Southern African Association for Institutional Research

Foundations of HEMIS 2017

# Space reporting: Key concepts and issues

Presented by:
Jacques Botha, University of the Free State



## Acknowledgements


- Valpac documentation
- Applicable SAPSE documentation
- DHET presentations on related aspects
- Presentations by Herman Visser on related aspects

# Purpose

**The purpose of this session is to** explain the **foundations and principles** of the South African Higher Education Management Information System (HEMIS) as it relates to **space reporting**

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# Key concepts

- Why is this important?
- What is the link with students and staff?
- Space usage
- Space norms
- Use of space norms
- Staff timesheets
- Class timetable

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# Background

- When HEMIS was introduced in 1999, the SAPSE space reporting was abolished
- Became apparent that a HEMIS module for building and space reporting should be introduced
- A few institutions continued with their building and space systems but the majority scrapped these → great difficulties for some institutions

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# Why space reporting?

- No data on Higher Education space holdings and space use available since 1996
- A building space module introduced in HEMIS from 2008
- Why important? DHET use HEMIS space data for planning assessment with enrolment plans to evaluate the physical capacity of institutions relative to their planned and actual student enrolments

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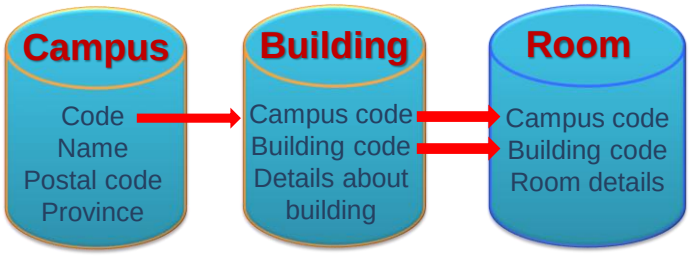
# Structured reporting

## Three Valpac files




# CAMPUS FILE

**CAMPUS FILE**

File name: xxxxCAMP.s (replace "xxxx" with the institution code, and "s" by the submission number)
Sort order: Any order
Unique key: Element 201concatenated with Element 204

| Element number | Element name | Field name | Width | Start column | End column | Data type |
|---|---|---|---|---|---|---|
| 201 | Campus code | CAMPCODE | 3 | 1 | 3 | Text |
| 202 | Campus name | CAMPNAME | 50 | 4 | 53 | Text |
| 203 | Campus postcode | CAMPPSTC | 4 | 54 | 57 | Text |
| 204 | Campus province code | CAMPPROV | 2 | 58 | 59 | Text |
| 221 | Latitude degrees | LAT_DEG | 3 | 60 | 62 | Text |
| 222 | Latitude minutes | LAT_MIN | 2 | 63 | 64 | Text |
| 223 | Latitude seconds | LAT_SEC | 6 | 65 | 70 | Text |
| 224 | Longitude degrees | LON_DEG | 2 | 71 | 72 | Text |
| 225 | Longitude minutes | LON_MIN | 2 | 73 | 74 | Text |
| 226 | Longitude seconds | LON_SEC | 6 | 75 | 80 | Text |
| | Comments | COMMENTS | 30 | 81 | 110 | Text |

# Campus Challenges

No Big Challenges
What we did at UFS
1.Create campus file in operational database maintained by Unit for space and planning: We keep date and time created and roll over by year

| YEARCD | UV_CAMPCODE | UV_CAMPNAME | UV_CAMPPSTC | UV_CAMPPROV | CAMPUS | UV_LAT_DEGR | UV_LAT_MIN | UV_LAT_SEC | UV_LON_DEGR | UV_LON_MIN | UV_LON_SEC | UV_INCL_HEMIS_FLG | COMMENTSHORT | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2017 | 01 | MAIN CAMPUS | 9330 | 04 | MAIN | -29 | 6 | 38.94 | 26 | 11 | 32.9 | Y | | |
| 2017 | 02 | QWA QWA C... | 1234 | 04 | QWA | -28 | 29 | 9.37 | 28 | 49 | 24.67 | Y | | |
| 2017 | 03 | SUIDKAMPUS | 9301 | 04 | SOUTH | -29 | 10 | 58.32 | 26 | 12 | 53.33 | Y | (ou Vista) | |
| 2017 | 81 | HOOF KAMPU... | 9330 | 04 | MAIN | -35 | 0 | 0 | 18 | 0 | 0 | Y | UV Eiendom / N... | UFS Buildin |
| 2017 | 82 | HOOF KAMPU... | 9330 | 04 | | -29 | 6 | 38.94 | 26 | 11 | 32.9 | N | Terreine 1, 2 e... | |
| 2017 | 83 | HOOFKAMPU... | 9330 | 04 | | -29 | 6 | 38.94 | 26 | 11 | 32.9 | N | Slegs Sportgro... | |
| 2017 | 84 | HOOFKAMPU... | | 04 | MAIN | -29 | 6 | 38.94 | 26 | 11 | 12.31 | N | Emergency Po... | UFS: Emerc |



# BUILDING FILE

**BUILDING FILE**

File name: xxxxBLDG.s (replace "xxxx" with the institution code, and "s" by the submission number)
Sort order: Any order
Unique key: Element 201 concatenated with Element 205

| Element number | Element name | Field name | Width | Start column | End column | Data type |
|---|---|---|---|---|---|---|
| 201 | Campus code | CAMPCODE | 3 | 1 | 3 | Text |
| 205 | Building code | BLDGCODE | 5 | 4 | 8 | Text |
| 206 | Building name | BLDGNAME | 50 | 9 | 58 | Text |
| 207 | Ownership code | OWNCODE | 2 | 59 | 60 | Text |
| 208 | Year of construction | YEARCONS | 4 | 61 | 64 | Numeric |
| 209 | Building condition | BUILDCON | 1 | 65 | 65 | Numeric |
| 210 | Inventory value | INVENTVL | 10 | 66 | 75 | Numeric |
| 211 | Total assignable square metres | TOTALASM | 6 | 76 | 81 | Numeric |
| 212 | Total gross square metres | TOTALGSM | 6 | 82 | 87 | Numeric |
| 213 | Standard cost unit | STDCSTUN | 10 | 88 | 97 | Numeric |
| | Comments | COMMENTS | 30 | 98 | 127 | Text |

# Building challenges

| YEARCD | UV_CAMPCODE | UV_BLDGCODE | UV_BLOK | UV_BLDGNAME | UV_OWNCODE | UV_YEARCONS | UV_BUILDCON1 | UV_INVENTVL | UV_ESTREPCT | UV_TOTALASM | UV_TOTALGSM | UV_STDCSTUN | COMMENTS_25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2017 | 01 | 119 | 0 | TSWELOPEL... | 01 | 1973 | 3 | 575993 | 61219263.18 | 2629.229 | 5079.488 | 5053 | Tswelopele / K.. |
| 2017 | 01 | 120 | 0 | MADELIEF-K... | 01 | 1971 | 3 | 542542 | 64772619.54 | 3090.027 | 5547.349 | 3165 | |
| 2017 | 81 | 50.7 | 7 | BOYDEN-OU... | 01 | 1927 | 1 | 99 | 0 | 369.914 | 454.157 | 424 | BOYDEN |
| 2017 | 01 | 32F | F | WERKWINKE... | 01 | 1947 | 3 | 99 | 8665967.68 | 856.18 | 1237.208 | 768 | |
| 2017 | 01 | 32G | G | FASILITEITE... | 01 | 1985 | 2 | 33297 | 1184854.32 | 249.239 | 334.369 | 102 | (Gebou oorged.. |

| UV_INCL_HEMIS_FLG | SCC_ROW_ADD_OPRID | SCC_ROW_ADD_DTTM | SCC_ROW_UPD_OPRID | SCC_ROW_UPD_DTTM | UV_LAT_DIRECTION | UV_LAT_DEGR | UV_LAT_MIN | UV_LAT_SEC | UV_LON_DIRECTION | UV_ |
|---|---|---|---|---|---|---|---|---|---|---|
| Y | KROHNHJ | 2012/09/05 12:00:0... | KROHNHJ | 2016/08/04 12:00:0... | | 0 | 0 | 0 | | |
| Y | HEUNISG | 2012/09/03 12:00:0... | KROHNHJ | 2016/08/04 12:00:0... | | 0 | 0 | 0 | | |
| Y | HEUNISG | 2012/08/31 12:00:0... | HEUNISG | 2014/05/12 12:00:0... | | 0 | 0 | 0 | | |
| Y | HEUNISG | 2012/09/03 12:00:0... | KROHNHJ | 2016/08/02 12:00:0... | | 0 | 0 | 0 | | |
| Y | HEUNISG | 2012/09/03 12:00:0... | KROHNHJ | 2016/08/02 12:00:0... | | 0 | 0 | 0 | | |



# Building challenges

- UFS Inventory value
- Estimate replacement cost
- Assignable square meters
- Gross square meters
- We have added building gps data for mapping in future

# ROOM FILE

**ROOM FILE FROM 2008**

File name: xxxxROOM.s (replace "xxxx" with the institution code, and "s" by the submission number)
Sort order: Any order
Unique key: Element 201 concatenated with Element 205 concatenated with Elements 214 and 215

| Element number | Element name | Field name | Width | Start column | End column | Data type |
|---|---|---|---|---|---|---|
| 201 | Campus code | CAMPCODE | 3 | 1 | 3 | Text |
| 205 | Building code | BLDGCODE | 5 | 4 | 8 | Text |
| 214 | Room number | ROOMNMBR | 10 | 9 | 18 | Text |
| 215 | Room proration key | ROOMPKEY | 4 | 19 | 22 | Numeric |
| 216 | Space use category | SPACECAT | 4 | 23 | 26 | Text |
| 217 | Square metres | SQMETRES | 10 | 27 | 36 | Numeric |
| 218 | Number of stations | STATIONS | 10 | 37 | 46 | Numeric |
| 219 | PCS code | SPACEPCS | 3 | 47 | 49 | Text |
| 220 | CESM code | SPCECESM | 6 | 50 | 55 | Text |
| | Comments | COMMENTS | 30 | 56 | 85 | Text |



# Room Challenges

Room proration key – we have broken it down into 3 separate fields
Cesm
Space use category :

| YEARCD | UV_CAMPCODE | UV_BLDGCODE | UV_ROOMNMBR | UV_BLDG_SUB_CODE | UV_FLOOR | UV_SPACECAT | UV_SPACEPCS | UV_SPCECESM | UV_H_ROOMKEY | UV_H_ROOMKEY2 | UV_H_ROOMKEY3 | UV_SQMETRES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2017 | 01 | 101 | 1 | 101 | G | 2120 | ZZZ | ZZZZZZ | 1 | 0 | 11 | 283.809 |
| 2017 | 01 | 101 | 10 | 101 | G | 2110 | ZZZ | ZZZZZZ | 1101 | 0 | 11 | 3.326 |
| 2017 | 01 | 101 | 11 | 101 | G | 2110 | ZZZ | ZZZZZZ | 1101 | 0 | 11 | 3.326 |
| 2017 | 01 | 101 | 12 | 101 | G | 2110 | ZZZ | ZZZZZZ | 1101 | 0 | 11 | 30.533 |
| 2017 | 01 | 101 | 13 | 101 | G | 1315 | 060 | ZZZZZZ | 1101 | 0 | 11 | 82.85 |
| 2017 | 01 | 101 | 13C | 101 | G | 1315 | 060 | ZZZZZZ | 1101 | 0 | 11 | 8.473 |

| UV_STATIONS | DEPTID | YESNO | COMMENTS_256 | UV_IMPRO_LOC_NO | UV_IMPRO_CTRL_SLA | UV_SPCE_ACTUAL_USE | UV_YESNO | UV_YESNO_VENUE | UV_SUB_DEPT_DESCR | UV |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 483 | | | 0 | | POR1 | N | Y | | N |
| 0 | NTR | Y | | 0 | | TOI1 | N | N | | N |
| 0 | NTR | Y | | 0 | | TOI1 | N | N | | N |
| 0 | NTR | Y | | 0 | | TOI1 | N | N | | N |
| 0 | 486 | Y | | 0 | | KOM1 | N | N | | N |
| 0 | 486 | Y | Breekware | 0 | | STR1 | N | N | | N |

# Ufs hemis room program table for internal use only

We have include this to help us with space reporting

| YEARCD | UV_CAMPCODE | UV_BLDGCODE | UV_ROOMNMBR | UV_SPACECAT | UV_SQMETRES | UV_PROG010 | UV_PROG020 | UV_PROG030 | UV_PROG040 | UV_PROG050 | UV_PROG06 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2017 | 01 | 62 | 142B | 1115 | 70.016 | 100 | 0 | 0 | 0 | 0 | |
| 2017 | 01 | 62 | 144 | 1110 | 180.673 | 100 | 0 | 0 | 0 | 0 | |
| 2017 | 01 | 62 | 145 | 1110 | 105.226 | 100 | 0 | 0 | 0 | 0 | |
| 2017 | 01 | 62 | 147 | 1110 | 71.01 | 100 | 0 | 0 | 0 | 0 | |
| 2017 | 01 | 62 | 148 | 1650 | 85.81 | 0 | 0 | 0 | 100 | 0 | |
| 2017 | 01 | 10B | 2.18 | 1310 | 13.025 | 57 | 25 | 10 | 8 | 0 | |
| 2017 | 01 | 10B | SSS | 2120 | 78.242 | 0 | 0 | 0 | 0 | 0 | |

| UV_PROG060 | UV_PROG070 | UV_PROG090 | UV_PROG100 | UV_PROG110 | UV_PROGZZZ | DEPTID |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 173 |
| 0 | 0 | 0 | 0 | 0 | 0 | 915 |
| 0 | 0 | 0 | 0 | 0 | 0 | 915 |
| 0 | 0 | 0 | 0 | 0 | 0 | 173 |
| 0 | 0 | 0 | 0 | 0 | 0 | 173 |
| 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| 0 | 0 | 0 | 0 | 0 | 100 | NTR |



# Other Challenges for Institutions who did not keep old reporting requirements in tact

Staff timesheets :

Timetable data:

Wrongly allocated labs:

Other third party or fourth party software Big Promises -- No delivery

# Definition of Building space

- Building

  A building is a roofed structure for permanent or temporary shelter of persons, plants, materials or equipment.

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# Building condition

- Based on estimated renovation costs required as % of replacement cost.

| Code | Category | Restoration cost as % of replacement cost |
|---|---|---|
| 1 | Minimal renovation | 0 – 5% |
| 2 | Limited renovation | 6 – 15% |
| 3 | Moderate renovation | 16 – 30% |
| 4 | Significant renovation | 31 – 45% |
| 5 | Major renovation | 46 – 60% |
| 6 | Replace/demolition | |
| 7 | Vacating building | |

# Building areas

- **Gross area:** Floor area of structure within outside faces of the exterior walls
- **Assignable area:** Areas assigned to or available for assignment, measure inside faces of boundaries of designated areas
- **Non-assignable area:** Not available for assignment but necessary for general operation
- **Structural area:** Areas that cannot be occupied or put to use because of structural features. Gross area – (Assignable + Non-assignable)

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# Gross Area of a building


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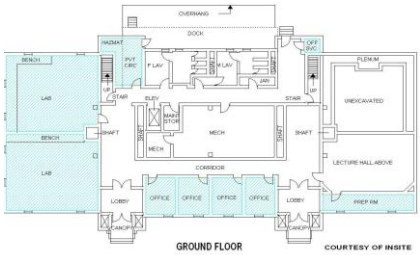
# Assignable Area of a building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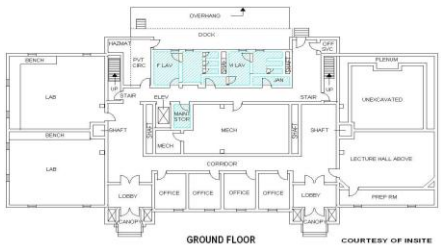
# Building Service Area of a building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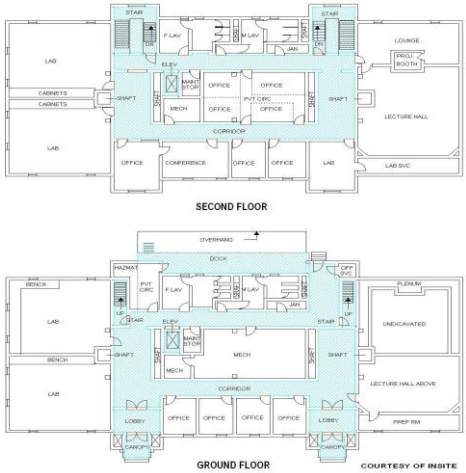
# Circulation Area of a building

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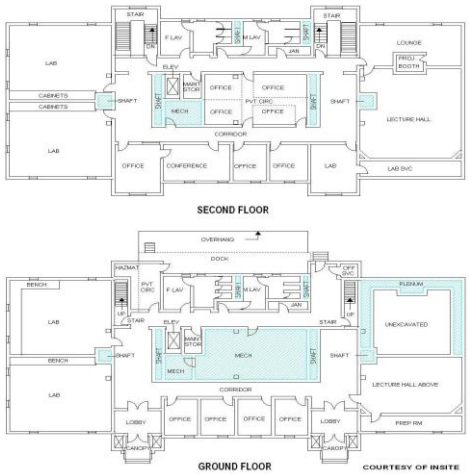
# Mechanical Area of a building

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# Structural Area of a building


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# Space classifications

- **Basic principle:**

  ***Actual use*** of assignable area at the time of the inventory. Do not use space intent, original design, type, name, organisational unit assignment or contained equipment as basis for classification unless compatible with actual use.

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# Space use categories

- 1100 Classroom facilities
- 1200 Laboratory facilities
- 1300 Office facilities
- 1400 Study facilities
- 1500 Special use facilities
- 1600 General use facilities
- 1700 Support facilities
- 1800 Health care facilities
- 1900 Residential facilities
- 1000 Unclassified facilities

**Further classified, i.e. 1310 Office**

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# Space Norms

- Original space and cost norms for Higher education in SA in 1982 with norms for different organisational types
- Late 1980s review of norms and approved by Ministers of Education & Finance Nov 1996
- Introduction of HEMIS space module and ending of binary divide between universities and technikons – in process of approval
- (long time )

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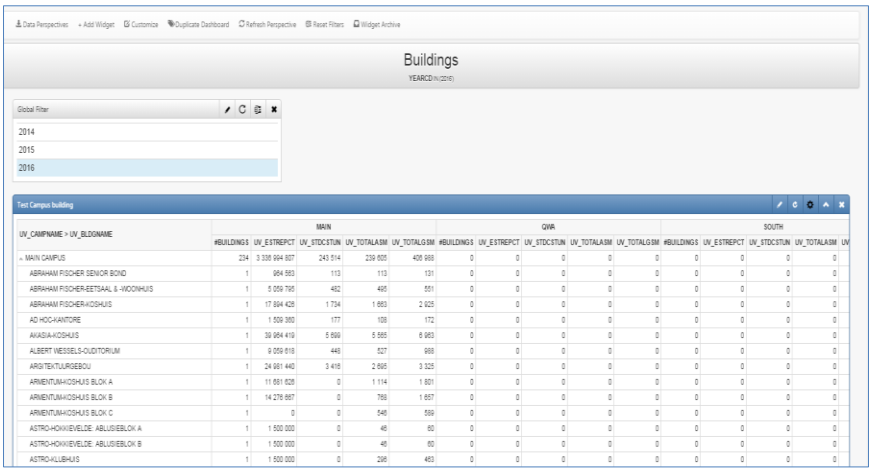
# Examples of the use of Space Norms

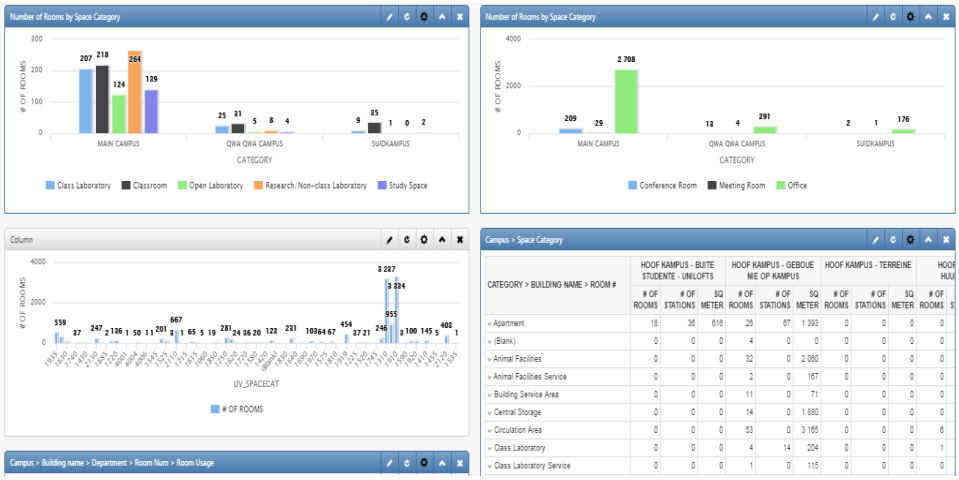
See separate document with examples of how to apply and use the space norms.



# What can we use this info:

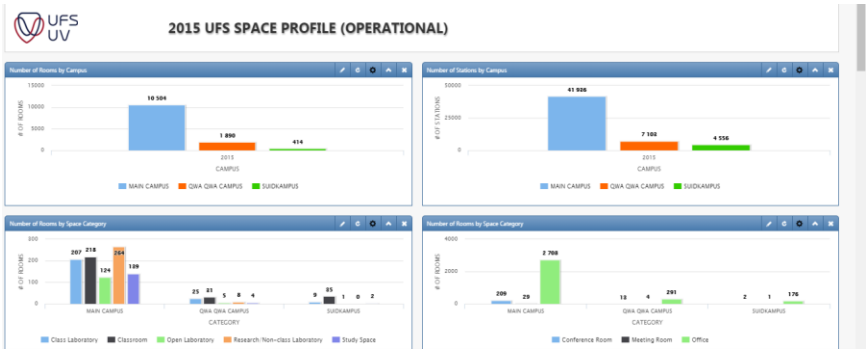


# Examples for users on campus






# More examples (nice to have)



# The beginning

**… of a better understanding of HEMIS space reporting.**

**Space is not just add on for reporting it is and critical importance for management information and planning for any institution**

**The role of this will be more important in future.**

**Thank you**

**Questions**

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