



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Engineering, Built Environment and Information Technology

Fakulteit Ingenieurswese, Bou-omgewing en
Inligtingtegnologie / Lefapha la Boetšenere,
Tikologo ya Kago le Theknolotši ya Tshedimošo

Road Pavement Forum Feedback from Universities on Student Numbers and Needs 4 May 2016

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Contents

- Civil Engineering at SA universities
- Some numbers
- Some issues

Civil Engineering at SA universities

- Civil Engineering presented at (ECISA accredited):
 - 6 Universities
 - SU, UCT, UJ, UKZN, UP, WITS
 - 10 Universities of Technology
 - CPUT, CUT, DUT, NMMU, MUT, TUT, UJ, UNISA, VUT, WSU

Current student numbers 2015

(where available from SAICE)

	UP	WITS	UCT	SU	DUT	CUT
Enrolled	967	--	457	880	950	190
Graduates / Diplomas	160	76	79	100	158	106
Post graduates	93	202	190	260	1	15

Estimate around 600
engineers per year

Estimate around 1000
technicians / technologists
per year????

Throughput / Graduation

- 52.7 % Grade 1s pass matric after 12 years (1 303 016 Gr 1s)
- 25.8 % qualify for Bachelor studies (**13.6 % of Gr 1s**)
- 0.7 % A symbol in Maths and Science (**0.4 % of Gr 1s**)

- 283 622 SET tertiary students (2013)

- UP civil engineering UG
 - 23 % female, 41 % black

**Need 250 Gr 1s in
your school to have
1 that will have As**



Throughput / Graduation – 2010 Cohort UP

	2010	2011	2012	2013	2014	2015
2010 Baseline Enrolment	160	--	--	--	--	--
Enrolments (Retained)	160	143	140	96	50	15
% Cumulative Dropouts	0%	11%	13%	17%	18%	21%
Graduates	0	0	0	37	45	29
% Cumulative Graduates	0%	0%	0%	23%	51%	69%
Time to Completion	0	0	0	4	4.55	4.93

Avg time to completion – 4.47 years

10 % still in system after 6 years

Curriculum focus

- UP specific situation
- 55% general engineering and sciences (ECSA required)
- 12% transportation (27%)
- 11% geotechnics (24%)
- 12% structures (27%)
- 10% hydraulics (22%)



Student Issues

- Poor preparation at school
- Working in 2nd or 3rd languages
- Few bursaries cover student fees
- Work while studying
- Accommodation shortages



Institution Issues

- No fees increase
- Shortages of suitable staff – M.Eng minimum requirement
- Professional black staff (only SA)
- Class sizes – Engineering subjects up to 250 per class
- Funding models
 - Fees – 28 %
 - Government – 38 %
 - Private sector / other – 34 %



What else?

- Student protests...

Georgetown,
Washington D.C.



UCLA



India



Netherlands



U Bangl.



Princeton



WITS, UCT 1960s



Lyon



lacedonia



Azerbaijan



What else?

- Some students do have legitimate issues
- Students are in their nature inquisitive and young and taking on issues
- **Vandalism is out**
- Some of you also protested when you were much younger 😊
- Do not only listen to the media – talk to the staff and your company's students

**you do have students in your company I
assume ????**

- Provide your support where possible

It is the job of journalists (Lecturers?) to
create a pain in the minds of the
audience so intense that it can only be
relieved by thinking

