

# Automation of an Academic Workload Model at a developing University of Technology in South Africa

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22nd SAAIR CONFERENCE 2015  
28<sup>th</sup> September – 1<sup>st</sup> October 2015



# Session Outline

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Introduction

Process and Data Sources

Navigation

Administrative tasks

User tasks

Workload/Time-sheet  
Reports



# Intro: Workload Definition

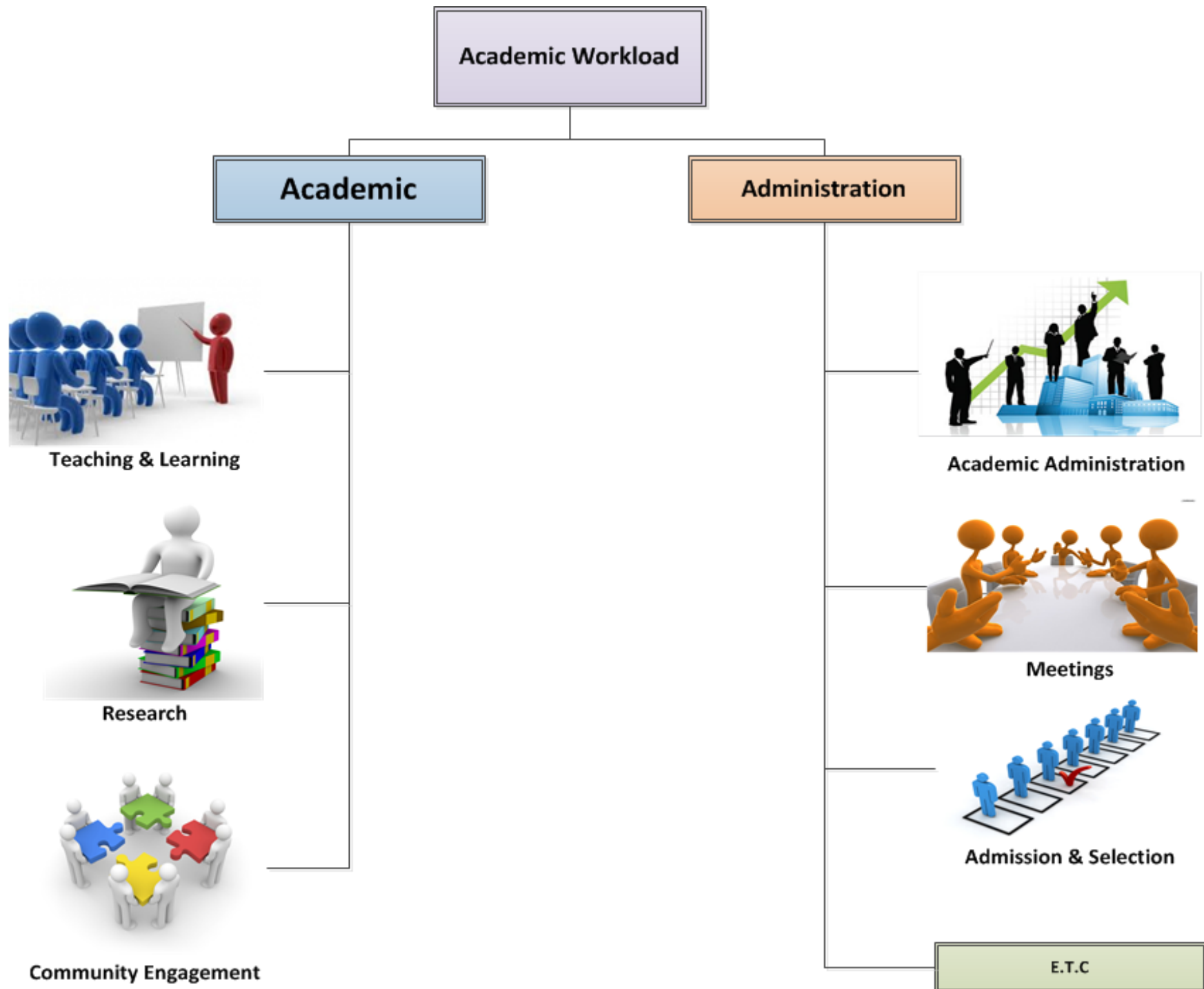
- The workload of an academic is the aggregated time spent on academic and administrative duties.
- One workload unit is equal to one hour.
- Expected/Normal Load per semester week = 40 hr i.e. (8hr per day X 5)



# Intro: Possible Workload Factors

Contact times, Class size, Type of Class, Mode of delivery, Consultation, WIL, Subject level, Use of tutors, Experience, Community engagement, Nature of subject, Academic administration, Assessment, Research publications, Team teaching, Postgraduate supervision, Repeated subject, New subject ...





# Summary of the Workload System

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## Background

The purpose of an academic workload model is to provide a mechanism for ensuring that academic workloads are distributed equitably and transparently. It could also be used for automation of timesheet reporting to DHET. Most importantly, the model could be used as a planning tool for academic staffing.

## Workload

The following formula will be used in the HEDA Workload Model to calculate the total workload:

$$\text{Teaching and Learning per subject} \{ (CN \times WHR \times SF \times (0.5 + (0.5 \times (CS/AS)))) - TU \} / TS$$

- + Work Integrated Learning contact hours
- + Research and Innovation contact hours
- + Community Engagement contact hours
- + Administrative Duties contact hours

CN	- Contact hours per week
WHR	- Work hours required per contact hour
SF	- Subject factor
CS	- Class size
AS	- Average class size of Faculty
TU	- Hours saved by using a tutor
TS	- Team size

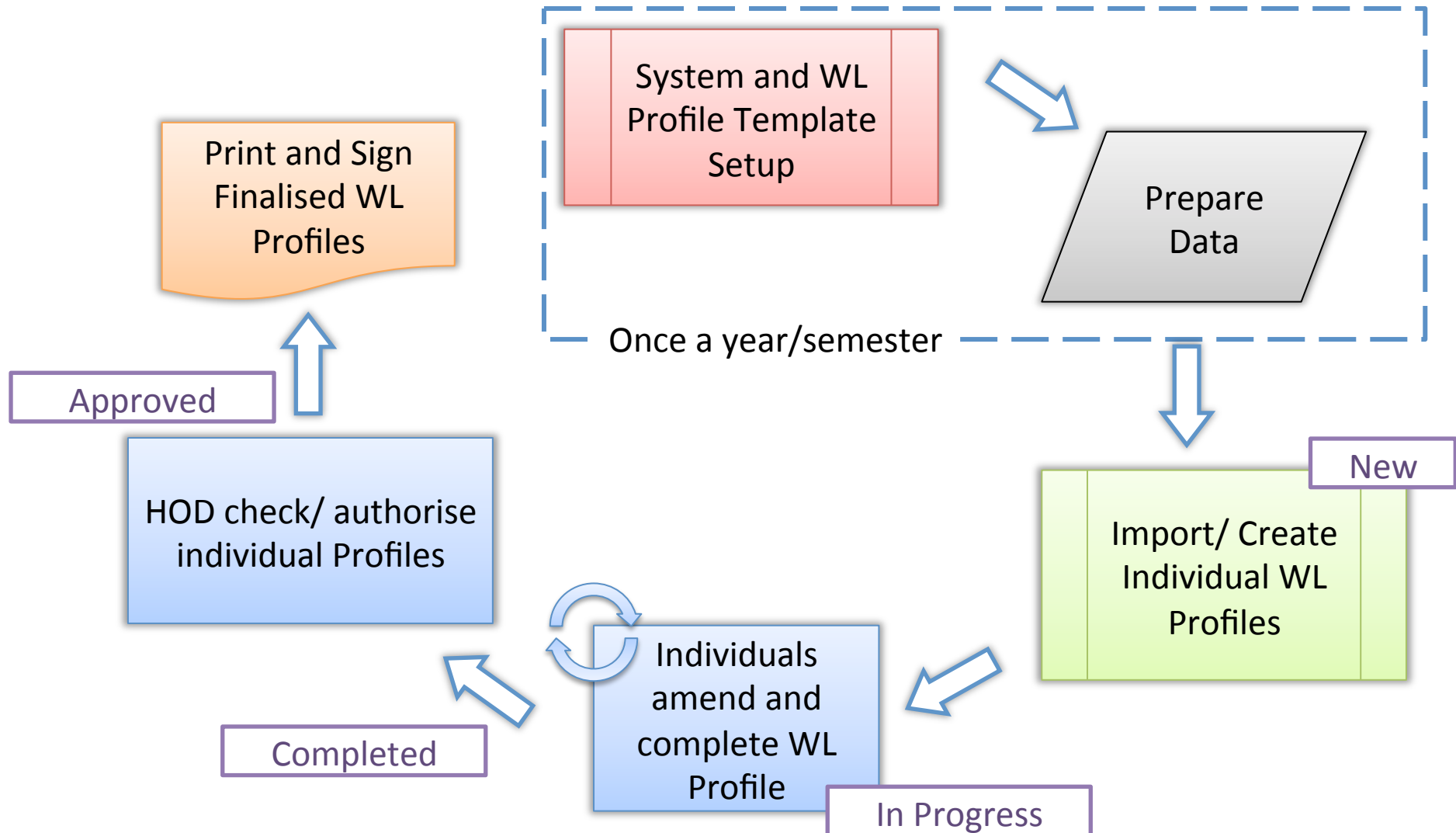
<sup>2</sup> The constant 0.5 and multiplier 0.5, provides the balanced division for work that increases in proportion to class size

# Intro: Workload Distribution by Rank

ACADEMIC LEVEL	T & L (%)	R & I (%)	CE (%)	ADMIN (%)
Junior Lecturer	≥ 80			
Lecturer	≥ 75			
Senior Lecturer	≥ 65			
Assistant Professor	≥ 65			
Associate Professor	≥ 65			
Professor	≥ 60			
Research Professor		≥ 90		
Programme Coordinator	≥ 50			≥ 30
HOD Service Dept	≥ 50			≥ 30
HOD Programme Dept				≥ 60
Dean				≥ 90

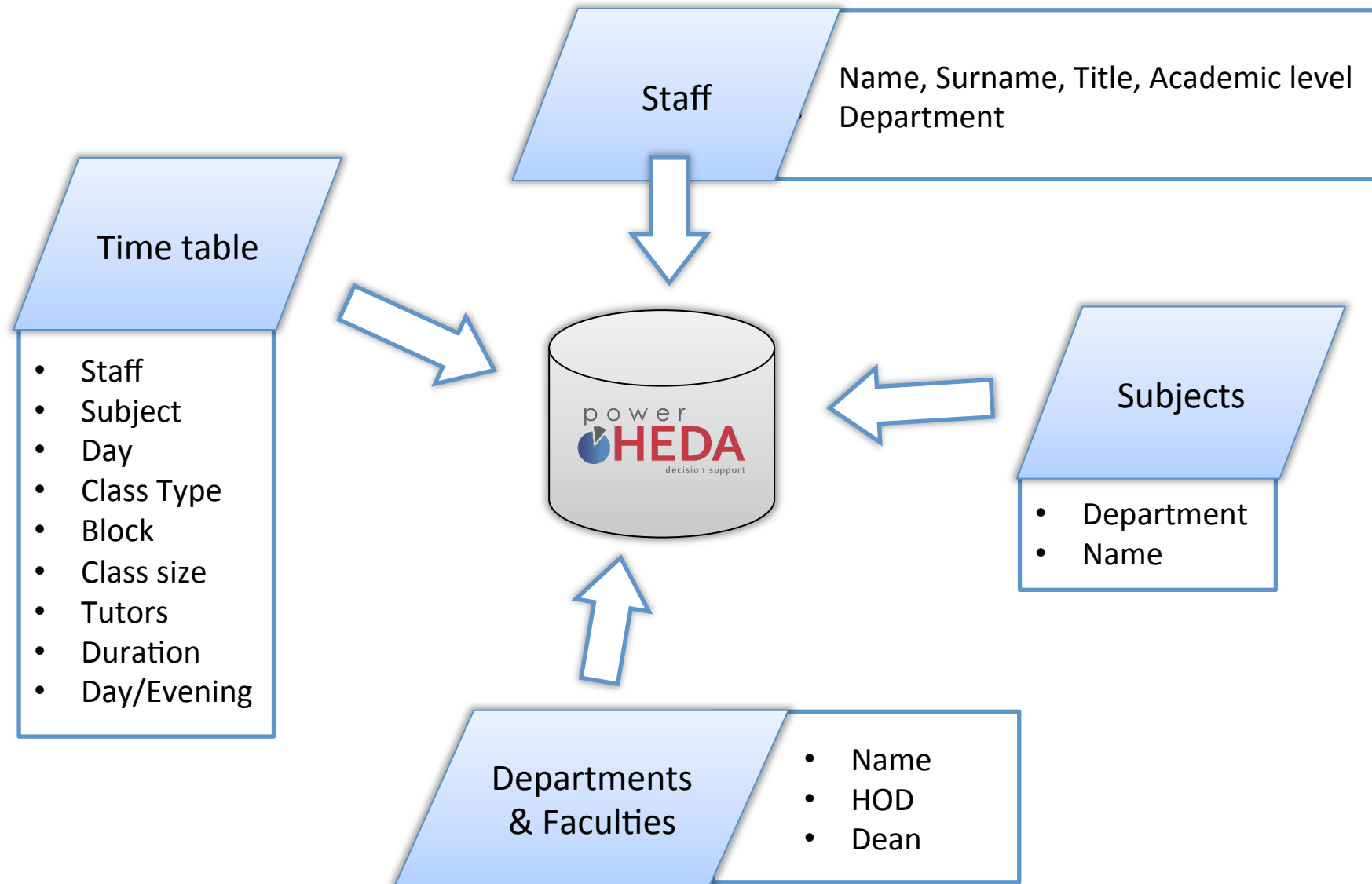


# Process





# Data Sources



## Workload profiles

Year	All items checked	Period	
Faculty		Department	
Responsibility roles		Academic levels	
Full-time/Part-time	All	Status	
Personnel Number	<a href="#">Apply Filter</a> <a href="#">Reset Filter</a> <a href="#">Print</a> <a href="#">Add personnel member</a>		

PERIOD	PERSONNEL MEMBER	DEPARTMENT	STATUS	TL	RI	CE	AD	LOAD	ACTIONS		
2015 S1	Dr. Veronica van Wyk (30006543)	Accounting	In Progress					39.85			
2015 S1	Prof. Peter Nkosi (30011537)	Building Sciences	In Progress			-		41.28			
2015 S1	Dr. Bob Motsepe (30016540)	Environmental Health	In Progress					31.40			
2015 S1	Dr. Mary-Ann Johnson (30018100)	Environmental Health	In Progress			-		31.72			
2015 S1	Dr. Ahmed Salijee (30019238)	ICT Services	In Progress	-	-	-		40.00			
2015 S1	Mr Sipho Kweza (30019268)	ICT Services	In Progress	-	-	-		40.00			
2015 S1	Mrs Suzette Venter (30019278)	Registrar: Finance	In Progress	-	-	-		40.00			
2015 S1	Mr Pieter Els (30019298)	Directorate:Human Resources(So	In Progress	-	-	-		40.00			

Total records and average load

8

38.03

1

Page 1 of 1, items 1 to 8 of 8.



Prof. Peter Nkosi (30011537)

2015 Semester 1

Total Workload hours per week: 41.28

Academic level Professor (01)

Department Building Sciences (2793)

Status In Progress

Responsibilities 2 items checked

Save

Teaching and Learning

60% 49.1%

Re Sub Activity

Lecturing

Lecturing

Lab

Work Integrated Learning

Administrative duties

26.6%

Add

ITEM

CLASS NUMBER TEAM  
SIZE TUTORS SIZE ACTIONS

LECTURING

PPP100S - POST-PRODUCTION PRACTICE 1 (Nort

PPP200S - POST-PRODUCTION PRACTICE 2 (Nort

LAB

PPP300S - POST-PRODUCTION PRACTICE 3 (Nort

Subject Code

No code selected

Day/Evening

Day

Class Type

Class

Contact hours per week

0

Class size

1

Number of tutors

1

Team size

1

Save

Cancel

Teaching and Learning Total

7.00

1

Page 1 of 1, items 1 to 3 of 3.



Academic level Professor (01)

Department Building Sciences (2793)

Status In Progress

Responsibilities 2 items checked

Save

Teaching and Learning

60% 49.1%

Research

Administrative duties

10% 26.6%

Add

ITEM

RESEARCH AND INNOVATION

Supervisor

HOURS ACTIONS

ment (020302)

10.00

X

Sub Activity

[Not applicable]

Title

Supervisor

Description

Supervisor for DTECH students

Staff Programme

Research (020)

CESM

ZZ - Unknown

ZZZZ - Unknown

ZZZZZZ - Unknown

Qualification

D TECH ARCHITECTURAL TECH: APPLIED DESIG (AGJJ62)

Student number

2013010101

Third stream income amount

0

Hours per week

10

Attach Documents

Save

Cancel

Research and Innovation Total

10.00

1

Page 1 of 1, items 1 to 1 of 1.



Academic level: Professor (01)

Department: Building Sciences (2793)

Status: In Progress

Responsibilities: 2 items checked

Save

Teaching and Learning 60% 49.1%	Research and Innovation 30% 24.2%	Community Engagement 0% 0%	Administrative duties 10% 26.6%
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Add

ITEM	PROGRAMME	HOURS	ACTIONS
ADMINISTRATIVE DUTIES			
HOD Managing B.Tech Programme		10.00	
General Admin		1.00	
Administrative duties Total		11.00	

Sub Activity

Meetings

Detail

Title: Weekly Strategic Planning

Description: Weekly Strategic Planning

Hours per week: 2

Attach Documents

Save Cancel





## Individual Workload

### Workload profiles

Year

All it

Faculty

Responsibility roles

Full-time/Part-time

All

Personnel Number

PERIOD PERSONNEL MEMBE

2015 S1 Dr. Veronica van Wyk (30

2015 S1 Prof. Peter Nkosi (300115

2015 S1 Dr. Bob Motsepe (300165

2015 S1 Dr. Mary-Ann Johnson (30

2015 S1 Dr. Ahmed Saljee (30019

2015 S1 Mr Sipho Kweza (3001926

2015 S1 Mrs Suzette Venter (3001

2015 S1 Mr Pieter Els (30019298)

Total records and avera

1

### Personal Details

Period	2015 Semester 1
Staff Number	30011537
Surname & Initials	Prof. Peter Nkosi (30011537)
Department	Building Sciences
Academic Level	Professor
Responsibilities	General Admin,HOD Managing B.Tech Programme

### Teaching and Learning

Subject Code	Contact Hours	Class Size	Average Class Size	Work Hours Required	Tutors	Team Size	Load per Week	
							Weight	Load
Lecturing								
PPP100S	5.00	75	73	3.00	0	1	1.01	15.21
PPP200S	1.00	88	73	3.00	0	1	1.10	3.31
Lab								
PPP300S	1.00	56	73	2.00	0	1	0.88	1.77
Total Teaching and Learning								20.29

### Research and Innovation

<b>Research and Innovation</b>								
Supervisor								10.0
<b>Total Research and Innovation</b>								<b>10.00</b>

### Administrative duties

<b>Administrative duties</b>								
General Admin								1.0
HOD Managing B.Tech Programme								10.0
<b>Total Administrative duties</b>								<b>11.00</b>

**Grand Total** 41.29 (103.23%)<sup>2</sup>

<sup>1</sup> Maximum Weight Applicable

<sup>2</sup> Percentage of normal working hours (40)



## Workload profiles

Year

Faculty

Responsibility roles

Full-time/Part-time

Personnel Number

Workload Profiles Summary

ing Workload Overview



## Teaching and Learning Workload

## Report Parameters

Year	2015
Period	All
Template	IDSC Template
Faculty	All
Department	All

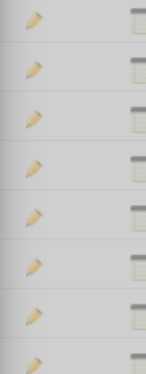
## Full-time/Part-time &gt; Academic Level &gt; Personnel Member

	Day	Evening	Total	Evening as % of Total	Capacity
<b>Total</b>	97.46	5.31	102.77	5.2%	
<input checked="" type="checkbox"/> <b>Full-time</b>	82.23		82.23	0.0%	112.00 (73.4%) <sup>1</sup>
<input checked="" type="checkbox"/> <b>Junior lecturer</b>	58.26		58.26	0.0%	60.00 (97.1%) <sup>1</sup>
Dr. Mary-Ann Johnson (30018100)	23.48		23.48	0.0%	30.00 (78.3%) <sup>1</sup>
Dr. Ria Groenewald (30016540)	34.78		34.78	0.0%	30.00 (115.9%) <sup>1</sup>
<input checked="" type="checkbox"/> <b>Senior lecturer</b>	23.97		23.97	0.0%	52.00 (46.1%) <sup>1</sup>
Dr. Ahmed Saljee (30019238)	12.12		12.12	0.0%	26.00 (46.6%) <sup>1</sup>
Prof. Jan Swanepoel (30011537)	11.85		11.85	0.0%	26.00 (45.6%) <sup>1</sup>
<input checked="" type="checkbox"/> <b>Part-time</b>	15.23	5.31	20.54	25.8%	
<input checked="" type="checkbox"/> <b>Senior lecturer</b>	15.23	5.31	20.54	25.8%	
Dr. Veronica van Wyk (30006543)	15.23	5.31	20.54	25.8%	

<sup>1</sup> Workload as Percentage of Capacity

Add personnel member

## ACTIONS



of 1, items 1 to 8 of 8.



Workload profiles

Year

All items checked

Faculty

Responsibility roles

Full-time/Part-time

All

Personnel Number

PERIOD	PERSONNEL MEMBER
2015 S1	Dr. Veronica van Wyk (30006543)
2015 S1	Prof. Peter Nkosi (30011537)
2015 S1	Dr. Bob Motsepe (30016540)
2015 S1	Dr. Mary-Ann Johnson (30018100)
2015 S1	Dr. Ahmed Saljee (30019238)
2015 S1	Mr Sipho Kweza (30019268)
2015 S1	Mrs Suzette Venter (30019278)
2015 S1	Mr Pieter Els (30019298)

Total records and average load

1

Create Timesheets

Year

2015

Status

☐ New
 ☐ In Progress
 ☐ Completed
 ☒ Approved

Type

Academic

Faculty

☒ All
 ☐ DVC ACADEMIC
 ☐ DVC ADMINISTRATION
 ☐ FACULTY OF ENGINEERING
 ☐ FACULTY OF MANAGEMENT SCIENCES

Department

☒ All

Create

Cancel

Files

Admin tasks

Reports

Faculty Groups

Academic Levels

Page Class Size

Responsibility Roles

Templates

Department Detail

Faculty Contacts

Create Personnel Profiles

Create Timesheets

41.28			
31.40			
31.72			
40.00			
40.00			
40.00			
40.00			
40.00			
38.03			

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## Workload profiles

Year

Faculty

Responsibility roles

Full-time/Part-time

Personnel Number

PERIOD PERSONNEL M

2015 S1 Dr. Veronica van

2015 S1 Prof. Peter Nkosi

2015 S1 Dr. Bob Motsepe

2015 S1 Dr. Mary-Ann Joh

2015 S1 Dr. Ahmed Saljee

2015 S1 Mr Sipho Kweza

2015 S1 Mrs Suzette Vent

2015 S1 Mr Pieter Els (300



## Individual Timesheet



### Personal Details

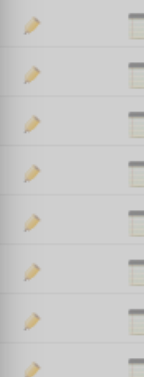
Period	2015 Semester 1
Staff Number	30011537
Surname & Initials	Prof. Peter Nkosi (30011537)
Department	Building Sciences
Academic Level	Professor
Responsibilities	General Admin,HOD Managing B.Tech Programme

### Staff Programme ► Staff Programme CESM

	Staff FTE
Instruction (010)	0.507
Analysis And Functional Analysis (150103)	0.507
Research (020)	0.250
Construction Management (020302)	0.250
Academic support (040)	0.275
<b>Total</b>	<b>1.032</b>

Add personnel member

### ACTIONS



Total records and average load

8

38.03

Page 1 of 1, items 1 to 8 of 8.



Thank you.

