

**UNIVERSITY IN MPUMALANGA**  
**CALCULATION OF BUILDING AND OTHER COSTS**

***Department of Higher Education and Training***

***Compiled by Dr L C A Stoop***

***26 September 2012***

***V3b***

## **1. Introduction**

This document summarizes the technical detail associated with a HEMIS building cost calculation for the proposed University in Mpumalanga. The HEMIS Building Space and Cost Norms of the DHET are used as basis for this calculation. Apart from building costs an estimate is also made of other related costs. The costings are made from a point of view of the State and not from the point of view of the future council – student fees for example are therefore not taken into account in this document.

Because of monetary constraints, especially at the start-up of this University, a delayed growth option will be considered for the University starting with a relatively few qualifications but delaying the introduction of some of the qualifications on offer up to 2020 with the university still achieving its target by 2024. The requirement of meeting the target size of the university by 2024, would result in some qualifications growing at a very steep rate which suggests that the said date be revisited by the future university council.

Furthermore, the qualifications to be offered listed in this document and the dates on which they are suggested to be introduced, should be regarded as indicative of the type of scenario required to meet the monetary constraints and the timescales involved. Much more input would be required from the academic advisors to the project.

The HEMIS Building Space and Cost Norms are norms relating to a linear model (passing through the origin) which connects the space needed and the costs to be incurred to provide that space to student FTE's of a particular type. The costs are expressed in terms of a specific "currency" - the cost unit – whose value is annually updated by using the BER/MFA building cost indices. These costs are also predicted into the future. Costs calculated in this way include building escalation and are fixed in terms of the cost unit value of the year in which the building will be completed. By definition, one cost unit is the cost to establish 1 ASM of office space. The Rand value of one cost unit is R18 322 in 2012. All costs in this document will be expressed in terms of the Rand of 2012.

A brief exposition of the cost calculations for the University is given below.

## **2. University in Mpumalanga**

According to announcements made by the Minister of Higher Education and Training, the proposed University is a national asset serving national interests and more specifically the interests of the Mpumalanga region.

The University will be a comprehensive university with a maximum of 15 000 FTE students to be enrolled in the medium term. Comprehensive here means a university offering a combination of academic programmes usually offered by universities of technology and by the traditional universities. The University will therefore offer programmes to students ranging from vocational and professional to general formative. The University will open its doors to new students as from the beginning of 2014 and will be operating from a main campus in Mbombela and a satellite campus at the former teachers training college at Siyabuswa. The latter campus will offer a BEd in cooperation with the University of Johannesburg.

The University will not offer any postgraduate studies in the short term, but the presence of two centres of research excellence at the University will eventually pave the way for the introduction of postgraduate studies.

Because of the proven advantages of accommodating students in residences on-campus, a maximum of 60% of the headcount of the University will be housed in on-campus residences.

Further detail about the strategic drivers for this university can be found in the Development Framework for the University.

### **2.1 The Programme Qualification Mix (PQM) of the University**

The following programmes have provisionally been included in the PQM of the University as part of its specific growth strategy:

| QUALIFICATION                               | ABBREVIATION    | FIRST INTAKE IN FTE's |      |      |      |      |      |      |
|---|-----------------|-----------------------|------|------|------|------|------|------|
|   |                 | 2014                  | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| N Dip in Agriculture                        | ND Agriculture  |                       |      | 120  | 120  | 120  | 120  | 120  |
| N Dip in Wildlife Management                | ND Wildlife Man |                       |      | 120  | 120  | 120  | 120  | 120  |
| Bachelor of Agriculture                     | B Agric         |                       |      |      |      |      |      | 120  |
| N Dip in Environmental Health               | ND Env Health   |                       |      |      |      | 120  | 120  | 120  |
| Bachelor of Nursing Sc                      | B Cur           |                       |      |      |      |      |      | 120  |
| N Dip in Information Technology             | ND IT           |                       |      |      |      | 120  | 120  | 120  |
| Bachelor in Biological Sciences             | B Biol Sc       |                       |      |      |      |      |      | 120  |
| N Dip in Retail Business Mngt               | ND Retl B Man   | 120                   | 120  | 120  | 120  | 120  | 120  | 120  |
| Bachelor of Business Admin                  | B Bus Admin     |                       |      | 120  | 120  | 120  | 120  | 120  |
| B Eng (Elec & Electronic with Info Systems) | B Eng Elec & IS |                       |      |      |      |      |      | 120  |
| B Eng (Agricultural Engineering)            | B Eng Agric     |                       |      |      |      |      |      | 120  |
| B of Science in Agriculture                 | B Sc Agric      |                       |      |      |      |      |      | 120  |
| B of Science (General)                      | B Sc Gen        |                       |      |      |      |      |      | 120  |
| N Dip in Hospitality Management             | ND Hosp Man     |                       |      |      | 120  | 120  | 120  | 120  |
| H Cert in Emergency Medical Care            | HC EMC          |                       |      |      | 120  | 120  | 120  | 120  |
| B Sc Computer Science                       | B Sc (Comp Sc)  |                       |      |      |      |      | 120  | 120  |
| B Sc (Wildlife Science)                     | B Sc (Wildlife) |                       |      |      |      |      | 120  | 120  |
| N Dip in Nature Conservation                | ND Nat Cons     |                       |      |      |      | 120  | 120  | 120  |
| B A   | BA              |                       |      |      |      |      |      | 120  |
| N D Tourism                                 | ND Tourism      | 120                   | 120  | 120  | 120  | 120  | 120  | 120  |
| N D Nursing                                 | ND Nursing      |                       |      |      | 120  | 120  | 120  | 120  |
| ND Broadcasting                             | ND Broadcast    |                       |      |      |      |      |      | 120  |
| N D Media Studies                           | ND Med Stud     |                       |      |      |      |      |      | 120  |
| N D System Administration                   | ND Syst Adm     |                       |      |      |      | 120  | 120  | 120  |
| N D Networks                                | ND Networks     |                       |      |      |      | 120  | 120  | 120  |

The programmes to be selected should eventually constitute a balance between the various programme types defining this specific comprehensive university. Specific attention should be given to the scarce skills fields regarded as priority study fields by the Minister of Higher Education and Training, and the issue of national and regional foci. A balance also has to be struck between popular programmes and less popular ones in order to ensure future financial sustainability.

These programmes are still subject to further debate and scrutiny by the academic community and should at this stage be regarded as indicative of the future programmes to be offered by the new University. In order to meet the deadlines for the construction of new buildings, however, these

qualifications would have to be used for such a broader planning purpose. Minor changes in the academic curriculum do not have a significant change in the costing of the buildings to be built.

## 2.2 Enrolment planning for the University

With the maximum size of the University being set equal to 15 000 FTE students over the medium term, it is essential to properly plan the growth of the University and to ensure that the provision of staff and facilities match the growth in student numbers.

An enrolment plan has been compiled which provides for the phased introduction of the different programmes, leaving sufficient lead time for the approval of qualifications offered under the auspices of the various professional councils. Assuming typical progression and graduation patterns for each of these qualifications, and assuming an annual intake of 120 FTE students for each of these qualifications (as shown in the Table) and an accelerated growth six years after the qualification had been introduced, would bring the University to its target of 15 000 FTE students by 2024. This would provide for a growth period of about 10 years to reach the intermediate size target as set by the Minister. For BEd students at the Siyabuswa Campus the annual intake is assumed to be 100 FTE's per year.

The growth of the University as spread across the 20 different CESM study fields is captured in the table below - each qualification of course feeds into a different combination of study fields or CESM categories. The numbers below exclude the students at the Siyabuswa Campus which will grow from 100 FTE students in 2014 to about 368 FTE students in 2024. It is noted that the sum of 368 and 14 623 constitute the required 15 000 FTE's of the University.

| UNIVERSITY FTE's         | 2014 | 2015 | 2016 | 2017  | 2018  | 2019  | 2020  | 2021  | 2022  | 2023   | 2024   |
|--------------------------|------|------|------|-------|-------|-------|-------|-------|-------|--------|--------|
| 01 Agriculture           | 0    | 0    | 133  | 239   | 367   | 495   | 744   | 935   | 1 214 | 1 500  | 1 867  |
| 02 Architecture          | 0    | 0    | 0    | 0     | 0     | 0     | 0     | 0     | 1     | 1      | 1      |
| 03 Arts                  | 0    | 0    | 0    | 0     | 0     | 0     | 3     | 6     | 8     | 9      | 9      |
| 04 Business              | 198  | 354  | 562  | 792   | 1 021 | 1 200 | 1 540 | 1 908 | 2 435 | 3 226  | 4 375  |
| 05 Communication         | 5    | 9    | 12   | 19    | 48    | 79    | 328   | 524   | 677   | 777    | 865    |
| 06 Computer Sc           | 0    | 0    | 17   | 41    | 337   | 660   | 957   | 1 151 | 1 264 | 1 334  | 1 693  |
| 07 Education             | 0    | 0    | 8    | 15    | 20    | 23    | 35    | 44    | 60    | 75     | 93     |
| 08 Engineering           | 0    | 0    | 0    | 0     | 5     | 12    | 155   | 269   | 361   | 428    | 473    |
| 09 Health                | 0    | 0    | 0    | 199   | 433   | 575   | 743   | 855   | 927   | 1 155  | 1 517  |
| 10 Family Ecology        | 0    | 0    | 0    | 12    | 21    | 28    | 33    | 36    | 37    | 51     | 69     |
| 11 Languages             | 16   | 28   | 38   | 43    | 45    | 46    | 105   | 161   | 220   | 278    | 345    |
| 12 Law                   | 22   | 39   | 52   | 69    | 79    | 86    | 113   | 146   | 191   | 262    | 358    |
| 13 Life Sc               | 0    | 0    | 61   | 130   | 250   | 368   | 548   | 681   | 834   | 986    | 1 225  |
| 14 Physical Sc           | 0    | 0    | 5    | 15    | 31    | 41    | 187   | 303   | 400   | 456    | 504    |
| 15 Maths                 | 0    | 0    | 14   | 26    | 49    | 79    | 254   | 393   | 514   | 593    | 666    |
| 16 Military Sc           | 0    | 0    | 0    | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      |
| 17 Philosophy            | 0    | 0    | 0    | 0     | 0     | 0     | 8     | 15    | 20    | 22     | 23     |
| 18 Psychology            | 0    | 0    | 0    | 0     | 0     | 0     | 35    | 63    | 85    | 95     | 100    |
| 19 Public Man            | 0    | 0    | 36   | 64    | 87    | 97    | 121   | 138   | 189   | 246    | 319    |
| 20 Social Sc             | 0    | 0    | 0    | 5     | 8     | 11    | 50    | 80    | 104   | 120    | 131    |
| Total FTE                | 240  | 429  | 938  | 1 667 | 2 801 | 3 800 | 5 959 | 7 710 | 9 541 | 11 613 | 14 632 |
| FTE using instit housing | 187  | 335  | 731  | 1 299 | 2 183 | 2 961 | 4 644 | 6 008 | 7 434 | 9 049  | 11 402 |

### 2.3 Academic organizational structure

As a start-up position four faculties have been selected as a basis for the academic organizational structure, namely the Faculty of Science and Information Technology; the Faculty of Engineering and Applied Sciences; the Faculty of Humanities and Business Management; and the Faculty of Agriculture. Each of these faculties would operate within the CESM fields of study as indicated by the four colours appearing in the diagram above. Each qualification will be assigned to one of these four faculties on the basis of the main CESM field of specialization of these qualifications. Cost considerations has limited the number of faculties to four but the University may introduce more faculties when growing beyond 15 000 FTE students.

### 2.4 Space requirements for the University

In terms of the HEMIS space norms, the space requirement of the University during the period 2014 to 2024 is given by the Table below:

| UNIVERSITY ASM's                     | 2014  | 2015  | 2016   | 2017   | 2018   | 2019   | 2020    | 2021    | 2022    | 2023    | 2024    |
|--------------------------------------|-------|-------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| Faculty of Eng & Applied Sci Total   | 0     | 0     | 0      | 0      | 37     | 85     | 1 064   | 1 847   | 2 474   | 2 935   | 3 242   |
| Class laboratories                   | 0     | 0     | 0      | 0      | 25     | 57     | 707     | 1 227   | 1 643   | 1 949   | 2 153   |
| Non-class laboratories               | 0     | 0     | 0      | 0      | 4      | 10     | 124     | 216     | 289     | 343     | 379     |
| Offices                              | 0     | 0     | 0      | 0      | 8      | 19     | 233     | 404     | 542     | 643     | 710     |
| Faculty of Hum & Bus Man Total       | 451   | 808   | 1 335  | 1 899  | 2 472  | 2 914  | 4 505   | 5 990   | 7 753   | 9 896   | 12 758  |
| Class laboratories                   | 80    | 143   | 238    | 339    | 444    | 525    | 889     | 1 217   | 1 582   | 1 990   | 2 515   |
| Non-class laboratories               | 192   | 343   | 566    | 805    | 1 047  | 1 233  | 1 867   | 2 464   | 3 185   | 4 080   | 5 287   |
| Offices                              | 180   | 322   | 531    | 755    | 981    | 1 156  | 1 750   | 2 310   | 2 986   | 3 825   | 4 956   |
| Faculty of Science & IT Total        | 0     | 0     | 1 176  | 3 226  | 7 000  | 10 448 | 15 926  | 19 906  | 23 806  | 28 001  | 34 849  |
| Class laboratories                   | 0     | 0     | 682    | 1 781  | 3 855  | 5 774  | 8 804   | 11 007  | 13 195  | 15 501  | 19 283  |
| Non-class laboratories               | 0     | 0     | 184    | 529    | 1 190  | 1 797  | 2 774   | 3 484   | 4 152   | 4 860   | 6 033   |
| Offices                              | 0     | 0     | 310    | 916    | 1 956  | 2 878  | 4 348   | 5 415   | 6 459   | 7 641   | 9 533   |
| Faculty of Agriculture Total         | 0     | 0     | 0      | 0      | 0      | 0      | 24      | 42      | 57      | 64      | 66      |
| Class laboratories                   | 0     | 0     | 0      | 0      | 0      | 0      | 17      | 30      | 41      | 45      | 47      |
| Non-class laboratories               | 0     | 0     | 0      | 0      | 0      | 0      | 3       | 5       | 7       | 7       | 8       |
| Offices                              | 0     | 0     | 0      | 0      | 0      | 0      | 4       | 8       | 10      | 11      | 12      |
| Classrooms Total                     | 270   | 484   | 1 037  | 1 855  | 3 093  | 4 174  | 6 591   | 8 558   | 10 605  | 12 933  | 16 280  |
| Campus library Total                 | 372   | 665   | 1 454  | 2 584  | 4 342  | 5 889  | 9 237   | 11 950  | 14 788  | 18 000  | 22 680  |
| Study space                          | 348   | 622   | 1 360  | 2 418  | 4 062  | 5 510  | 8 641   | 11 179  | 13 834  | 16 839  | 21 216  |
| Offices                              | 24    | 43    | 94     | 167    | 280    | 380    | 596     | 771     | 954     | 1 161   | 1 463   |
| Institut and acad support Total      | 826   | 1 479 | 3 231  | 5 744  | 9 650  | 13 089 | 20 528  | 26 558  | 32 865  | 40 004  | 50 404  |
| Offices                              | 140   | 250   | 547    | 972    | 1 633  | 2 215  | 3 474   | 4 495   | 5 562   | 6 770   | 8 530   |
| Special use                          | 686   | 1 229 | 2 684  | 4 772  | 8 017  | 10 874 | 17 054  | 22 063  | 27 303  | 33 234  | 41 873  |
| Educational and Gen Total ASM        | 1 920 | 3 437 | 8 233  | 15 308 | 26 594 | 36 599 | 57 875  | 74 851  | 92 347  | 111 833 | 140 278 |
| Residences Total ASM                 | 2 914 | 5 216 | 11 396 | 20 260 | 34 037 | 46 167 | 72 406  | 93 676  | 115 921 | 141 103 | 177 785 |
| Grand total ASM                      | 4 834 | 8 653 | 19 629 | 35 568 | 60 631 | 82 766 | 130 281 | 168 527 | 208 268 | 252 937 | 318 062 |
| Total campus FTE students            | 240   | 429   | 938    | 1 667  | 2 801  | 3 800  | 5 959   | 7 710   | 9 541   | 11 613  | 14 632  |
| FTE stud using institutional housing | 187   | 335   | 731    | 1 299  | 2 183  | 2 961  | 4 644   | 6 008   | 7 434   | 9 049   | 11 402  |

This table defines the ASM's for academic and administrative space and the ASM's for the residential space required by the University in 2024 according to the specific growth strategy followed.

### 2.5 Providing building space of the right type to the University in time

One of the biggest challenges faced by the University is to ensure that enough building space of the right type would be available for the student enrolments planned as from the beginning of 2014 – this is a particularly serious challenge because at the time of writing this Report, only 15 months

remain to construct a number of new buildings. Already at this stage it seems that the beginning of 2015 would be the first date for the completion of new buildings. The first academic year would therefore require special measures to find temporary accommodation.

It needs to be stated that a considerable number of generous offers had been made to the future University in respect of buildings that will be donated to the University or space that will be made available to the University at a charge or free of charge. Each of these offers has its own dynamics and risks which may well eventually prevent the University from opening its doors in 2014. For this reason it is suggested that each of these offers (especially the more complex ones) be taken up later and be given a role in the future provisioning of building space to the University. However, to minimize the risk for the University at this stage, it should base its planning on what buildings it could reasonably still construct before the beginning of 2015 (especially the specialized spaces) and on what building space it can rent by signing a contract within the near future.

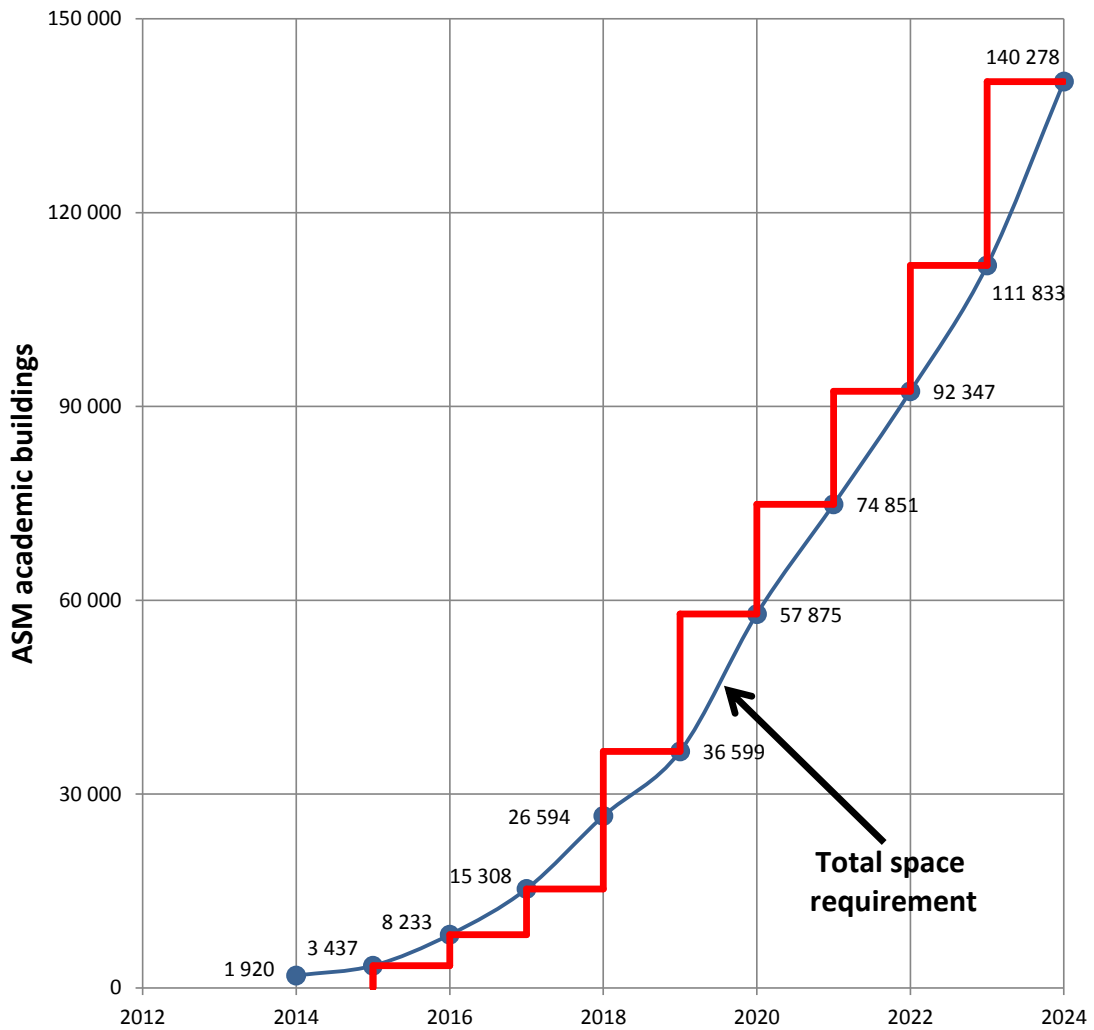
As regards the construction of buildings on the Campus, it is suggested that this be broken down into smaller chunks which can be handled in a single year. Initially just enough space will be built to provide students with the facilities they require for 2015. This will be repeated for the facilities required for 2016 and 2017. It needs to be pointed out that this strategy will reduce the cash flow required by the University during its start-up years considerably, but will require considerable effort to manage construction schedules properly to meet deadlines. For this reason it is proposed that space associated with an extra year's growth be provided as from 2018 and onwards. The table below shows the number of ASM's to be constructed in each year and how much building space should be commissioned at the beginning of the next academic year.

|                                       | First year | CONSTRUCTION YEAR OF SPACE |       |       |        |        |        |        |        | Total  |         |
|---------------------------------------|------------|----------------------------|-------|-------|--------|--------|--------|--------|--------|--------|---------|
|                                       |            | 2014                       | 2015  | 2016  | 2017   | 2018   | 2019   | 2020   | 2021   |        | 2022    |
| <b>Total academic &amp; admin ASM</b> | 1 920      | 3 437                      | 4 796 | 7 075 | 21 291 | 21 276 | 16 976 | 17 496 | 19 486 | 28 445 | 140 278 |
| Classrooms                            | 270        | 484                        | 553   | 817   | 2 319  | 2 418  | 1 967  | 2 047  | 2 328  | 3 348  | 16 280  |
| Library                               | 372        | 665                        | 788   | 1 131 | 3 305  | 3 347  | 2 713  | 2 838  | 3 212  | 4 679  | 22 680  |
| Offices Institut support              | 140        | 250                        | 297   | 425   | 1 243  | 1 259  | 1 021  | 1 067  | 1 208  | 1 760  | 8 530   |
| Special Use Institut support          | 686        | 1 229                      | 1 456 | 2 088 | 6 102  | 6 180  | 5 010  | 5 239  | 5 931  | 8 639  | 41 873  |
| Labs Science & IT                     | 0          | 0                          | 866   | 1 444 | 5 260  | 4 007  | 2 913  | 2 856  | 3 014  | 4 955  | 25 316  |
| Labs Eng & Appl Sciences              | 0          | 0                          | 0     | 66    | 765    | 611    | 489    | 360    | 239    |        | 2 532   |
| Labs Agriculture                      | 0          | 0                          | 0     | 0     | 19     | 15     | 12     | 5      | 2      |        | 54      |
| All space Hum & Bus Management        | 451        | 808                        | 527   | 565   | 1 015  | 1 591  | 1 484  | 1 763  | 2 143  | 2 862  | 12 758  |
| Offices Eng & Appl Sciences           | 0          | 0                          | 0     | 19    | 214    | 171    | 137    | 101    | 67     |        | 710     |
| Offices Agriculture                   | 0          | 0                          | 0     | 0     | 4      | 3      | 3      | 1      | 0      |        | 12      |
| Offices Science & IT                  | 0          | 0                          | 310   | 605   | 1 962  | 1 470  | 1 067  | 1 044  | 1 181  | 1 892  | 9 533   |
| <b>Total residence ASM</b>            |            | 5 216                      | 6 180 | 8 863 | 25 908 | 26 239 | 21 270 | 22 245 | 25 182 | 36 681 | 177 785 |

Residence beds required in first year  with floor area required of 2 914 ASM

The table above also shows that 1 920 ASM of building space should be provided on an ad hoc basis for 2014 to allow for the University to open its doors for the academic year 2014.

The following diagram summarizes the quantum and timing of the different building phases:



## 2.6 The position at the Siyabuswa Campus

As regards the Siyabuswa Campus a survey is at present being conducted regarding the size and condition of the available building facilities, and preliminary results indicate that the academic facilities may be large enough to accommodate the teaching activities as envisaged. A preliminary estimate indicates that the academic facilities could in total be 3 400 ASM. Bearing in mind that the type of training provided at the Siyabuswa Campus requires 8,4 ASM per FTE student, leads to the conclusion that 368 FTE students would require only 3 091 ASM which is easily accommodated by the available 3 400 ASM building space.

As regards the residence facilities, a number of on-campus beds of 287 as envisaged in the enrolment plan (60% of headcount) is required. A preliminary count indicates that 300 beds will be available on campus which very closely matches the residency requirement.

## 2.7 Other related costs

**Land improvements other than buildings:** This cost is added to the cost of the construction of buildings to provide for landscaping, parking areas, water and storm water reticulation networks, etc. This runs at 13% of the cost of the buildings according to the HEMIS norms.

**Sports amenities:** This is provided on an *ad hoc* basis and a provision of R500 million has been made on the basis of facilities provided for similar sized institutions.

**Loose equipment, furniture, library books:** This is provided on an *ad hoc* basis and a provision of R2 100 million has been made by using estimates based on the previous subsidy formula for universities of a similar size. The attention is drawn to the fact that equipment fixed to a building (in contrast to loose equipment) is regarded as part of building costs.

**Special projects:** This relates to special *ad hoc* provisions to cover the costs of for example the greening of buildings, the provision of WiFi infrastructure for wireless ICT connectivity, etc. A provision of R400 million has been made in this case.

**Operating expenditure:** Universities are expected to cover most of the operating expenditures from student class fees and from State allocations made according to the so-called Funding Framework for universities. The said allocations require complex calculations but estimates have been made by using the outcomes for similar sized universities of the same composition. These estimates are shown in the Table below.

## 2.8 Budget and Cash flow summary

The Table below summarizes the cash flow requirements as defined in the previous paragraphs for the growth strategy selected.

| (Rm of 2012)                           | 2012 | 2013 | 2014 | 2015 | 2016  | 2017  | 2018  | 2 019 | 2 020 | 2 021 | 2 022  | Total |
|--|------|------|------|------|-------|-------|-------|-------|-------|-------|--------|-------|
| <b>Operating expenditure</b>           | 10   | 28   | 50   | 84   | 114   | 179   | 231   | 286   | 348   | 439   | 1 770  |       |
| Funding framework                      | 10   | 28   | 50   | 84   | 114   | 179   | 231   | 286   | 348   | 439   | 1 770  |       |
| <b>Capital expenditure</b>             | 88   | 372  | 527  | 570  | 1 639 | 1 522 | 1 147 | 1 195 | 1 334 | 1 932 | 10 327 |       |
| 1. Academic & admin buildings          |      |      | 72   | 107  | 154   | 463   | 465   | 371   | 385   | 425   | 618    | 3 059 |
| 2. Residence buildings                 |      |      | 98   | 116  | 167   | 487   | 493   | 400   | 418   | 473   | 689    | 3 341 |
| 3. Land improv other than buildings    |      |      | 22   | 29   | 42    | 123   | 125   | 100   | 104   | 117   | 170    | 832   |
| 4. Sports amenities                    |      |      | 100  | 150  |       | 150   | 100   |       |       |       |        | 500   |
| 5. Loose equipm, furn, libr books      | 27   | 30   | 74   | 107  | 316   | 319   | 257   | 268   | 299   | 436   | 2 133  |       |
| 6. Special projects (green build, etc) |      |      | 50   | 50   | 100   | 100   | 20    | 20    | 20    | 20    | 20     | 400   |
| 7. Siyabuswa refurbishments            |      | 36   |      |      |       |       |       |       |       |       |        | 36    |
| 8. Siyabuswa equipm, furn, books       |      | 25   |      |      |       |       |       |       |       |       |        | 25    |
| <b>Total</b>                           | 98   | 400  | 577  | 654  | 1 753 | 1 701 | 1 379 | 1 481 | 1 683 | 2 371 | 12 097 |       |
| Inflated values BER                    | 87   | 393  | 640  | 805  | 2 397 | 2 581 |       |       |       |       |        |       |

In this table the costs are expressed in the Rand of 2012. These costs which mainly relate to building costs can be escalated by using the predicted values of the HEMIS building cost units.