

**Computer  
Science  
Lecturers'  
Association**

**NEWS**

**Junie 1983 June**

**NUUS**

**Rekenaarwetenskap-  
dosentevereniging**

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## **EDITORIAL**

This issue of the Newsletter is the final one in the series sent out from the RAU. It was my privilege to cooperate with all of you in the preparation of the material for the Newsletters - My apologies for all the telephone calls you had to answer and for all the forms you had to complete. Once more, many thanks for your cooperation, without which these issues of the Newsletter would not have been possible.

The main theme of this Newsletter is the available physical facilities at the different Universities for the Education of Computer Science students. The information which was used to compile the tables (see page 9) ) was assembled by means of a questionnaire, completed by the different Computer Science Departments.

We would also like to convey our thanks to Mrs Amanda Hartzenberg for the typing of the Newsletters.



EDWIN ANDERSEN  
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2000

## **REDAKSIONEEL**

Hierdie uitgawe van die Nuusbrief is die laaste in die reeks Nuusbriewe wat vanaf die RAU versend word. Dit was vir my 'n voorreg om so nou met u almal te kon saamwerk in die voorbereiding van die uitgawes van die Nuusbrief - ek vra om verskoning vir al die oproepe wat u moes beantwoord en vir al die vorms wat u moes voltooi. Nogmaals hartlik dank vir u same-werking - daarsonder sou die uitgawes van die Nuusbrief nie moontlik gewees het nie.

Die tema van hierdie Nuusbrief is die beskikbare fisiese fasiliteite vir die opleiding van Rekenaarwetenskapstudente. Die informasie wat deur middel van 'n vraelys by die verskillende Universiteite ingesamel is, is saamgevat in 'n aantal tabelle wat vanaf bladsy 9 verskyn.

Vanaf die kant van die Redaksie wil ons graag ons dank aan Mev Amanda Hartzenberg oordra vir die tikwerk verbonde aan die Nuusbriewe.



EDWIN ANDERSEN  
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## **KONFERENSIE -NUUS**

Die reëlings vir die konferensie wat vanaf Woensdag 29 Junie tot Vrydag 1 Julie 1983 by die Holiday Inn langs die Natalse Suidkus plaasvind, vorder na wense.

Die meeste van die verwagte 100 konferensiegangers sal tot op Louis Botha-Lughawe vlieg, waarvandaan 2 busse na die hotel sal vertrek. Sommige kollegas sal per motor tot by die hotel reis.

Die hotel is baie gunstig geleë - naby die monding van 'n groot rivier en feitlik op die strand. Daar is ook 'n groot verskeidenheid ontspanningsgeleenthede: golf, tennis, muurbal, stap en swem!

Namens die Vereniging wil ons by voorbaat ons dank aan die firma Control Data Corporation oordra, wat hierdie jaar as borge optree. Ons dank gaan ook aan Mnr Adrian Barkley en Ms Val Charlton vir hulle persoonlike opoffering en belangstelling.

Ons hartlike dank gaan ook aan al die sprekers, voorsitters en paneeldele wat aktief aan die verrigtinge sal deelneem.

Die hooftema's van die konferensie is:

- (a) 'n Oorsigtelike beeld van die navorsingsaktiwiteite by die onderskeie universiteite. Die onderwerp sal ingelei word deur 'n spreker van elke universiteit wat 'n kort verslag oor sy departement se navorsingswerk sal lewer. Die besprekking word dan afgesluit deur twee sprekers wat hul mening oor die onderwerp sal gee.
- (b) 'n Toekomsblik op die ontwikkeling van rekenaarwetenskap in Suid-Afrika, toegelig deur twee sprekers, gevvolg deur 'n paneelbesprekking.

Miskien is die belangrikste aspek van 'n konferensie van hierdie aard die geleentheid wat kollegas het om mekaar beter te leer ken en om gedagtes te wissel - ons vertrou dat daar voldoende tyd daarvoor beskikbaar sal wees.

Na afloop van die konferensie sal ons in samewerking met die borg die verrigtinge van die konferensie aan al die lede van die vereniging beskikbaar stel.

Ter wille van diegene wat nie die konferensie kan bywoon nie, publiseer ons graag die voorlopige program vanaf bladsy 6.

## **CONFERENCE-NEWS**

The arrangements for the conference, which will take place from Wednesday 29th June to Friday 1st July 1983 at the Wild Coast Holiday Inn, are progressing according to plan.

The majority of the expected 100 conference goers will fly down to the Louis Botha Airport, from where two buses will leave for the hotel. Some colleagues are travelling by private transport.

The hotel is situated near the mouth of a river, virtually on the beach. A number of recreational facilities are also available: tennis, golf, squash, walking and of course swimming!

We would like to convey our thanks to Control Data Corporation, who are acting as sponsors for the 1983 conference. We are also grateful towards Mr Adrian Barkley and Ms Val Charlton from CDC for their personal efforts in making the conference a success.

Our thanks are also extended towards the speakers, chairmen and panel members who are going to take an active part in the proceedings.

The main themes for the conference are:

- (a) A bird's eye view on the research activities being undertaken at the different universities. The subject will be introduced by a speaker from each university, who will deliver a short summary report on his department's research work. The discussion will be concluded by two invited speakers who will give their personal view on the subject.
- (b) A futuristic view of Computer Science in South Africa, introduced by two speakers, and followed by a panel discussion.

To my mind one of the most important benefits of a conference of this nature is the opportunity colleagues have to meet each other and to discuss matters of mutual interest - We trust that there will be ample time available for this.

After the completion of the conference we shall, in cooperation with CDC, forward a copy of the proceedings to all the members of the Society.

For the benefit of those members who are unable to attend the conference, the provisional programme is published on page 6 of the Newsletter.

## **PROGRAM**

## **PROGRAMME**

### WEDNESDAY 29 JUNE 1983

I9h00 : Cocktail  
I9h30 : Dinner

### THURSDAY 30 JUNE 1983

07h00 - 08h30 : Breakfast

08h30 : Session I

Chairman : Dr P Pirow (WITS - BUSINESS SCHOOL)

- I. Speaker : Dr C Wogrin (Guest speaker) (30 min +  
10 Question time)
2. Research reports ( 8X10 min = 80 min)

I0h30 : Coffee/Tea

IIh00 : Session 2

Chairman : Prof J Kies (UNIVERSITY OF THE WESTERN CAPE)

Research reports (continued) (10X10 min = 100 min)

I3h00 : Lunch

I4h00 : Session 3

Chairman : Prof Nick Phillips (PIETERMARITZBURG)

Research reports : Summary and conclusions

- I. Prof Roelf van den Heever (UP) (20 min)
2. Prof Denis Riordan (RHODES) (20 min)
3. Questions (20 min)

I5h00 : Coffee/Tea

I5h30 : General meeting;  
Open session for general reports and remarks

I9h00 : Cocktail

I9h30 : Dinner (Guest Speaker : Ken MacGregor (UCT))

FRIDAY 1 JULY 1983

07h30 - 08h30 : Breakfast and checkout

08h30 : Session 4

Chairman : Prof Hennie Oosthuizen (UNIVERSITY OF  
THE NORTH)

Speakers :

I. Dr Dewald Roode (CUC) (40 min)

Subject : The Universities and Computer Science -  
a futuristic view

2. Mr Hennie Groenewald (TECHNIKON, PRETORIA) (40 min)

Subject : The Technikons and Computer Science -  
a futuristic view

3. Panel dicussion (40 min)

Panel members : Dr Dewald Roode  
Mnr Hennie Groenewald  
Prof Trevor Crossman  
Prof Basie von Solms

10h30 : Coffee/Tea

11h00 : Session 5

Chairman : Prof Gideon de Kock (UPE)

Speaker : Dr Conrad Wogrin (Guest speaker) (60 min)

Subject : To be announced

12h00 - 12h15 : Bus leaves for Airport (1st Group)

12h30 : Buffet

14h00 : Bus leaves for Airport (2nd Group)

\*\*\*\*\*

**NEWS**  
**U**  
**S**

UNIVERSITEIT VAN DIE NOORDE

Mnr MJD Manamela, gedurende 1982 tydelike junior lektor is vanaf 1 Julie vanjaar as lektor in die departement aangestel.  
Welkom by die vereniging.

UNIVERSITY OF CAPE TOWN

We would like to welcome Mr Simon Kaplan who has been appointed as a temporary lecturer to the Department of Computer Science.

UNIVERSITY OF THE WITWATERSRAND (BUSINESS SCHOOL)

We would like to congratulate Peter Pirow who received a doctorate at the recent graduation ceremony of the University of the Witwatersrand.

**OPNAME VAN FASILITEITE**

**SURVEY OF FACILITIES**

## OPNAME VAN FASILITEITE

Op die volgende bladsye verskyn die resultate van die ondersoek wat ingestel is na die beskikbare rekenaarfasiliteite vir die opleiding van rekenarwetenskapstudente.

Die doel van die tabelle is om informasie tussen universiteite uit te ruil oor moontlike neigings en tendense in die gebruik van rekenaarfasiliteite. Die klem het die afgeloppe jaar of wat byvoorbeeld begin val op die gebruik van mikro-rekenaars en op die opbou van laboratoriums waar studente praktiese ondervinding met behulp van laevlak apparatuur kan opdoen. Dit is dus belangrik dat departemente wat die instelling van hierdie fasiliteiteoorweeg kennis neem van die probleme en ondervindings van ander departemente in hierdie verband. 'n Verdere interessante aspek is die rol wat die selfhelpstelsel (die "cafeteria") nog speel, waar studente hul eie programme op 'n bondelbasis deurvoer. Hoeveel universiteite maak gebruik van tale soos P1/I, Algol, Pascal of moontlik BASIC in die opleiding van hulle studente?

Ons vertrou dat u die informasie in hierdie tabelle nuttig sal vind in die beplanning van u eie fasiliteite.

NS:

Ons wil net daarop wys dat in die geval van WITS se Besigheids-skool slegs nagraadse studente by die opleiding betrokke is.

## SURVEY OF FACILITIES

The results of the survey on hardware facilities available at the different departments for the education of Computer Science students, are listed on the following pages.

The aim of the different tables is to exchange information between universities on possible trends in the use of computer facilities. During the past year or two the emphasis has shifted to the use of the micro and to the establishing of a laboratory where students can have hands on experience on low level hardware. It is therefore in the interest of departments considering the installation of these facilities to take note of the experiences of other departments in this regard. A further interesting aspect is the use of the batch self help ("Cafeteria") facility. How many universities are still using this method? What is the use of compilers like Pascal, PL/I, FORTRAN, BASIC etc..?

We hope that you find the information contained in the tables helpful and informative.

PS:

We want to point out that in the case of the Business School of WITS, only post graduate students are involved.

- I. STUDENTE TOEGANG TOT APPARATUUR EN STUDENTEGETALLE
2. STUDENT ACCESS TO MAIN FRAMES
3. STUDENTE TOEGANG TOT HOOFRAAM DEUR MIDDEL VAN KAFETERIA
4. STUDENT ACCESS THROUGH TERMINALS
5. STUDENTE TOEGANG TOT MINIREKENAARS
6. STUDENT ACCESS TO MICROS
7. STUDENTE TOEGANG TOT GRAFIESE FASILITEITE
8. ALGEMENE OPMERKINGS/GENERAL REMARKS

**1. Tabel 1**

**Studente Toegang Tot Apparatuur**

**En**

**Studentegetalle**

TABEL I : STUDENTE TOEGANG TOT APPARATUUR EN STUDENTEGETALLE

UNIVERSITEIT STUDENTE TOEGANG	CAPE TOWN	DURBAN-WESTVILLE	FORT HARE	NATAL (DURBAN)	NATAL (PIETERMARITZBURG)	NOORDE	UOVS	PORT ELIZABETH	PU vir CHO	PRETORIA	RAU	RHODES	STELLENBOSCH
HOOFRAAM	X	X	X	-	X	X	X	X	X	X	X	X	X
MINI	-	X	X	X	-	X	X	-	-	-	-	X	X
MIKRO'S	X	-	X	X	X	-	X	-	X	X	X	X	X
GRAFIESE FASILITEITE	X	X	-	-	-	X	-	-	X	X	X	X	X
STUDENTE GETALLE (Sluit alle studente wat van fasiliteite gebruik maak in)													
EERSTEJAARS	550	80	270	100	47	49	329	85	230	200	140	160	
TWEEDEJAARS	130	15	40	160	77	206	54	50	72	50	55	50	
DERDEJAARS	80	8	25	7	7	22	19	33	67	37	35	30	

TABEL I : STUDENTE TOEGANG TOT APPARATUUR EN STUDENTEGETALLE

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STUDENTE TOEGANG	UNIVERSITEITE	UNISA	WES-KAAPLAND	WITWATERSRAND	WITS (BUSINESS SCHOOL)	ZIMBABWE	TECHNIKON WITWATERSRAND	TECHNIKON NATAL
HOOFRAAM		X	X	X	X	X	X	X
MINI		X	-	-	X	-	-	-
MIKRO'S		-	X	X	X	X	X	X
GRAFIESE FASILITEITE		-	X	-	X	-	-	X
STUDENTE GETALLE (Sluit alle studente wat van fasiliteite gebruik maak in)								
EERSTEJAARS		2 600	190	450	70	150	III	120
TWEEDEJAARS		750	II	160	500	200	71	44
DERDEJAARS		200	7	45	30	200	8	28

**2. Table 2**

**Student Access To Main Frames**

TABEL 2 : STUDENT ACCESS TO MAIN FRAMES

O = OPERATOR SERVICE  
 C = CAFETERIA  
 T = TERMINALS

UNIVERSITY	MAIN FRAME	OPERATING SYSTEM	COMPILERS (STUDENT USE)							COMPILERS SUITABLE FOR STUDENT USE	DATABASE SYSTEMS FOR STUDENT USE	OTHER STANDARD SOFTWARE SYSTEMS AVAILABLE	STUDENT ACCESS TO COMPUTER				
			P L/ I	C O B L	F O R T R A N	P A S C A L	A L G O L	B A S I C	O T H E R				I Y E A R S	2 Y E A R S	3 Y E A R S		
CAPE TOWN	UNIVAC II00/8I	EXEC II00	X	X	X	X	X	X	X	LISP SNO- BOL ETC	NOT PAR- TICULARY	DMS II00 (NET- WORK)		C T O	C T O	C T O	
DURBAN- WESTVILLE	ICL 2946	VME 2900		X		X					YES	NONE	SCREEN EDITOR		T		
FORT HARE																	
NATAL (DURBAN)	UNIVAC II00		X	X	X	X	X	X	X	LISP	NO			T T	T T	T T	
NOORDE	ICL 2950	VME 2900	X	X	X			X	X				NOT FOR STUDENT USE	T T AND PRINTER	T T T		

TABEL 2 : STUDENT ACCESS TO MAIN FRAMES

O = OPERATOR SERVICE  
 C = CAFETERIA  
 T = TERMINALS

UNIVERSITY	MAIN FRAME	OPERATING SYSTEM	COMPILERS (STUDENT USE)							COMPILERS SUITABLE FOR STUDENT USE	DATABASE SYSTEMS FOR STUDENT USE	OTHER STANDARD SOFTWARE SYSTEMS AVAILABLE	STUDENT ACCESS TO COMPUTER			
			P L/ I	C O B L	F O R T R A N	P A S C A L	A L G O L	B A S I C	O T H E R				I Y E A R S	2 Y E A R S	3 Y E A R S	
UOVS	UNIVAC I100/60HI	EXEC 8 RELEASE 37R2C	X	X	X	X		X	PLUM		DMS II00	NAG-LIBRARY FMPS	T AND PRINTER	T	T	T
PORT ELIZA-BETH	BURROUGHS B6800	MCP (MASTER CONTROL PROGRAM	X	X	X	X	X	X	APL LISP	REASONABLE	BURROUGHS DMS II	YES	T AND PRINTER	T	T	T
PU vir CHO	IBM 433I	VM/SP		X	X	X		X		YES	FOCUS FOR DEMONSTRATIONS	NO	O	T	T	

TABEL 2 : STUDENT ACCESS TO MAIN FRAMES

O = OPERATOR SERVICE  
 C = CAFETERIA  
 T = TERMINALS

UNIVERSITY	MAIN FRAME	OPERATING SYSTEM	COMPILERS (STUDENT USE)							COMPILERS SUITABLE FOR STUDENT USE	DATABASE SYSTEMS FOR STUDENT USE	OTHER STANDARD SOFTWARE SYSTEMS AVAILABLE	STUDENT ACCESS TO COMPUTER		
			P L/ I	C O B O L	F O R T R A N	P A S C A L	A L G O L	B A S I C	O T H E R				I Y E A R S	2 Y E A R S	3 Y E A R S
PRETORIA	IBM 4341/II IBM EQUIVALENT	CMS UNDER VM	X	X	X			X	PRO- LOG (CSP /K (PAS- CAL NEXT YEAR))	YES	FOCUS	TEXT PRO- CES- SING	T	T	T
RAU	UNIVAC II00/60	EXEC 8	X	X	X			X		NOT REALLY	DMS II00	EDITOR DPS	C	T	T
RHODES	CYBER 825	NOS 2		X	X	X		X	LISP SNO- BOL	YES		PLATO OTHER	T	T	T

TABEL 2 : STUDENT ACCESS TO MAIN FRAMES

C = OPERATOR SERVICE

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T = TERMINALS

UNIVERSITY	MAIN FRAME	OPERATING SYSTEM	COMPILERS (STUDENT USE)							COMPILERS SUITABLE FOR STUDENT USE	DATABASE SYSTEMS FOR STUDENT USE	OTHER STANDARD SOFTWARE SYSTEMS AVAILABLE	STUDENT ACCESS TO COMPUTER		
			P L/ I	C O B L	F O R T R A N	P A S C A L	A L G O L	B A S I C	O T H E R				I	2	3
STELLENBOSCH	UNIVAC II00	EXEC-8	X	X	X	X		X		PLUM (PL/I): YES OTHER NOT REALLY		SORTING EDITOR	C	C	C
UNISA	BURROUGHS B6800	MCP	X	X	X	X	X	X	LISP	REASONABLE	DMS II ALGEBRA (FROM '84)		0	0	0
WES-KAAPLAND	UNIVAC II00 CDC CYBER 3000 : PLATO	OS II00 37R2	X	X	X			X	X	YES		LECTURES ON PLATO PLM-SYSTEM	C	C	C
WITS	IBM 370/I58	VM-CMS	X	X	X	X				APL LISP ADA	IDBMS	SAS DCF	C	T	T

TABEL 2 : STUDENT ACCESS TO MAIN FRAMES

O = OPERATOR SERVICE

C = CAFETERIA

T = TERMINALS

UNIVERSITY	MAIN FRAME	OPERATING SYSTEM	COMPILERS (STUDENT USE)							COMPILERS SUITABLE FOR STUDENT USE	DATABASE SYSTEMS FOR STUDENT USE	OTHER STANDARD SOFTWARE SYSTEMS AVAILABLE	STUDENT ACCESS TO COMPUTER		
			P L / I	C O B O L	F O R T R A N	P A S C A L	A L G O L	B A S I C	O T H E R				I Y E A R S	2 Y E A R S	3 Y E A R S
WITS (BIS)	IBM 370/I58	VM/SP OS/VSI CMS	X	X	X	X		X	WAT-BOL-WAT-FIV	GOOD DIAG-NOSTICS	IMS/VS	SAS; SPSS; EPS; SIMPLAN MODEL APL; SCRIPT/ VS	T	C	T
	IBM 370/I48														
WITS (BUSI- NESS SCHOOL)	IBM 370/I58	VM/CMS & OS/VSI	X	X	X	X		X	APL	YES	IMS	MOST STANDARD PACKAGES BMDP; SAS; SPSS; SIMPLAN ETC	T	T	T
	IBM 370/I48														
ZIMBABWE	ICL 2946	VME/K		X	X	X		X		REA- SON- ABLE		SPSS NAG-ROU- TINES	T	T	T

TABEL 2 : STUDENT ACCESS TO MAIN FRAMES

O = OPERATOR SERVICE  
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UNIVERSITY	MAIN FRAME	OPERATING SYSTEM	COMPILERS (STUDENT USE)							COMPILERS SUITABLE FOR STUDENT USE	DATABASE SYSTEMS FOR STUDENT USE	OTHER STANDARD SOFTWARE SYSTEMS AVAILABLE	STUDENT ACCESS TO COMPUTER			
			P L / I	C O B O L	F O R T R A N	P A S C A L	A L G O L	B A S I C	O T H E R				I	2	3	
WITS TECHNIKON	IBM SYSTEM 34 IBM 370 (PRETORIA)	OCL	X	X	X			X	APL	YES		EPS FCS	T & PRINTER	T	T	T
TECHNIKON NATAL	UNIVAC II00/60	EXEC 8/38/R2		X	X	X			RPG II	YES		EPS LINEAR PROG-RAMMING STATJOB	C T	C T	C T	

### **3. Tabel 3**

**Studente Toegang Tot Hoofraam**

**dmv**

**Kafeteria**

TABEL 3 : STUDENTE TOEGANG TOT HOOFRAMAAL DEUR MIDDLE VAN KAFETERIA

UNIVERSITEIT	AANTAL KAARTLESER/ DRUKKER STASIES	SPOED VAN DRUKKER(S)	STUDENTE PROGRAMME DEUR REKENSENTRUM GEPONS OF INGE-SLEUTEL	PONSMASJIENE (WERKSTASIES) BESKIKBAAR VIR STUDENTE GEBRUIK	STUDENTE WAT KAFETERIA GEBRUIK
KAAPSTAD	3	600 - 400 LPM	NEE	18	EERSTEJAARS
FORT HARE					
UOVS	I DRUKKER	600 LPM	MOONLIK		
PORT ELIZABETH	I (NOT USED BY STUDENTS)	2 X 300 LPM	NEE	GEEN	
PU vir CHO			JA	4 VIR REGSTEL VAN FOUTE	
RAU	I	300 LPM	JA	3	EERSTEJAARS
STELLENBOSCH	2	600 LPM	JA	16	EERSTEJAARS TWEDEJAARS DERDEJAARS
WES-KAAPLAND	I	600 LPM	NEE	2	EERSTEJAARS TWEDEJAARS DERDEJAARS
WITS	I	600 LPM	NEE	12	EERSTEJAARS
WITS (BIS)	I	300 LPM	NEE	20	TWEDEJAARS
TECHNIKON NATAL	I (disket-leser)	760 LPM	NEE	10	EERSTEJAARS TWEDEJAARS DERDEJAARS

**4. Table 4**

**Student Access Through Terminals**

TABEL 4 : STUDENT ACCESS THROUGH TERMINALS

UNIVERSITY	TERMINALS AVAILABLE			AVAILABLE FOR INTERACTIVE PROGRAM DEVELOPMENT	TERMINAL CONTROL PROGRAM	NUMBER OF TERMINALS	TERMINALS COUPLED TO:			NETWORK OF (a), (b) OR (c)
	I Y E A R S	2 Y E A R S	3 Y E A R S				(a) MAIN	(b) MINI	(c) MICRO(S)	
CAPE TOWN	X	X		YES	CTS MODIFIED FOR SECOND YEARS	20-25	X			
DURBAN-WESTVILLE			X	YES		4	X			
FORT HARE										
NATAL (DURBAN)	X	X	X	YES	TURBODOS	26			X	
NOORDE	X	X	X	YES	ICL VME 2900	7	X			
UOVS	X	X	X	YES		12	X			
PORT ELIZABETH	X	X	X	YES	BURROUGHS CANDE	28	X			

TABEL 4 : STUDENT ACCESS THROUGH TERMINALS

UNIVERSITY	TERMINALS AVAILABLE			AVAILABLE FOR INTERACTIVE PROGRAM DEVELOPMENT	TERMINAL CONTROL PROGRAM	NUMBER OF TERMINALS	TERMINALS COUPLED TO:			NETWORK OF (a), (b) OR (c)
	1 Y E A R S	2 Y E A R S	3 Y E A R S				(a) MAIN	(b) MINI	(c) MICRO(S)	
PU vir CHO	X	X	X	YES	CMS	10	X			
PRETORIA	X	X	X	YES	CMS	40	X			FUTURE: (a) & (c)
RAU	X	X	X	YES	EXEC 8	10	X			
RHODES	X	X	X	YES			X			
STELLENBOSCH		X		YES	EXEC CTS	3	X			
UNISA (FROM '84)	X	X		YES	CANDE	PRETORIA 6 JHB 6 CAPE T. 2 DURBAN 2	X			
WES-KAAPLAND (PLATO:)	X	X	X	YES	UNISCOPE	5 100	X			

TABEL 4 : STUDENT ACCESS THROUGH TERMINALS

UNIVERSITY	TERMINALS AVAILABLE			AVAILABLE FOR INTERACTIVE PROGRAM DEVELOPMENT	TERMINAL CONTROL PROGRAM	NUMBER OF TERMINALS	TERMINALS COUPLED TO:			
	I Y E A R S	2 Y E A R S	3 Y E A R S				(a) MAIN	(b) MINI	(c) MICRO(S)	NETWORK OF (a), (b) OR (c)
WITS	X	X	X	YES	CMS	40	X			
WITS (BIS)	X		X	YES	VM/CMS	6 LOCALLY 24 COMMON AREA	X			
WITS BUSINESS SCHOOL	X	X	X	YES	VM/CMS	35	X			
ZIMBABWE	X	X	X	STAFF ONLY		I4	X			
WITS TECHNIKON	X	X	X	YES	IBM OPERATING SYSTEM	I5	X			
TECHNIKON NATAL	X	X		YES		4	X			

### **5. Tabel 5**

#### **Studente Toegang Tot Minirekenaars**

Leerjaar	Gebruik van minirekenaars	Gebruik van rekenmachines	Gebruik van handrekenen
1	100%	0%	0%
2	95%	0%	0%
3	85%	0%	0%
4	75%	0%	0%
5	65%	0%	0%
6	55%	0%	0%
7	45%	0%	0%
8	35%	0%	0%
9	25%	0%	0%
10	15%	0%	0%
11	10%	0%	0%
12	5%	0%	0%
13	0%	0%	0%

TABEL 5 : STUDENTE TOEGANG TOT MINIREKENAARS

UNIVERSITEITE MINI'S	AANTAL	MAKE/ MODELLE	BEHEER			VERTALERS BESKIKBAAR	DATABASIS- STELSELS BESKIKBAAR	WAARVOOR GEBRUIK	NODE IN NETWERK
			REKENCENTRUM	SELF	ANDER DEPAR- TEMENTE				
DURBAN-WEST- VILLE	I	HP 1000 E		X		ALGOL FORTRAN BASIC, SAMOS ASSEMBLER		EERSTE- EN TWEEDEJAARS	NEE
FORT HARE									
NATAL (DURBAN)	2	HP 1000 E		X		PASCAL ALGOL FORTRAN		NAVORSING	JA
NATAL (PIETERMARITZBURG)	I	HP 3000	X			PASCAL BASIC FORTRAN COBOL	IMAGE	VOORGRAADSE PROGRAMMERING	NOG NIE
UOVS	I	NOVA 2		X		.		LAEVLAKTAAL PROGRAMMERING	NEE
PORT ELIZABETH	I	SWTPC S/09		X		BASIC FORTH PASCAL		NAGRAADSE WERK NAVORSING	GEKOPPEL AAN HOOF- RAAM

TABEL 5 : STUDENTF TOEGANG TOT MINIREKENAARS

UNIVERSITEITE MINI'S	AANTAL	MAKE/ MODELLE	BEHEER			VERTALERS BESKIKBAAR	DATABASIS- STELSELS BESKIKBAAR	WAARVOOR GEBRUIK	NODE IN NETWERK
			REKENCENTRUM	SELF	ANDER DEPAR- TEMENTE				
RHODES	I	INTERDATA	X			FORTRAN COBOL		PROJEKTE	NEE
STELLENBOSCH	3	NOVA 3 NOVA 4 ECLIPSE		X		FORTRAN SAMESTELLER		PROGRAMONT- WIKKELING	JA
UNISA	I	PDP II/34		X		SP/K		EERSTEJAAR PROGRAMMERING	
WITS (BIS)	I	DATA GENERAL CS 30		X		COBOL		STUDENTE GEBRUIK	NEE

**6. Table 6**

**Student Access To Micros**

TABLE 6 : STUDENT ACCESS TO MICROS

UNIVERSITY	MAKE/MODEL	NUMBER	CONTROL	PURPOSE OF USE	INTERCONNECTED INTO NETWORK	NUMBER OF PRINTERS	GRAPHIC FACILITIES
CAPE TOWN	MICROCOM SHARP APPLE	I I 2	DEPT. SELF	SPECIAL LANGUAGE ACCESS	NO	4	NO
FORT HARE							
NATAL (DURBAN)	IMS	4 (7 TERMINALS PER MICRO)	COMPUTER CENTRE	TEACHING	YES	4	NO
NATAL (PMBG)	APPLE	4	DEPT. SELF	ASSEMBLER LISP AND CAI INSTRUCTION AND BASIC	NO	4	NO
NOORDE	APPLE II & APPLE IIe	4 3	DEPT. SELF	THIRD YEAR PASCAL SECOND YEAR COURSE ON MICRO'S	NOT YET	4	NO

TABLE 6 : STUDENT ACCESS TO MICROS

UNIVERSITY	MAKE/MODEL	NUMBER	CONTROL	PURPOSE OF USE	INTERCONNECTED INTO NETWORK	NUMBER OF PRINTERS	GRAPHIC FACILITIES
PORT ELIZA-BETH	CV 777 (PINEAPPLE) HEATHKIT ET 3400 TRAINER	I I	DEPT. SELF	SELECTIVE UNDERGRADUATE WORK RESEARCH	NOT YET	I	APPLE'S HIGH RESOLUTION GRAPHICS
PRETORIA	TRS/III; 8085 DEVELOPMENT SYSTEM	30 30	DEPT. SELF	TEACHING PROGRAMMING ILLUSTRATING ASPECTS DISCUSSED IN THEORETICAL LECTURES	NO	6	LIMITED: BLOCK GRAPHICS
RAU	BURROUGHS B20 NEWBRAINS	I 20	DEPT. SELF	THIRD YEAR PROJECTS & RESEARCH TRAINING	NO	I 4	NO
RHODES	APPLE NORTH STARS MOTOROLA 6800 SIRIUS	20 6 3 I	DEPT. SELF	TEACHING PROGRAM DEVELOPMENT WORD PROCESSING ETC..	NO	7	YES

TABLE 6 : STUDENT ACCESS TO MICROS

UNIVERSITY	MAKE/MODEL	NUMBER	CONTROL	PURPOSE OF USE	INTERCONNECTED INTO NETWORK	NUMBER OF PRINTERS	GRAPHIC FACILITIES
STELLENBOCH	IBM PC	I	DEPT. SELF	INTRODUCTORY WORK	NO	I	YES
WES-KAAPLAND	SINCLAIR ACORN	42	DEPT. SELF	INTRODUCTORY WORK COMPARISONS ETC.	NO	NONE	YES
WITS	MICROENGINES MARK 2 APPLE II ZILOG MCZ	4153	DEPT. SELF	APPLES: FIRST YEAR TEACHING SECOND YEAR PROJECTS OTHERS: THIRD YEAR & HONOURS PROJECTS	NO	6	APPLES: YES
WITS (BIS)	APPLE	I	DEPT. SELF	STUDENT USE	NO	I	NO
WITS (BUSINESS SCHOOL)	COMMODORE PET	2	SELF	ADMINISTRATION AND PROJECTS FOR CONSTRUCTION ELECTIVES	NO		

TABLE 6 : STUDENT ACCESS TO MICROS

UNIVERSITY	MAKE/MODEL	NUMBER	CONTROL	PURPOSE OF USE	INTERCONNECTED INTO NETWORK	NUMBER OF PRINTERS	GRAPHIC FACILITIES
ZIMBABWE	CROMENCO SYSTEM 3	I	SELF	TEACHING PROGRAMMING AND HARDWARE	NO	I	NO
WITS TECHNIKON	SHARP PC I2II	I4	OTHER DEPT.	TEACHING BASIC	NO	0	NO
TECHNIKON NATAL	APPLE II	I5	SELF	BASIC FOR ENGINEERING STUDENTS	NO	2	YES HIGH RESOLUTION GRAPHICS DIGITAL PLOTTERS DIGITIZER GRAPHICS PRINTER

TABLE 6 : STUDENT ACCESS TO MICROS CONTINUED

UNIVERSITY				OPERATING SYSTEMS	INTERPRETERS AND COMPILERS	STUDENT SUPERVISION	SECURITY ARRANGEMENTS	USED BY			HOURS/WEEK AVAILABLE
	CASSETTES	DISKETTES (FLOPPYS)	HARD DISKS					1 YEARS	2 YEARS	3 YEARS	
CAPE TOWN	X			CP/M UCSD PASCAL	PASCAL	NO	NO		X		7*24
FORT HARE											
NATAL (DURBAN)	X	X		TURBODOS	PASCAL LISP FORTRAN	NO	YES	X	X	X	64
NATAL (PIETERMARITZBURG)	X			CPM AND DOS	LISP ASSEMBLER BASIC	PARTLY	NO	X	X	X	40
NOORDE	X			APPLE DOS 3.3	PASCAL & ASSEMBLER FOR 6502			X	X		
PORT ELIZABETH	X	X		APPLE'S AUTOSTART, CP/M, DOS	BASIC PASCAL FORTH	YES	LABORATORY LOCKED AFTER HOURS	X			40

TABLE 6 : STUDENT ACCESS TO MICROS CONTINUED

UNIVERSITY				OPERATING SYSTEMS	INTERPRETERS AND COMPILERS	STUDENT SUPERVISION	SECURITY ARRANGEMENTS	USED BY			HOURS/WEEK AVAILABLE
	CASSETTES	DISKETTES (FLOPPYS)	HARD DISKS					1 YEARS	2 YEARS	3 YEARS	
PRETORIA	X	X		TRS DOS NEW DOS - (LIMITED)	BASIC FORTRAN COBOL PASCAL	YES, DURING PRACTICAL SESSIONS + 15 HOURS	NO SPECIAL PROCEDURES	X	X	X	58
RAU	X	X	X	BTOS I.3	BASIC FORTRAN PASCAL COBOL	YES	LABORATORY LOCKED	X	X	X	7*24 20
RHODES		X		CP/M APPLE DOS ETC.	PASCAL BASIC FORTRAN LOGO LISP FORTH	? (SILLY QUESTION)		X	X	X	168
STELLENBOSCH	X	X		DOS	PASCAL BASIC	NO	LOCK ROOM		X		40+
WES-KAAPLAND	X				BASIC	YES	LECTURERS HAVE KEY OF ROOM & MUST BE PRESENT	X	X		7*24

TABLE 6 : STUDENT ACCESS TO MICROS CONTINUED

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UNIVERSITY				OPERATING SYSTEMS	INTERPRETERS AND COMPILERS	STUDENT SUPERVISION	SECURITY ARRANGEMENTS	USED BY			HOURS/WEEK AVAILABLE
	CASSETTES	DISKETTES (FLOPPY)	HARD DISKS					1 YEARS	2 YEARS	3 YEARS	
WITS	X			UCSD PASCAL	PASCAL ADA	APPLES - YES OTHERS - NO	NO	X	X	X	APPLES:60 OTHERS:7*24
WITS (BIS)		X		DOS	BASIC PASCAL	NO	ROOM ACCESSED BY KEY		HONOURS		
WITS BUSINESS SCHOOL	X	X			BASIC SUBSET OF COBOL FORTRAN	NO	ROOM IS LOCKED	X	X	X	I68
ZIMBABWE	X			CDOS	FORTRAN PASCAL BASIC ALGOL	NORMALLY	NO	X	X		40
WITS TECH-NIKON					BASIC	YES	MICRO'S HANDED OUT ON SIGNATURE	X			20
TECHNIKON NATAL	X	X		APPLESOFT DOS	BASIC	YES	INSTALLATION (LOCK & CHAIN)	X	X	X	50

**7. Tabel 7**

**Studente Toegang Tot Grafiese Fasiliteite**

TABEL 7 : STUDENTE TOEGANG TOT GRAFIESE FASILITEITE

FASILITEITE UNIVERSITEIT	WATTER	BEHEER	STUDENTE GEBRUIK
KAAPSTAD	TECTRONICS, CALCOMP	REKENENTRUM	GEEN
DURBAN-WESTVILLE	APPARATUUR & PROGRAMMATUUR PLOTTERS GRAFIKA PROGRAMMATUURPAKKIE	SELF	TWEEDEJAARS
FORT HARE			
UOVS	TECTRONICS 4014 HP - 722IB HP - 7580A	REKENENTRUM	DERDEJAARS
PRETORIA	BEPERKTE FASILITEITE OP TRS I HP GRAFIESE TERMINAAL GRAFIESE FASILITEITE BY WNNR	DEPARTEMENT & WNNR	BEPERKTE SKAAL VOORGRAADS; NAGRAADS
RAU	TEKTRONIX I2I4 ONTEL - INTELLIGENTE TERMINAAL	REKENENTRUM & DE- PARTEMENT GEOGRAFIE	NAGRAADS
RHODES	KLEUR, VERSYFERING ENS.	DEPARTEMENT	ALLE
STELLENBOSCH	TEKTRONIX : STOORBUIS HP VERFRIS BUIS	DEPARTEMENT	NAGRAADS

TABEL 7 : STUDENTE TOEGANG TOT GRAFIESE FASILITEITE

FASILITEITE UNIVERSITEIT	WATTER	BEHEER	STUDENTE GEBRUIK
WES-KAAPLAND	CALCOMP 836	REKENSENTRUM	DERDEJAARS
WITS (BIS)	SASGRAPH CALCOMP 936	REKENSENTRUM	NIEMAND
TECHNIKON NATAL	SIEN TABEL 6		

## **8. Algemene Opmerkings – General Remarks**

The following general remarks pertaining to topics like PLATO, basic hardware kits etc. were received from the different universities:

Die volgende algemene opmerkings oor onderwerpe soos PLATO, appatuur boustelle ens. is van die verskillende universiteite ontvang:

### DURBAN-WESTVILLE

The hardware laboratory used by 2nd year students contains

3 X Digital Designer/trainers

7 X Micro-Professor (Z80)

Eleven terminals are attached to the HP 1000 E. The terminals are controlled by the (STMGR) manager program.

### UNIVERSITEIT VAN DIE NOORDE

Die Departement beskik oor heelwat programmatuur vir die Apple II mikrorekenaars wat van tyd tot tyd in demonstrasies gebruik word. Wordstar word deur departement vir woordverwerking gebruik.

Verskeie spraaksintetiseerders, 'n SWTPC 6800 - mikrorekenaar, 'n Sinclair ZX81 en eersdaags 'n ICL persoonlike mikrorekenaar is ook in die departement beskikbaar.

'n Ontwikkelingstel vir die 8085 mikroverwerker is pas aan die departement oorgedra. Hier kan nou ernstig met ontwikkellingswerk begin word.

### UNIVERSITY OF PORT ELIZABETH

The university has a hardware laboratory housing the following hardware kits:

- I. 2 X logic trainers
2. Voice synthesizers
3. Oscilloscope
4. Multimeters
5. EPROM burner

### PU vir CHO

Die universiteit is tans besig om te kyk na die toekoms van PLATO vir die universiteit. (Daar is tans 'n aantal PLATO-mikro's vir evaluasie beskikbaar). Departement Rekenaarwetenskap moet nog sy standpunt ten opsigte van PLATO formuleer.

Departement Rekenaarwetenskap is van plan om 'n verskeidenheid van opleidingshulpmiddels soos PLATO, video-bande, ens. te ondersoek vir gebruik in opleiding.

## UNIVERSITEIT VAN PRETORIA

- 1) PLATO
  - word tans ondersoek
  - gaan RG0 op mikros gebruik - op beperkte skaal
- 2) BOUSTELLE ("KITS")
  - 8085 (30 van hulle) - word gebruik vir 'laevlak' werk
  - een robot
  - een 8086
  - het 'n verskeidenheid apparatuurstelle alreeds ontwikkel, primêr op gebied van kommunikasie
- 3) APPARATUUR LABORATORIUMS
  - (a) Voorgraads
    - 30 TRS/III en 30 X 8085 ontw. stelle
    - elke werksplek het I X TRS & I X 8085 & 5 V, - I2 V, & I2 V
    - I Robot
    - aantal apparatuursisteme wat gekoppel kan word
  - (b) Nagraads
    - INTELLEC, model I23I
    - INTELLEC, model III (8086)
    - 'n aantal (3) kommunikasieverwerkers

## RHODES UNIVERSITY

We have a wide variety of equipment and software such as voice synthesizers, digitizers, word processors, algebraic manipulation systems, filing system, CAL programs which we use both as part of our own instructional environment and in more community orientated directions.

## UNIVERSITEIT VAN STELLENBOSCH

- I. Ons beplan 'n mikrolaboratorium van 40 - 60 mikros wat aan die hoofraam verbind is.
2. PLATO word deur die Taallaboratorium gebruik.

## UNIVERSITEIT VAN WES-KAAPLAND

PLATO word op groot skaal gebruik:

- I. EERSTEJAARS : Eerste semester - al hul praktiese werk - Leer Basic programmering en ontwikkel programme interaktief  
Tweede semester - Cobol-programmering - Plus lesse oor EDV, en algemene aspekte van rekenaarwetenskap - Laasgenoemde ook vir dienskursus.
2. TWEEDEJAARS : PLM (Plato Learning Management) - Lesse en toetse oor logiese ontwerp, gevorderde Cobol, Fortran, inligtingstelsels, numeriese metodes.
3. DERDEJAAARS : PLM lesse en toetse oor gevorderde numeriese metodes

## UNIVERSITEIT VAN WES-KAAPLAND VERVOLG

3. DERDEJAARS VERVOLG : en optimeringstegnieke, insluitende lineêre programmering; ook stelselontwerp.

PLM-kursusse is deur my en Gideon Smith opgestel, en die PLM-stelsel hou noukeurig boek van elke student se vordering. Die eerstejaars het selfs werklêers vir hul programme, wat deur dosente gemonitor en beoordeel kan word. Van tyd tot tyd word punte toegeken.

## WITWATERSRAND (COMPUTER SCIENCE)

- I) The most novel feature of computing at WITS is that everyone can now BOOK TIME on terminals or micros. Booking is done in  $\frac{1}{2}$  hour slots and has replaced charging for CPU time on the mainframe. That is, our scarce resource is terminal access and so we budget on that.

Each week, every student who is currently engaged on a bona fide class assignment is issued with N stickers where N is decided according to demand and varies from 4 to 8 (ie 2 hours to 4 hours). These he uses to book time for the week, when it suits him. Students can therefore PLAN AHEAD and we have ELIMINATED QUEUES for terminals. The system is run by the Computer Centre in conjunction with the computer users group.

- 2) The second important innovation is the introduction of Ada to undergraduate course. Third years can now choose Ada instead of Cobol as their fifth language (the others are Pascal, APL, LISP & PL/I). We have an IBM Ada Compiler on order, and can run Ada on the 3 microengines & the VAX (soon to arrive)

## UNIVERSITY OF ZIMBABWE

- I) At present it is difficult to give an accurate picture of the departments' situation with regard to micros. Our policy is to transfer all computing science students to micros as soon as possible but to continue using the mainframe for our service course students (engineering and agriculture) and for the occasional large jobs that arise. The department currently has 3 Z-80 based micros (64K memory, 2 8" floppy disc drives) running under CP/M, which are used for research by the staff and are sometimes utilised to illustrate points to the students. Members of staff have gained very favourable opinions of these machines and we hope to obtain a number of them, in the near future, for 2nd and 3rd year teaching. We are currently in the process of obtaining about a dozen Z-80 based single board micros for 1st year teaching. To summarize - we have only one micro available for general student use at the moment, but by the beginning of the next academic year we hope to have enough micros available to enable us to do all our teaching of computing science students on micros.

UNIVERSITY OF ZIMBABWE CONTINUED

2. We have two Heathkit microprocessor training kits which are used by second and third year students. They are well documented so students can follow the course in their own time - a method that proves very popular. As our student numbers are increasing we would like to obtain more of this type of training device.

TECHNIKON WITWATERSRAND

n IBM 434I stelsel is tans op bestelling om die huidige IBM stelsel 34 te vervang.

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