Date" is circled in red, with a red arrow pointing to its filter configuration in the Query Filters section.
- Result Objects:** A horizontal bar containing four objects: "Term", "Faculty", "Application Count", and "Registration Count". "Term" is circled in red, with a red arrow pointing to its filter configuration in the Query Filters section.
- Query Filters:** A section for defining filter conditions. It shows a filter for "Term" set to "In List" with the value "2016". Below it, a filter for "Latest Effective Date" is shown. An "AND" button is visible between the filters.
- Data Preview:** A section at the bottom for viewing the results of the query, currently empty. It includes a "Refresh" button and a text input field for filtering values.

Count of Applications vs Registrations per Faculty for a particular Term



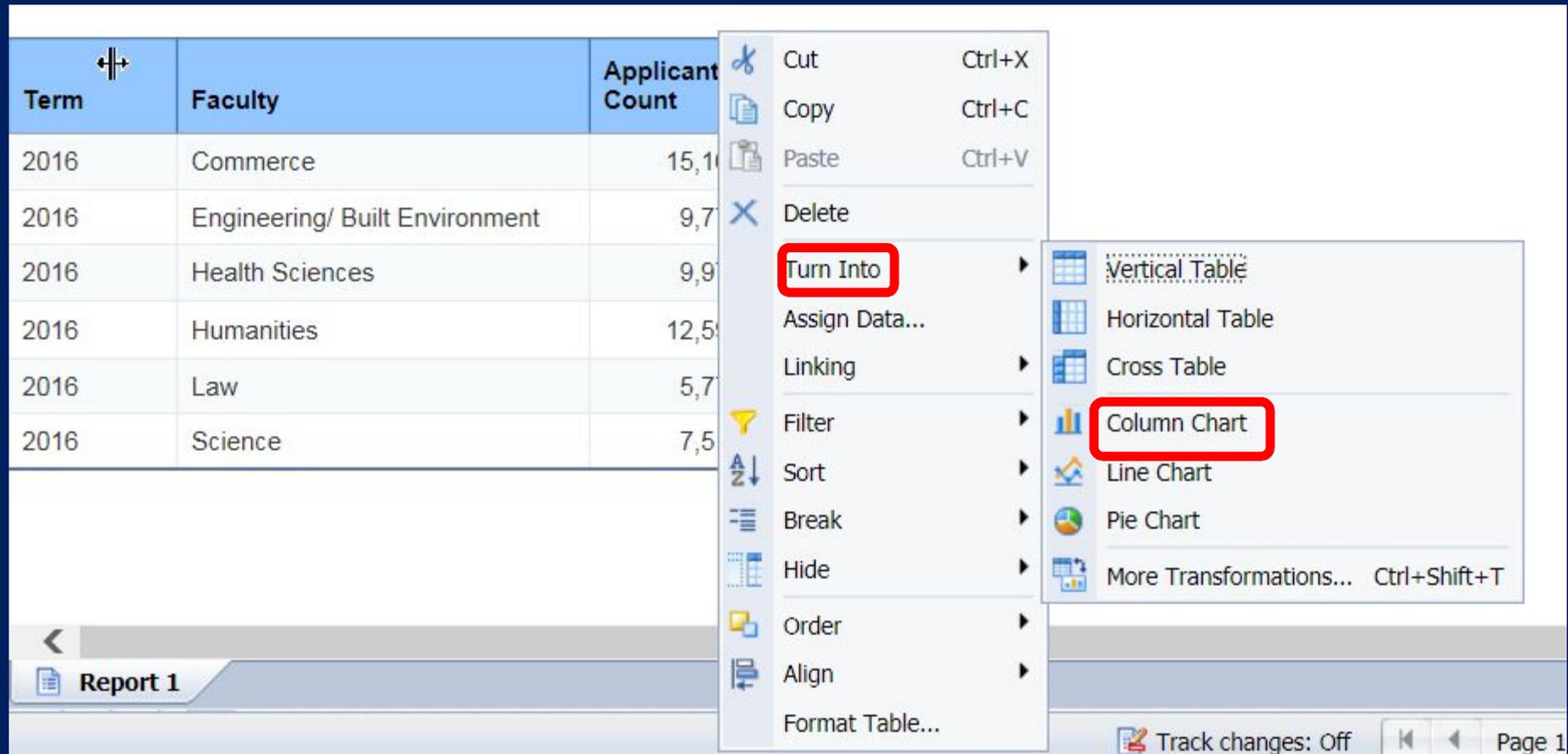
Term	Faculty	Applicant Count	Registration Count
2016	Commerce	15,169	3,297
2016	Engineering/ Built Environment	9,771	1,536
2016	Health Sciences	9,977	1,336
2016	Humanities	12,595	2,824
2016	Law	5,775	620
2016	Science	7,513	1,154

Count of Applications vs Registrations per Faculty for a particular Term

Term	Faculty	Applicant Count
2016	Commerce	15,1
2016	Engineering/ Built Environment	9,7
2016	Health Sciences	9,9
2016	Humanities	12,5
2016	Law	5,7
2016	Science	7,5

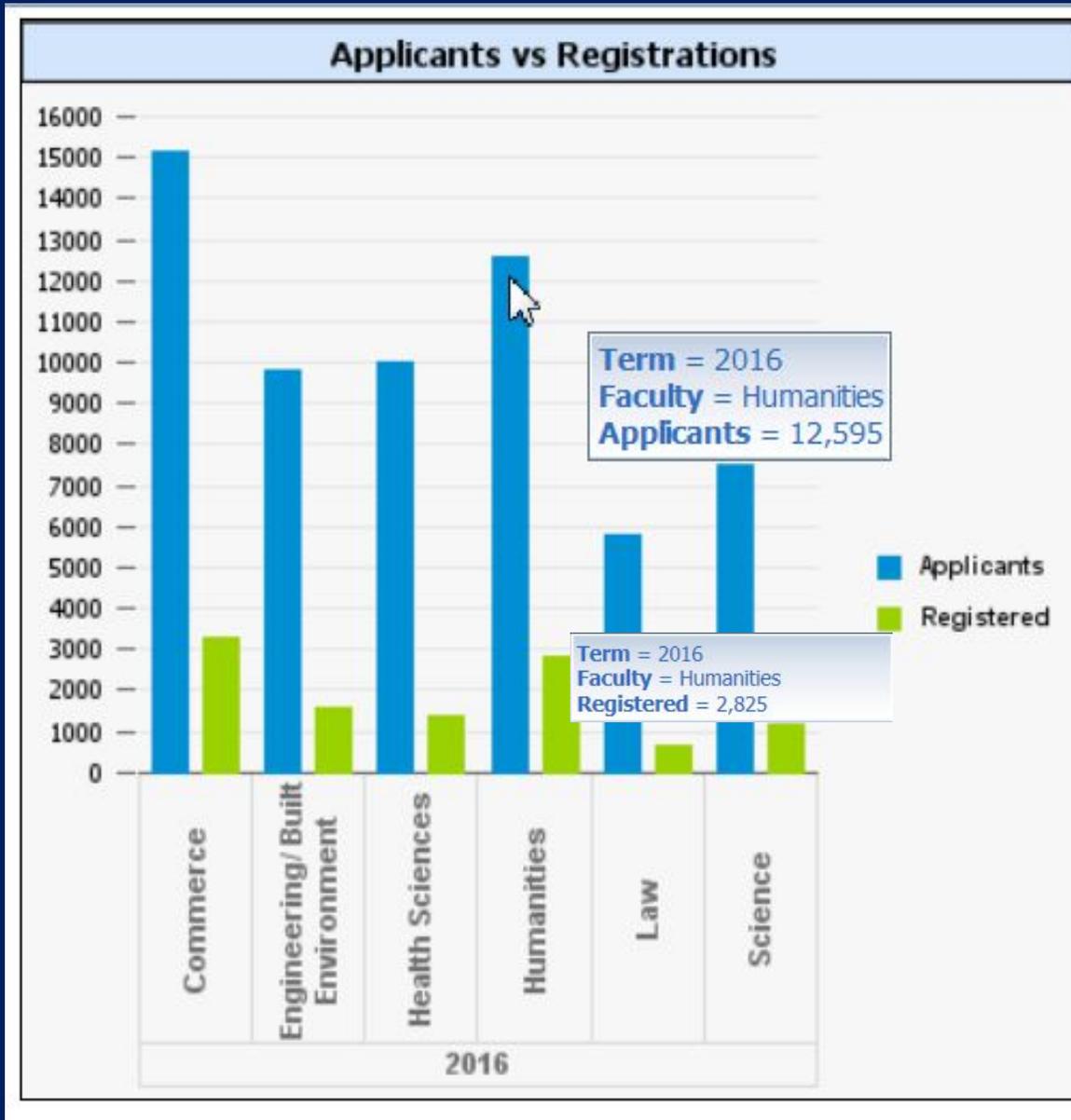
Report 1

Track changes: Off Page 1



The screenshot shows a software interface with a data table and a context menu. The table has three columns: Term, Faculty, and Applicant Count. The context menu is open over the table, and the 'Turn Into' option is highlighted with a red box. The 'Column Chart' option is also highlighted with a red box. The interface includes a 'Report 1' tab and a 'Track changes: Off' status bar.

Count of Applications vs Registrations per Faculty for a particular Term



Admissions Summary Report

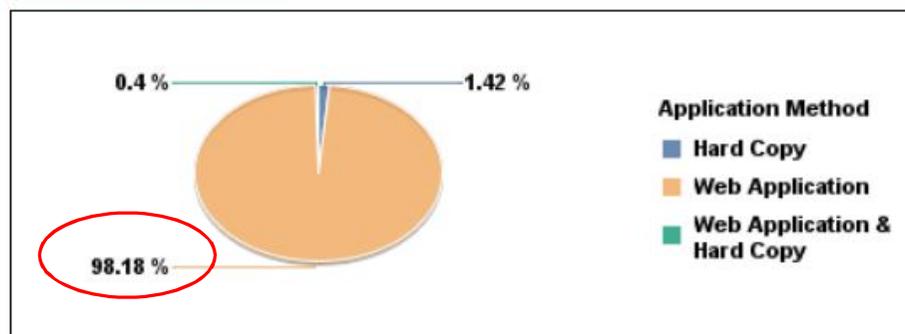


UNIVERSITY OF CAPE TOWN
 IYUNIVESITHI YASEKAPA · UNIVERSITEIT VAN KAAPSTAD

Summary of 2017 Applications Received and Processed
 as at Wednesday 22 June 2016

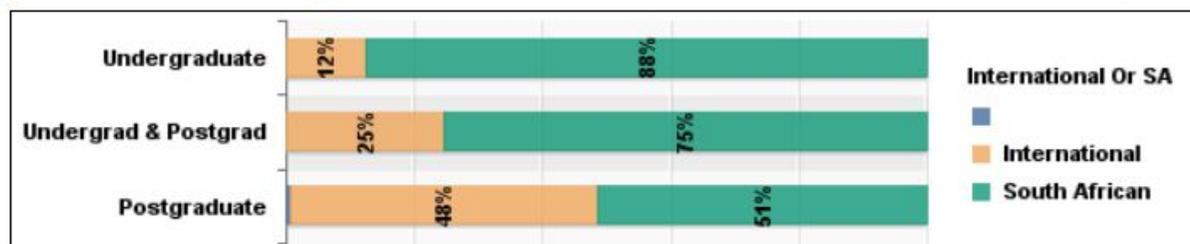
Application Methods

Application Method	Web Application & Hard Copy	Web Application	Hard Copy	Total Applicants
Applicant Count	65	16,071	233	16,369



Citizenship and Residency of Applicants

	South African	International		Total Applicants
Undergraduate	12,452	1,762	14	14,228
Undergrad & Postgrad	107	35		142
Postgraduate	1,025	963	11	1,999
Total Applicants	13,584	2,760	25	16,369



Applicant Status Report



Prompts

Prompts Summary

- ✓ * 1. Enter Term: **2017**
- ✓ * 2. Enter Faculty: **Law**
- ✓ 3. Enter values for Academic Career Code: **UGRD** **Undergraduates**
- ✓ 4. Enter values for Academic Program Code:
- ✓ 5. Enter values for Academic Plan 1 Code:
- ✓ 6. Enter values for Program Status:
- ✓ 7. Enter values for Program Action Code: **DDEF** **Defer Decision**
- ✓ 8. Enter values for Program Reason Code: **MARG** **Marginal Applicants**
- ✓ 9. Enter values for Admit Type Code:
- ✓ 10. Enter values for International Or SA:
- ✓ 11. Enter Application Date (yyyymmdd):

* Required prompts

2. Enter Faculty:

Type values here

Refresh Values >

Faculty <

[EMPTY_VALU... ▲

Admissions

Arts

Centre for High

CHED - Contin

Commerce

Education

Engineering/ Bi

Fine Art & Arch ▼

24 May 2016
1:45:15 PM

OK Cancel

Applicant Status Report

ASR for Application Year 2017 , Law Faculty

Total Applications: 133

Prompts Summary	
Term	2017
Faculty	Law
Academic Career Code (Optional)	UGRD
Academic Program Code (Optional)	
Academic Plan Code 1 (Optional)	
Program Status (Optional)	
Program Action Code (Optional)	DDEF
Program Reason Code (Optional)	MARG
Admit Type Code (Optional)	
International Or SA (Optional)	
Application Date (Optional)	

Report Summary	
Date Time Warehouse Last Updated	2016-05-23 22.07.52
Date Report Last Refreshed	2016-05-24
Total Applications	133

Applicant Status Report

Application Number	Campus Id	Application Method	Academic Career	Academic Program	Academic Plan 1	Admit Type	Choice	Program Action	Program Reason	Prev Program Action	Prev Program Reason	Effective Date	Program Status
00813667		Web Application	UGRD	LB002	LB002RDL06	FU	FRST	DDEF	MARG	DDEF	NBT	05-05-2016	Applicant
00809884		Web Application	UGRD	LB002	LB002RDL06	FU	SCND	DDEF	MARG	DDEF	NBT	05-05-2016	Applicant
00802673		Web Application	UGRD	LB002	LB002RDL06	FU	SCND	DDEF	MARG	DDEF	NBT	05-05-2016	Applicant

Eng Grd12 Apr	Eng Grd12 Apr Rslt	Math Grd12 Apr	Math Grd12 Apr Rslt	Mth Lit Grd12 Apr	Mth Lit Grd12 Apr Rslt	Adv Mth Grd12 Apr	Adv Mth Grd12 Apr Rslt	Phy Sci Grd12 Apr	Phy Sci Grd12 Apr Rslt	Lif Sci Grd12 Apr	Lif Sci Grd12 Apr Rslt	Lif Ori Grd12 Apr	Lif Ori Grd12 Apr Rslt
ENFN	92	MTHN	80					PSCN	63	LFSN	80	LFON	85
ENFN	64	MTHN	67					PSCN	63	LFSN	73	LFON	75
ENFN	64	MTHN	68					PSCN	54	LFSN	76	LFON	75

Grade11 Final Score	Grade12 April Score	Grade12 June Score	Grade12 September Score	Grade12 Final Score	Grade11 Final Weighted Score	Grade12 April Weighted Score	Grade12 June Weighted Score	Grade12 September Weighted Score	Grade12 Final Weighted Score	Disadvantage Factor
379.	331.				382.79	334.31				1.01
	287.					315.7				1.1
379.	379.				401.74	401.74				1.06

Cover Sheet



Campus Id	/	Empl Id	1588253	Other, Mr AN		Male	Admit Type	FU	
Admit Term	2017	Sem		Application Method		Web Application	Appl Date	2016-05-02	
Qualification	LB002 Bachelor of Laws (LB002)			Choice	FRST	Status	DDEF/MARG	Prev	DDEF/NBT
Specialisation	LB002RDL06 Law						Prev Appl Term		
Other Qualification	HB001 Bachelor of Social Science			Choice	SCND	Status	DDEF/NBT	Prev	APPL/SCND
Other Specialisation	HB001DOH01 Humanities General								
Birth Date	Id Number	Pop Group	Home Lang	Disability	Citizenship Residency	Redress Category	Non SA Citizenship		
1998-06-22	9806225111088	NA/Unknown	English		SA Citizen	2-Redress Category			
Housing Status	HO Date	Allocated Residence	HO Fac	HO Type	HO Reason	Other HO Fac	Other HO Type	Other HO Reason	
Curro Durbanville Private Schl - Durbanville					Western Cape Education Dept				
Year	Exemption	Term	School Subject	Grd11 Final	Grd12 Apr	Grd12 Jun	Grd12 Sept	Grd12 Final	
2016		12FN	Accounting	60	49			OS	
			Afrikaans 1st Additional Lang	53	65			OS	
			Business Studies	66	49			OS	
			English Home Language	64	57			OS	
			History	62	61			OS	
			Life Orientation	68	66			OS	
			Mathematical Literacy	74	50			OS	
Total Subjects with Grade12 Results									
NBT	AL	QL	Math	Scores	Grd11	Grd12 Apr	Grd12 Jun	Grd12 Sept	Grd12 Final
Score				NSC/School	379	331			

Schools Update Report



Reddam House 2017 Applicant Status Update for 2016 Grade 12 Applicants as at Friday 27 May 2016
Total Applicants: 33

Applicant Number	Academic Program	Current Status	Status Reason
	BBusSc in Management Studies	Defer Decision	Awaiting NBT results
	BSc in Property Studies	Defer Decision	Awaiting NSC and NBT results
	Bachelor of Laws(LB002)	Defer Decision	Awaiting NBT results
	BBusSc in Management Studies	Defer Decision	Awaiting NBT results
	BBusSc in Management Studies	Conditional Admit	Conditional on receipt of NBT
	BSc Eng in Mechatronics	Conditional Admit	Conditional on receipt of NBT
	BScEng in Elec & Computer Eng	Conditional Admit	Conditional on receipt of NBT
	BSc Eng in Mechatronics	Conditional Admit	Conditional on receipt of NBT
	Bachelor of Arts	Defer Decision	Awaiting NBT results
	Bachelor of Science SB001	Defer Decision	Awaiting NBT results
	BBusSc in Management Studies	Application	First Choice
	BSocSc in Pol, Phil & Econ	Defer Decision	Awaiting NSC and NBT results
	Bachelor of Arts	Defer Decision	Awaiting NBT results
	Bachelor of Laws(LB002)	Defer Decision	Awaiting NBT results
	Bachelor of Science SB001	Conditional Admit	Conditional on receipt of NBT

Schools Update Report



Reddam House 2017 Applicant Status Update for 2016 Grade 12 Applicants as at Friday 27 May 2016
Total Applicants: 33

Applicant Number	Received Grade11 Final Result	Received Grade12 April Result	Received Grade12 June Result	Received Grade12 Sept Result	Received NBT AL Result	Received NBT QL Result	Received NBT Math Result
	Yes	Yes	No	No	No	No	No
	Yes	Yes	No	No	No	No	No
	Yes	Yes	No	No	No	No	No
	Yes	Yes	No	No	No	No	No
	Yes	Yes	No	No	No	No	No
	No	No	No	No	No	No	No
	Yes	Yes	No	No	No	No	No
	Yes	Yes	No	No	No	No	No

Schools Qualifications and Awards



Reddam House

Number of students awarded qualifications in 2014 by level and faculty

	Commerce	Engineering/ Built Environment	Health Sciences	Humanities	Law	Science	Total
Undergraduate	10	5		9		5	29
Postgraduate Diploma	4			2			6
Honours	2	2	1	4		4	13
Masters	2	3	1	2	4	3	15
Total	18	10	2	17	4	12	63

Number of students awarded qualifications in 2015 by level and faculty

	Commerce	Engineering/ Built Environment	Health Sciences	Humanities	Law	Science	Total
Undergraduate	6	4	3	16	1	2	32
Postgraduate Diploma	1						1
Honours	1	1	3	3		2	10
Masters		2	1				3
Total	8	7	7	19	1	4	46

Schools Qualifications and Awards



UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA - UNIVERSITEIT VAN KAAPSTAD

Friday 27 May 2016

Reddam House

Number of Students Awards by Faculty in 2014

	Commerce	Engineering/ Built Environment	Health Sciences	Humanities	Law	Science	Total
Class Medal	2	1		5			8
Dean's Merit List	11	11	1	8	1	2	34
Prize	2	2		2	1		7
Scholarship		1		2			3
	15	15	1	17	2	2	52

Number of Students Awards by Faculty in 2015

	Commerce	Engineering/ Built Environment	Health Sciences	Humanities	Law	Science	Total
Class Medal	1	2		6			9
Dean's Merit List	8	4	3	10	1	1	27
Prize		4		1			5
	9	10	3	17	1	1	41

HEMIS Throughput

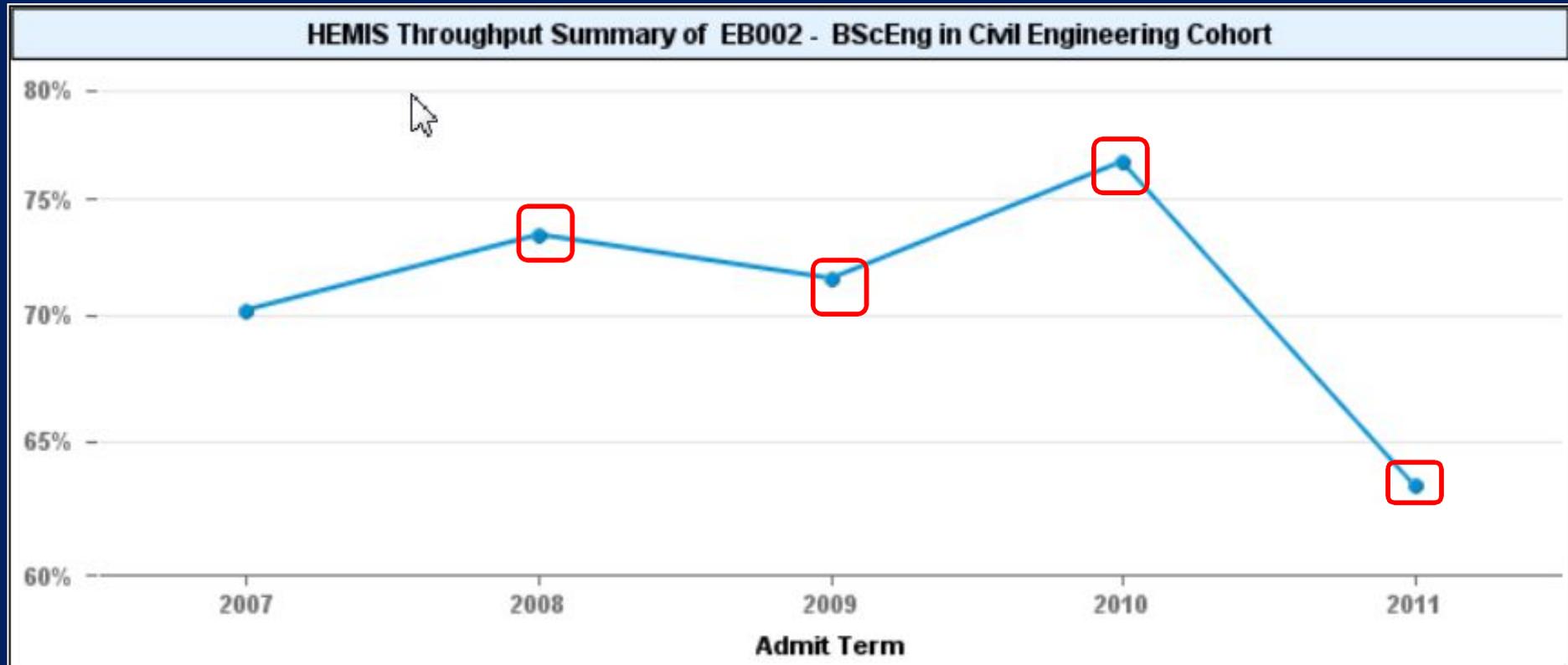
HEMIS Throughput Summary of EB002 - BScEng in Civil Eng

Admit Term	HEMIS Start Academic Program Code	Program Normal Completion (EB002)	Graduating / Latest Academic Program		Number of Students in Cohort	Graduated in less than minimum time	Graduated in minimum time	Graduated in minimum time + 1 year	Graduated in minimum time + 2 years
			Faculty	Academic Program					
2010	EB002	4	COM	BCom	1	1			
2010	EB002	4	COM	BCom Actuarial Science	1	1			
2010	EB002	4	EBE	BScEng in Chemical Engineering	1		1		
2010	EB002	4	EBE	BScEng in Civil Engineering	69		33	12	7
2010	EB002	4	EBE	BSc in Construction Studies	1				
2010	EB002	4	LAW	Bachelor of Laws (LB002)	1			1	
Total					74		35	14	7
						2010 Total HEMIS Graduates			56

HEMIS Throughput

Graduating Academic Program											
Academic Program	Number of Students in Cohort	Graduated in less than minimum time	Graduated in minimum time	Graduated in minimum time + 1 year	Graduated in minimum time + 2 years	Graduated in more than minimum time + 2 years	Eligible to Continue	Dropped Out in Good Academic Standing	Excluded	Pending	Total
BCom	1		1								1
BCom Actuarial Science	1		1								1
BScEng in Chemical Engineering	1			1							1
BScEng in Civil Engineering	69		33	12	7		1	3	12	1	69
BSc in Construction Studies	1								1		1
Bachelor of Laws (LB002)	1			1							1
	74		35	14	7		1	3	13	1	74
		2010 Total HEMIS Graduates				56			HEMIS Throughput		76%

HEMIS Throughput



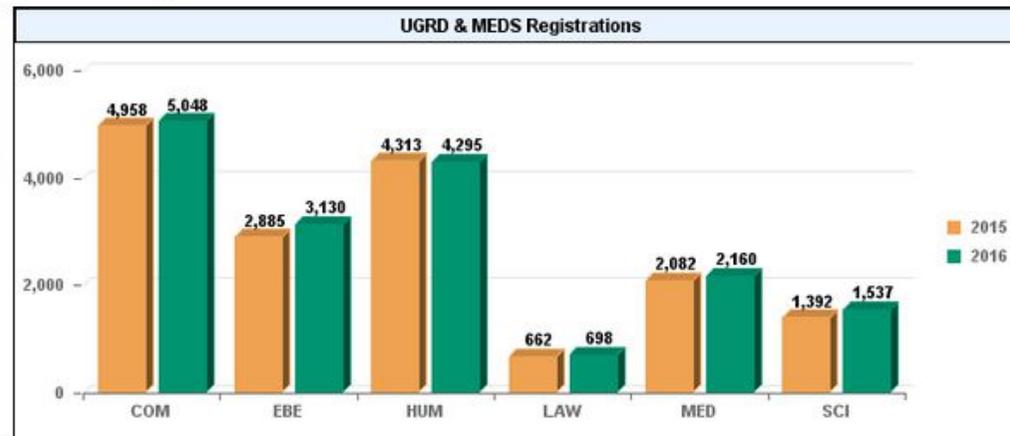
Compare Registration Patterns over 2 years

Complete Registrations for Undergraduate and MEDS Students in January and February over 2 Years

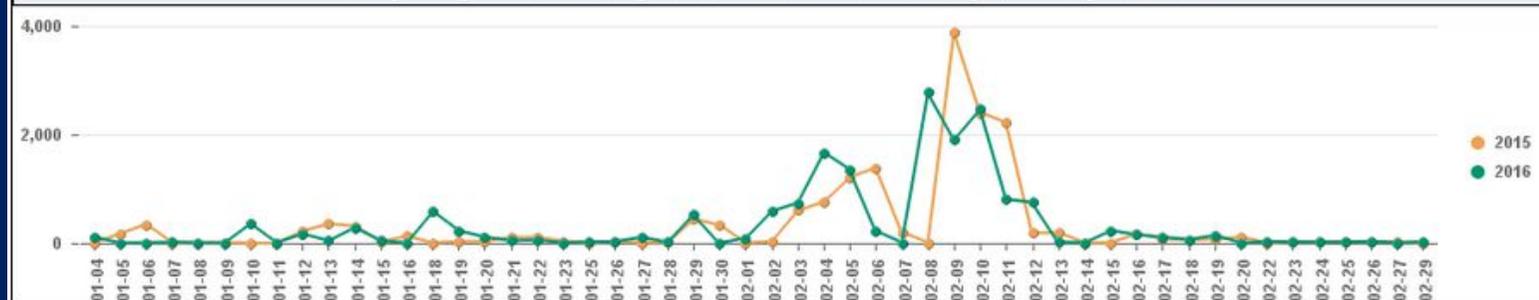
Date and Time Warehouse Last Updated 2016-05-26 22:09:09

The date of registration is determined by using the first date a student registered on a course.

	2015 Registered Students in Jan & Feb	2016 Registered Students in Jan & Feb	Percentage of 2016 Registered Students in Jan & Feb Compared to 2015
COM	4,958	5,048	101.82%
EBE	2,885	3,130	108.49%
HUM	4,313	4,295	99.58%
LAW	662	698	105.44%
MED	2,082	2,160	103.75%
SCI	1,392	1,537	110.42%
Totals	16,292	16,868	103.54%



Compare Registrations for Undergraduate and MEDS Students in January and February over 2 Years



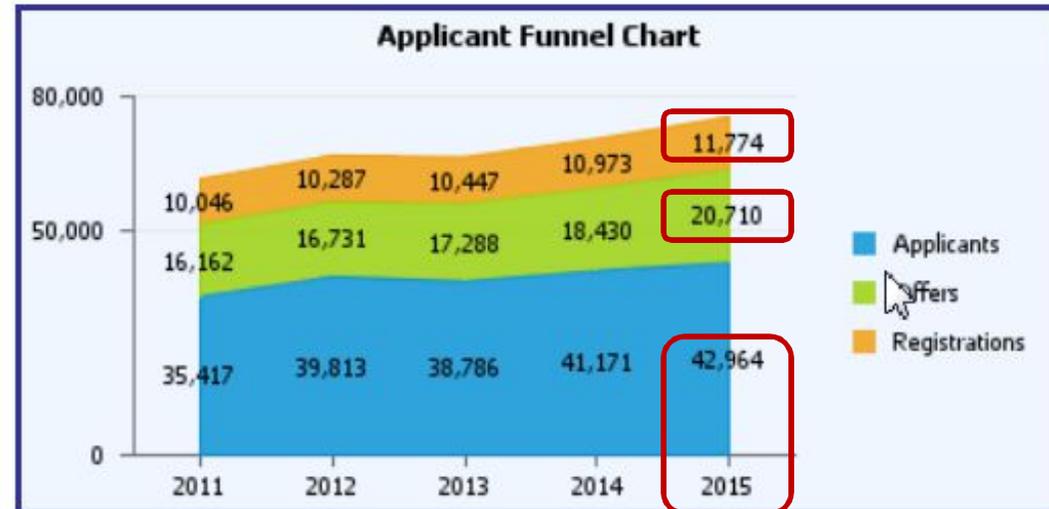
Jan	04	05	06	07	08	09	10	11	12	13	14	15	16	18	19	20	21	22	23	25	26	27	28	29	30	Total	
2015		173	344	5	4	6			217	355	309	24	123		28	31	98	104	35		24	7	9	439	328	2,661	
2016	105	1	3	14	2		354	4	166	39	284	40		579	222	107	41	51			17	25	105	11	528		2,698

Feb	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	22	23	24	25	26	27	29	Total
2015	1	28	601	756	1,217	1,388	196	3	3,888	2,405	2,215	179	189	2	5	167	70	50	68	107		22	13	32	14	14		13,630
2016	89	586	739	1,664	1,347	218	1	2,774	1,908	2,469	804	745	15	3	226	151	105	63	138		28	18	14	16	28		21	14,170

Admissions Dashboard

Applicants vs Offers vs Registrations Overview

Admit Term	Applicants	Offers	Registrations
2011	35,417	16,162	10,046
2012	39,813	16,731	10,287
2013	38,786	17,288	10,447
2014	41,171	18,430	10,973
2015	42,964	20,710	11,774



Graduate Level 2015



Registrations

Undergraduate Postgraduate

Gender 2015



Registrations

Female Male Trans

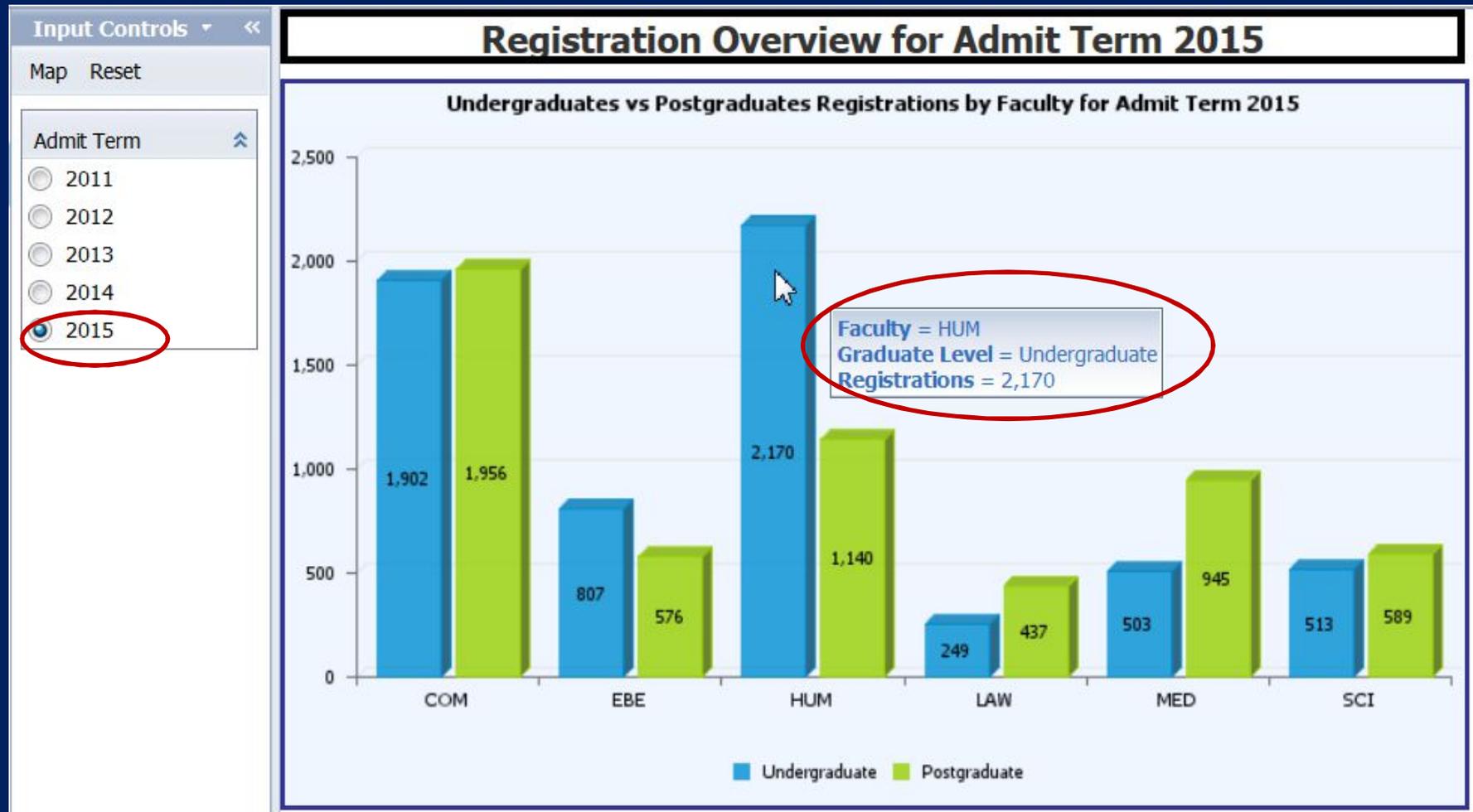
SA or International 2015



Registrations

South African International

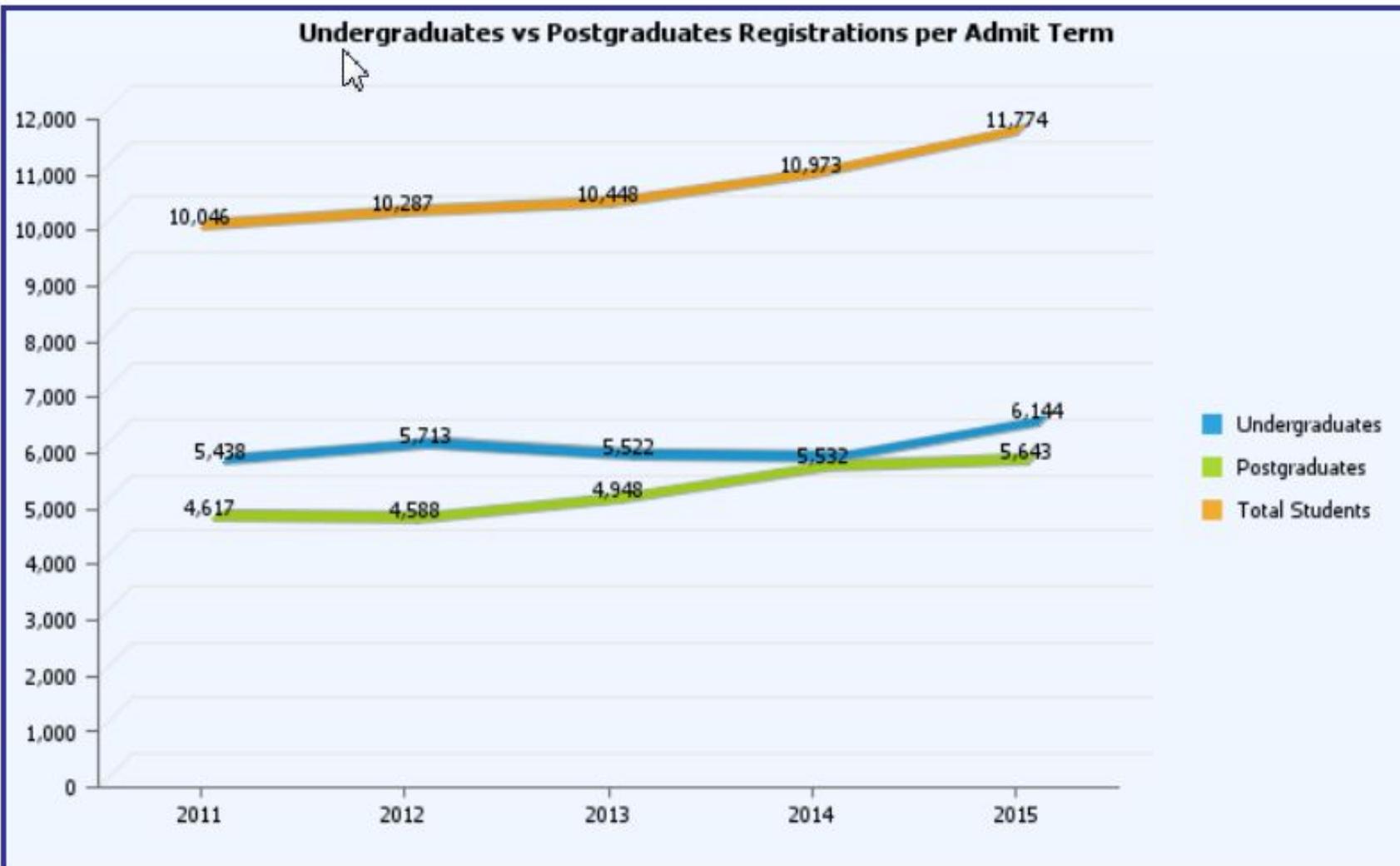
Registration Overview for Admit Term



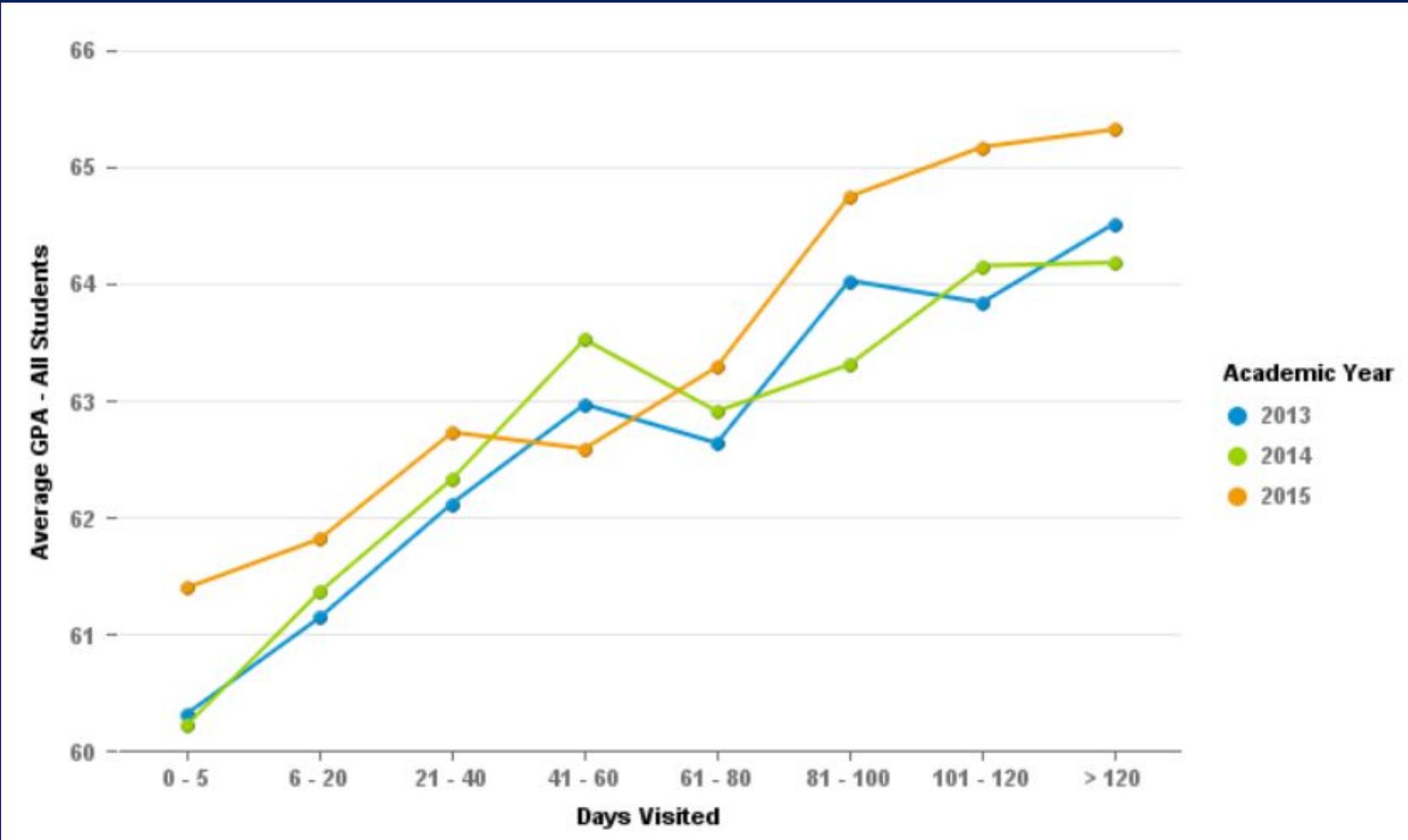
Registration Overview per Admit Term

Registration Overview per Admit Term

Undergraduates vs Postgraduates Registrations per Admit Term



Student's GPA vs Library Visits - Humanities

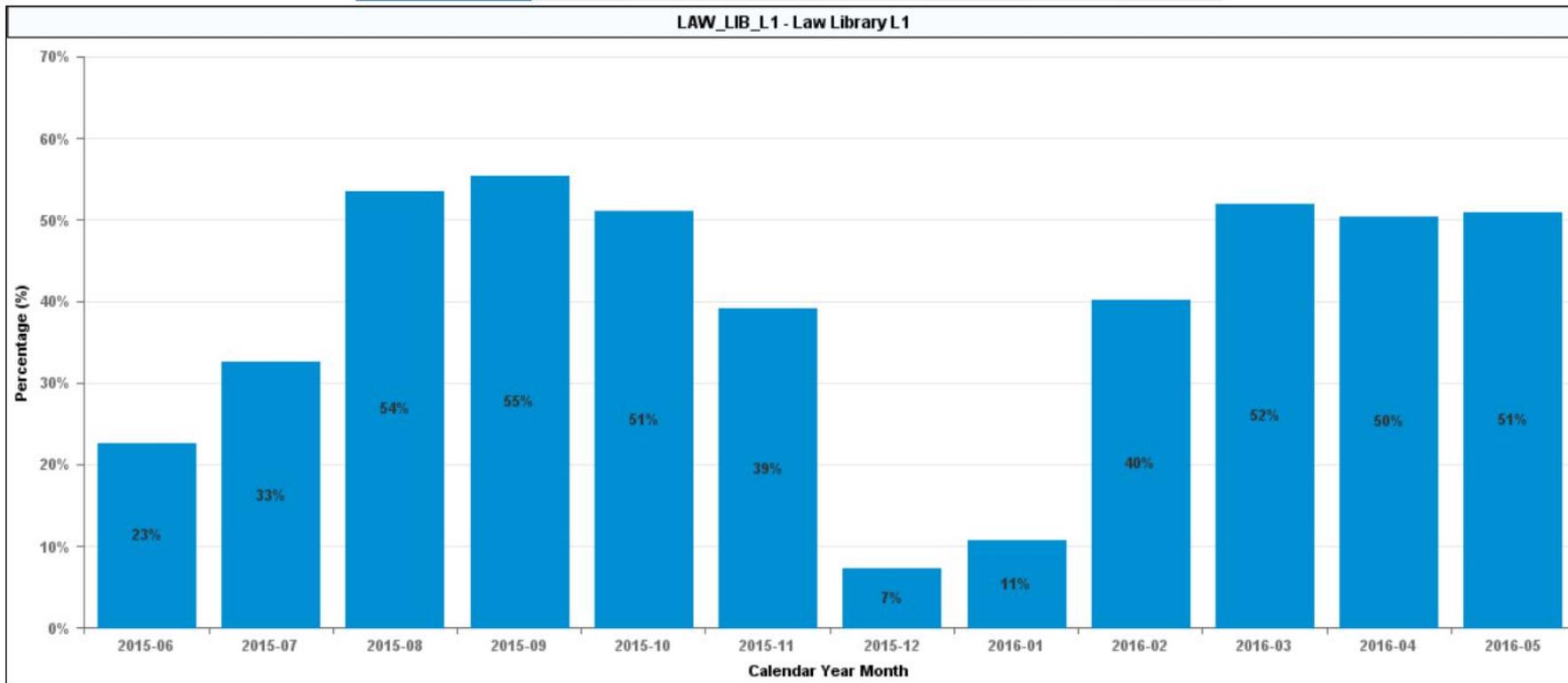


Student Lab Percentage Usage by Month

Student lab percentage usage by month graph (bar graph) Graph

LAW_LIB_L1 - Law Library L1

Number of Workstations	53	Day	MON	TUE	WED	THU	FRI	SAT	SUN
Day Of Week		Open	08:30:00	08:30:00	08:30:00	08:30:00	08:30:00	08:30:00	08:30:00
		Closed	22:00:00	22:00:00	22:00:00	22:00:00	22:00:00	17:00:00	17:00:00
		Number Of Hours	13.5	13.5	13.5	13.5	13.5	8.5	8.5

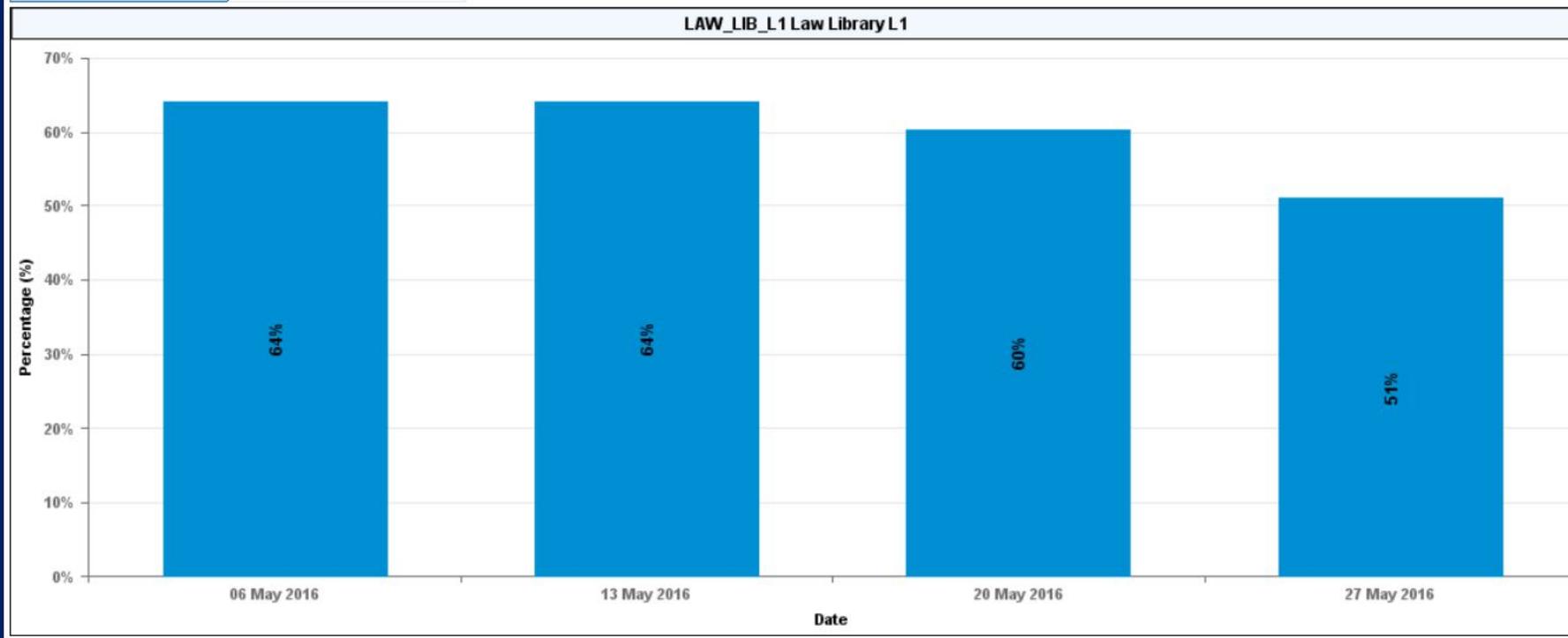


Student Lab Percentage for a Specific Time Period

Student lab percentage usage by day bar chart

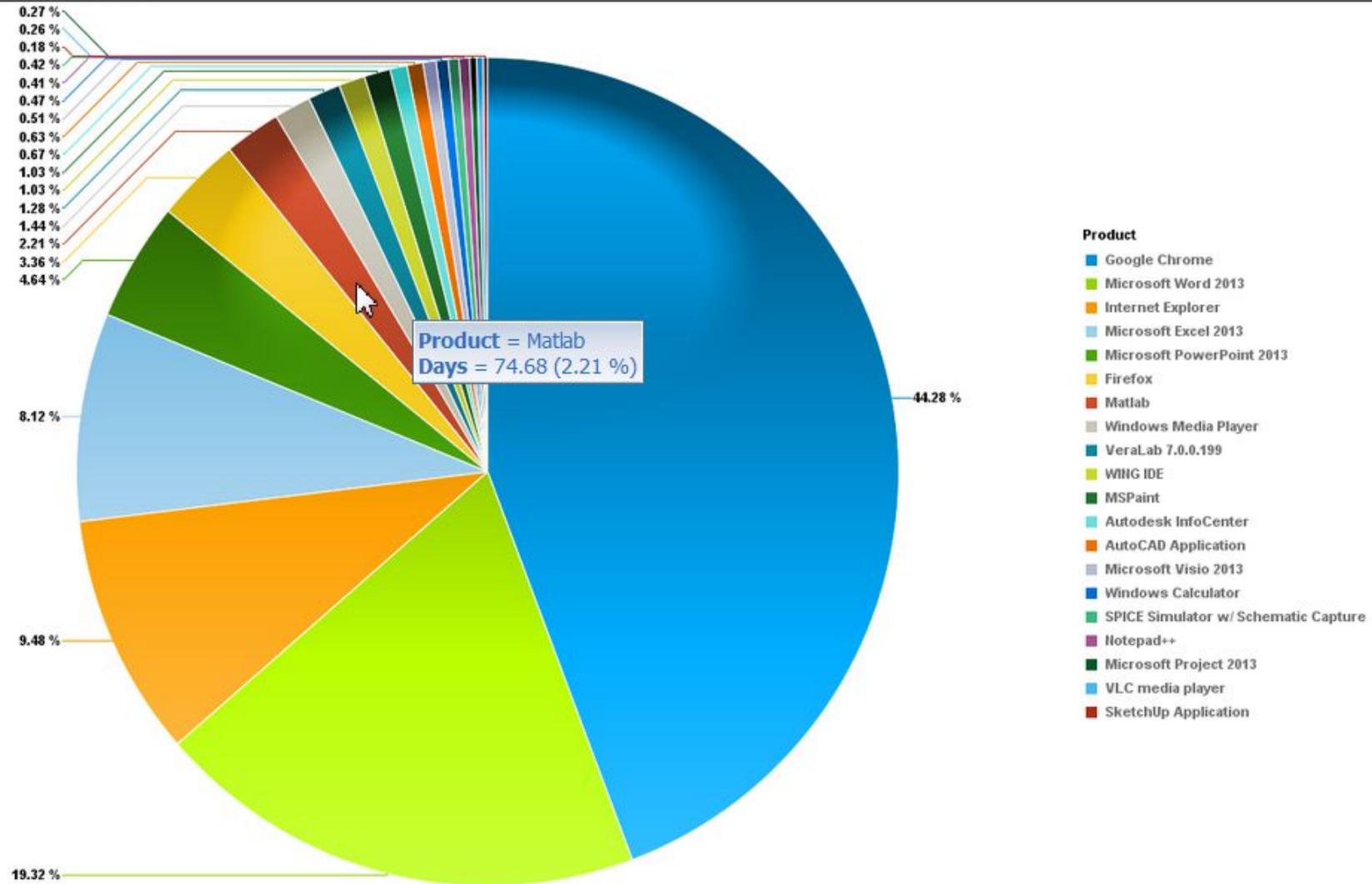
LAW_LIB_L1

Room Name	LAW_LIB_L1 Law Library L1
Number of Workstations	53
Start Hour	20
End Hour	22
Number of Hours	2
Day Of Week	Friday

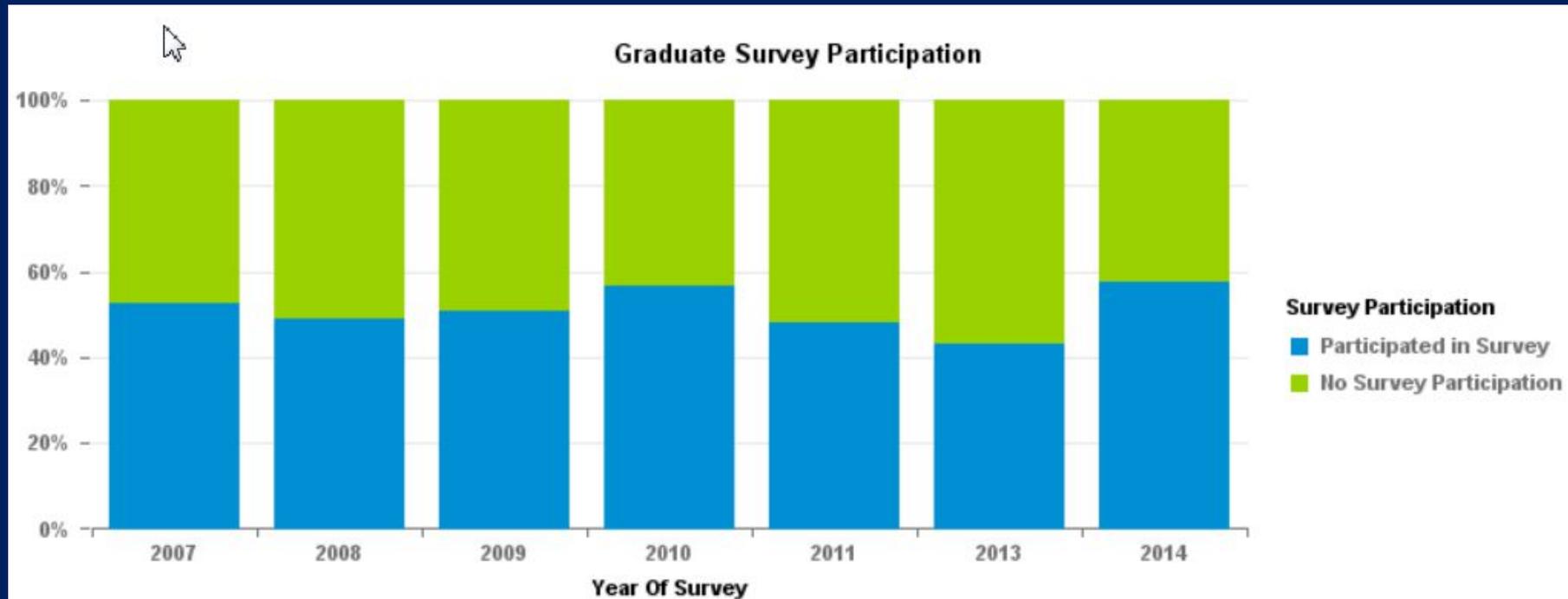


Product Utilization in a Engineering lab for 2016

Top 20 product utilisation pie chart



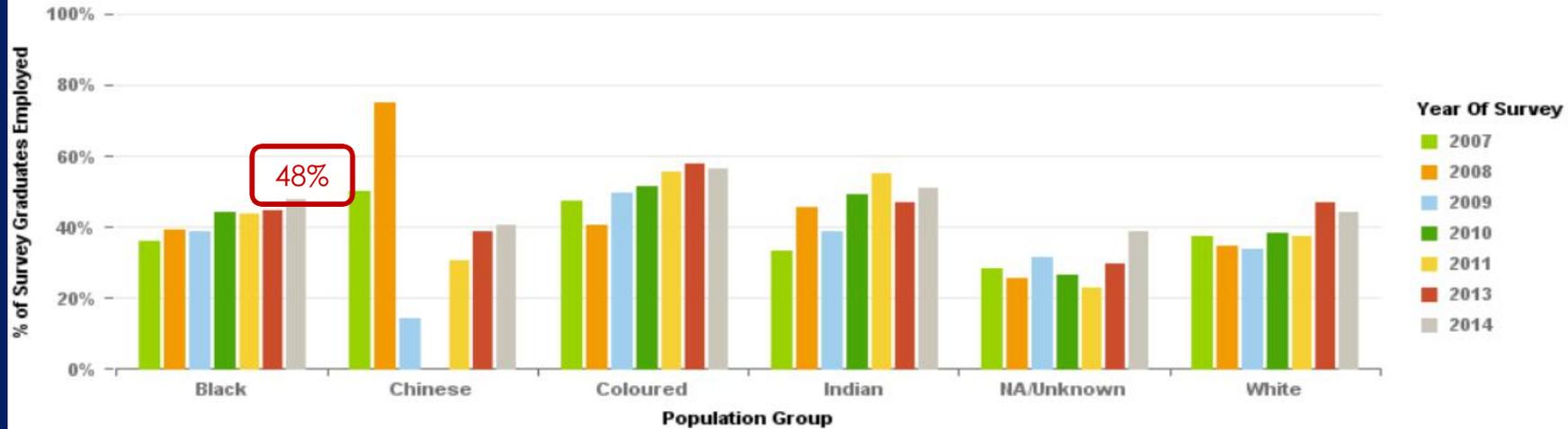
Graduate Exit Survey Participation



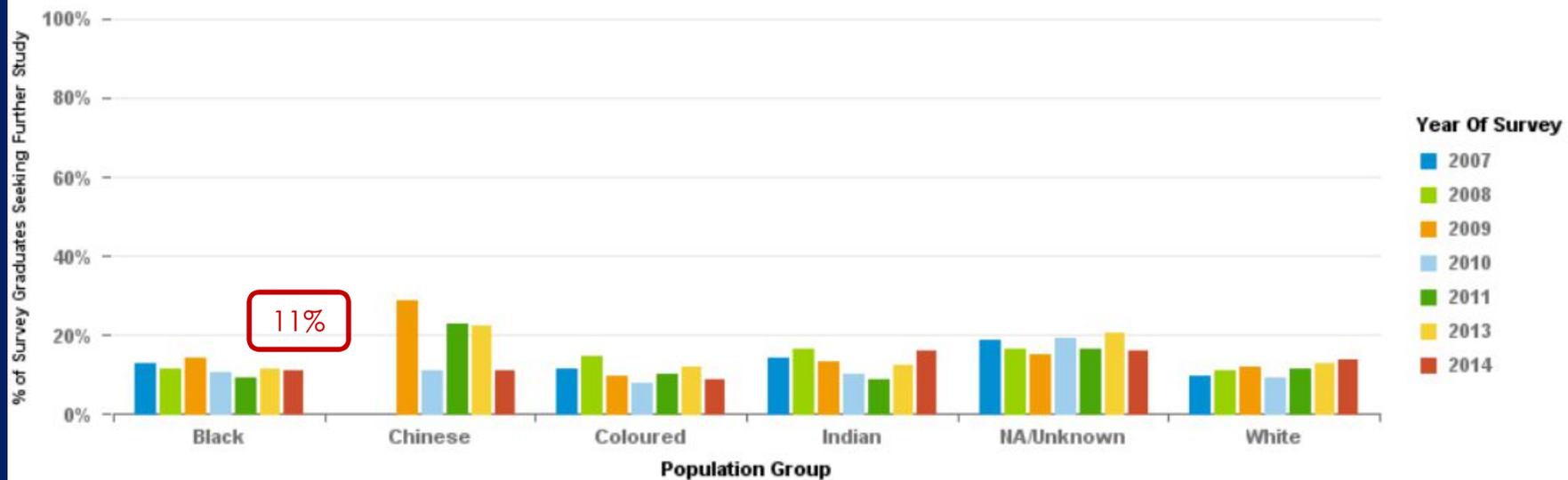
	2007	2008	2009	2010	2011	2013	2014
Participated in Survey	2922	2816	3064	3504	3096	3345	3953
No Survey Participation	2656	2913	2993	2672	3348	4378	2943
Total Graduates	5578	5729	6057	6176	6444	7723	6896
% Participated	52%	49%	51%	57%	48%	43%	57%

Graduate Exit Survey Employment / Further Studies

Percentage Employment of Survey Graduates by Population Group



Percentage of Survey Graduates Seeking Further Study by Population Group



Where to from here ?

UCT's Enterprise - Data Warehouse Proposed Roadmap 2015-2016										
		2015				2016				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Dependencies
Owner	Data Mart									
Office of the Registrar	Admissions	Ongoing Report Development								
Careers Office	Exit Survey							Exit Survey Additional Questions		
Finance	SAP Finance	Redevelop SAP Finance Rapid Mart								
					Research Funding Reporting			Ongoing Report Development		Redevelop SAP Finance Rapid Mart
		SpendTrak								
Office of the Registrar	Student Records	Ongoing Report Development							Graduate Research Management	
								Potgrad Reporting		
Properties & Services		Timetabling	Ongoing Report Development							
Department of Student Affairs & Finance	Student Financials	Ongoing Report Development								
Housing & Residence Life		SHRL (Housing)			Ongoing Report Development					
Academic Development Programme			NSC Results		Ongoing Report Development			NBT Results		
Human Resources	HR					Employment Equity Reporting		Leave, Standby and Additional Payments Reporting for HR		
Institutional Planning								Cross-functional Reporting	Stu Recs, Finance KPIs, HR KPIs	
Information & Communication Technology Services	Resources	BObj Upgrd 4.1 SP5		ImageNow Access		Change Requests		BObj Upgrd 4.1 SP7		
						Learning Management Data Mart				
CILT	CILT									
Libraries		Library Usage Data		Ongoing Report Development						
Legend		Requirements need to be defined			Completed		In Progress		Not started	

Questions?

Contact



References

The Data Warehouse Toolkit (Third Edition)
The Definitive Guide to Dimensional Modeling
Ralph Kimball and Margy Ross

This presentation and all
Alliance presentations are
available for download from
the Conference site at
www.heug.org