South African Higher Education: Facts and Figures

South Africa’s university sector is the strongest and most diverse in Africa. In the new landscape there are nearly double the number of students of all races - three quarters of a million in all - enrolled in the fewer, but larger, public universities, and nearly one in five young South Africans enter higher education. More than half of all students are women, and some 8% are international students, most of them from other African countries but also thousands from Europe, Asia and the Americas.

There are three types of universities and together they offer a full range of courses leading to internationally recognised qualifications. All public universities conduct research, which supports teaching and is frequently aimed at tackling the challenges that face South Africa and the developing world. There is world-class research generated in many fields, concentrated in the country’s top research universities.

Public funding of higher education has increased in recent years and universities have received a major funding boost from government to refurbish buildings, construct new facilities, upgrade equipment and libraries, improve outputs and produce more science, engineering and technology graduates.

South Africa’s apartheid legacy was a higher education sector that was racially divided, of uneven quality, and beset by duplications and inefficiencies. Under apartheid there were separate institutions for different race groups, historically ‘white’ institutions were most favourably located and resourced and conducted almost all research, and there was a binary system featuring academic universities and vocational technikons (polytechnics).

Higher education in a democratic South Africa faced huge challenges - primarily the need to achieve greater equity, efficiency and effectiveness within institutions and across the system.

Universities had to open their doors to students of all races, transform curricula to become more locally relevant but also geared to a knowledge-driven world, train growing numbers of different types of graduates essential to economic growth and development, and produce scholars able to tackle South Africa’s problems through research responsive to all of society’s needs.

The new government drove a radical restructuring of higher education aimed at making it stronger and more focused and efficient, within a framework of policies and regulations including the 1996 National Commission on Higher Education, 1997 Higher Education Act, and the 2001 National Plan for Higher Education.

The binary divide was dismantled, and the number of institutions was cut from 36 to 23 through mergers and campus incorporations involving most institutions. No campuses were closed, so there remains as much higher education provision as there was before.

The new landscape comprises three types of institutions: ‘traditional’ research-focused universities, universities of technology, and ‘comprehensive’ universities that combine academic and vocationally oriented education.

Currently, the system has:
- Eleven universities: ‘traditional’ universities that offer Bachelor degrees and have strong research capacity and high proportions of postgraduate students.
- Six universities of technology: vocationally oriented institutions that award higher certificates, diplomas and degrees in technology; and have some postgraduate and research capacity.
- Six comprehensive universities: offering both Bachelor and technology qualifications, and focusing on teaching but also conducting research and postgraduate study.

South Africa’s student participation rate - the proportion of 18-24 year-olds in higher education - is fast approaching 20%.
<table>
<thead>
<tr>
<th>TYPE</th>
<th>NAME</th>
<th>STUDENT POPULATION</th>
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<tbody>
<tr>
<td>1</td>
<td>Universities</td>
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<tr>
<td>2</td>
<td>Rhodes University</td>
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<tr>
<td>3</td>
<td>University of Pretoria</td>
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</tr>
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<td>4</td>
<td>University of the Free State</td>
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</tr>
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<td>5</td>
<td>University of Fort Hare</td>
<td>9,339</td>
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<tr>
<td>6</td>
<td>North-West University</td>
<td>47,008</td>
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<td>7</td>
<td>University of KwaZulu-Natal</td>
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<td>8</td>
<td>University of Limpopo</td>
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<td>9</td>
<td>University of the Western Cape</td>
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<td>University of Stellenbosch</td>
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<td>11</td>
<td>University of the Witwatersrand</td>
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<td>12</td>
<td>Comprehensive University</td>
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<td>13</td>
<td>Nelson Mandela Metropolitan University</td>
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<td>14</td>
<td>UNISA</td>
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<td>15</td>
<td>University of Johannesburg</td>
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<td>16</td>
<td>University of Venda</td>
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<td>17</td>
<td>University of Zululand</td>
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<td>18</td>
<td>Walter Sisulu University</td>
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<td>19</td>
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<td>20</td>
<td>Cape Peninsula University of Technology</td>
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<td>22</td>
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<td>23</td>
<td>Tehwane University of Technology</td>
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<td>Walter Sisulu University</td>
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<td>Vaal University of Technology</td>
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<td>26</td>
<td>National Institutes</td>
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<td>27</td>
<td>Mpumalanga Institute for Higher Education</td>
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</tr>
<tr>
<td>28</td>
<td>Northern Cape Institute for Higher education</td>
<td>24,970</td>
</tr>
</tbody>
</table>

There are also new institutes of higher education in two of the nine South African provinces that previously had no provision: the Northern Cape National Institute for Higher Education, and the Mpumalanga National Institute for Higher Education.

Previously, more than two-thirds of students were at traditional universities.

The new higher education landscape concentrates almost half of enrolments in the six ‘comprehensive’ or ‘new generation’ universities, which together enrol more than 300,000 students.

These institutions are in the process of finding innovative ways of best combining the different qualifications, curricula, and teaching and learning styles of their traditional and university of technology constituent parts.

The distance University of South Africa has the largest number of students - over a quarter of a million - while Rhodes University in Grahamstown has the smallest number, with just over 6,000 students. Mergers of two or more institutions created some very big multi-campus universities. The largest ‘contact’ university is the University of Pretoria, which has nearly 53,000 students, followed by the Tehwane University of Technology with over 51,000. These are followed by North-West University, the University of Johannesburg and the University of KwaZulu-Natal.

**Students**

A specific goal of the National Plan for Higher Education (2001) was to increase participation in higher education to 20% for the 18-24 age cohort. Expanding student numbers and improving access to higher education for disadvantaged black people were seen as key to overcoming apartheid inequalities, creating a stable society, and producing the high level skills needed to drive economic growth. Universities were required to enrol many more students of all race groups and build a student body that more accurately reflected South Africa’s demographic make-up.

The expansion and transformation of the South African student population has been nothing less than astounding.

Student numbers have nearly doubled in the past 16 years, from 473,000 in 1993 to some 799,658 in 2008, according to provisional Department of Education figures.

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The number of graduates produced annually by South African universities has been steadily growing, from 74,000 in 1994 to more than 127,000 in 2007.
In 1993 nearly half of all students were white, 40% were African, 6% were coloured (mixed race) and 7% were Indian: by 2005 the portion of white students had shrunk to 25% and the African share had grown to 61%.

South Africa’s student participation rate - the proportion of 18-24 year-olds in higher education – is fast approaching 20%. But while access to higher education has significantly improved, there are still racial divides between the participation rates of young people: some 60% of whites and more than half of Indians enter higher education, but the rate for Africans is only around 11% and for coloureds it is even lower at 7%. The primary reason for this is low quality primary and secondary schooling.

Since its formation in 1999, the government-funded National Student Financial Aid Scheme (NSFAS) has played a critical role in enabling financially disadvantaged students to access higher education. Study bursaries and loans worth R2.5 billion were awarded to disadvantaged students in 2009, which is estimated to benefit over 140,000 students, and the numbers are growing annually. Student loans are recovered through the tax system once graduates are employed. In 2008, NSFAS reclaimed about a quarter (R616 million) back from graduates who had found employment and were re-paying their loans.

Still, higher education has a disturbing 45% drop-out rate among students, undermining the access gains of universities. Financial difficulties among the country’s large pool of poor black students are largely to blame. ‘First generation’ students from low-income, less educated families are the most likely to drop out, according to a Student Pathways study by the Human Sciences Research Council (HSRC). Loans and bursaries do not cover the full costs of study, leaving students struggling to cover living and other costs. This is especially true of those students on the NSFAS loan scheme where approximately 35% of those students do not complete their studies.

To increase access and success, most universities have devised alternative admission processes that select educationally disadvantaged students on the basis of their academic potential rather than their performance in national school-leaving exams.

All institutions have also put in place academic development initiatives - bridging/foundation or extended curriculum programmes - that help students to overcome poor schooling and to cope with learning in a second language, usually English.

The Council on Higher Education (CHE), which is an advisory body to government, is also exploring extending the period of degree studies from three to four years to address this problem.

Success rates in universities have been improving, according to the Department of Education, and are currently 74% for African, 76% for coloured, 81% for Indian and 85% for white undergraduates. But only around 15% of students graduate each year, far fewer than the government’s benchmark of 25%.

The number of graduates produced annually by South African universities has been steadily growing, from 74,000 in 1994 to more than 127,000 in 2007. There have been successful efforts to produce more of the kind of graduates the economy needs, especially in the fields of science, engineering and technology; which now enrol more than a quarter of all students. This amounts to 36,637 (29%) graduates in Science, Engineering and Technology; 31,104 (25%) in Business and Management; 28,332 (22%) in Education and 30,814 (24%) in Humanities and Social Sciences in the same year.

After 30 years with the same requirements for entering higher education, 2008 saw the introduction of a new school-leaving certificate.
It is the first new Grade 12 national school exit qualification ever where all provinces wrote the same papers with the same curricula and assessments. It was also the first examination reflecting exposure to some compulsory mathematical elements up to Grade 12 exit level and the first compulsory school system exposure to Life Orientation, which assists with the development of useful life skills and exposes schools to an externally assessed set of requirements. This year then, is the first cohort to enter our universities and, although there are concerns about the National Senior Certificate, the responsibility is on universities to ensure that as many students as possible make the grade. Whether it be access to foundation courses in critical subjects or offering career advice for those under-prepared students entering higher education, it remains crucial that students are afforded every opportunity for success once they have commenced higher learning. Universities often have their own selection procedures that include points rating systems based on school results, questionnaires, and interviews to select appropriate students, while academic departments often require students to have performed well in subjects appropriate to their study field.

For some years Higher Education South Africa (HESA) has been developing national benchmark tests to help universities select students who are most likely to succeed at academic study, and to measure how well the new national schools curriculum prepares youngsters for higher education. The tests measure academic literacy, quantitative literacy and skill in mathematics and, if adopted by all universities, students will only need to write one test even if they are applying for entry to several institutions. Higher Education South Africa is quick to point out that these benchmark tests are not intended to exclude students who have successfully entered higher education, and they see the tests as a way of identifying students who may need additional assistance or who show promise that exceeds their NSC results.

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**Staff**

<table>
<thead>
<tr>
<th>Instruction &amp; Research Staff</th>
<th>Administrative Staff</th>
<th>Service Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>13,589</td>
<td>22,224</td>
</tr>
<tr>
<td>% Black staff</td>
<td>39</td>
<td>59</td>
</tr>
<tr>
<td>% Women</td>
<td>43</td>
<td>61</td>
</tr>
</tbody>
</table>

**Figure 1 – Department of Education 2007**

There are more than 43,717 full-time staff in South Africa’s 23 public universities, including 15,589 academics, according to the Department of Education figures for 2007. A further 65,000 people are employed part-time. Most employees are white, closely followed by African staff, but while whites dominate the academic and professional personnel categories, black people are in the majority in administration or service jobs. Efforts to transform the demographic profile of academic and professional university staff have been slower than among students, but there has been a gradual increase in the proportion of black people and women. An ongoing challenge for universities is the difficulty in retaining talented, young black academic staff who are highly prized by the government and corporate sectors and who are often lured away from a career in academia by better salaries and promises of swift advancement. However, there are programs underway to train a new generation of scholars and the pool of potential candidates has been expanding along with postgraduate numbers.

In 2007, 43% of the academic staff were women but this does not reflect that women are still concentrated around the lower end of the academic scale.

**Research**

South Africa’s research base is strong, diverse and the largest in Africa. It produces 80% of basic research conducted in Southern Africa. Thousands of scholars conduct research that is helping to strengthen the economy and drive development, solve the country’s many challenges or advance knowledge generally. Several South African universities produce world-class research, and feature in the top 1% of the world’s institutions (captured in the United States’ Essential Science Indicators database). There has been a dramatic rise in postgraduate enrolments since 1995, from 70,000 to more around 120,000. But of this number only 9,158 Master’s and PhDs graduated in 2007, or 7.2%.

South Africa spends 0.9% of Gross Domestic Product (GDP) on research and development and is on target to increase this proportion to 1% during 2009/2010, which will place the country at a level with Brazil in terms of research spending. The Department of Science and Technology’s (DST’s) budget allocation for 2008-2009 was R3.7 billion, and it has set aside R195 million to strengthen scientific capacity at higher education institutions. The Minister of Science and Technology has recently announced that a further R53 million would be set aside for additional Research Chairs in the 2010/2011 period.

South Africa’s research base is strong, diverse and the largest in Africa. It produces 80% of basic research conducted in Southern Africa.
Universities conduct around 20% each of all research; the government sector (including the science councils) conducts about 22.8%; while the business sector undertakes 55.9%, a proportion that the DST says compares favourably to levels in European Union countries.

There are 30,986 R&D personnel in South Africa, according to the DST. However, South Africa’s output of high level research, measured by the publication of papers per full-time equivalent academic, has shown a disturbing dip since the late 1990s, largely because of the drop in funding, an ageing population (of largely white male) researchers and the difficulty in attracting and retaining young academics.

In its 10 year plan for Science and Technology, the DST calculated that to build a knowledge-based economy positioned between developed and developing countries, South Africa would need to increase its PhD production rate by a factor of about five over the next 10 to 20 years. Presently South Africa produces 1,200 PhDs a year in comparison to countries like Germany (20,000 per annum) and China (35,000).

There are major efforts underway to reverse the decline in research output through, among other things, scholarships for postgraduate students and greater funding for research. In 2005, South Africa launched its first six research Centres of Excellence, which pull together existing resources to enable researchers to collaborate across disciplines and institutions on long-term projects that are locally relevant and internationally competitive. Another centre has subsequently been established.

There are Centres of Excellence in:
- Biomedical TB Research
- Invasion Biology
- Strong Materials
- Birds as Keys to Biodiversity Conservation at the Percy Fitzpatrick Institute
- Catalysis
- Tree Health Biotechnology at FABI
- Epidemiological Modelling and Analysis

The dwindling pool of senior academics has prompted South Africa to create 210 university Research Chairs by 2010, and to woo top foreign scientists in an attempt to reverse the brain drain. By the end of 2008 there were 72 new Chairs, boosting research capacity in the optimistic effort to produce 6,000 PhDs annually.

Rated Researchers

South Africa has 60 A-rated researchers who are “unequivocally recognised by their peers as leading international scholars in their field”, according to the rating system of the National Research Foundation (NRF). There are 1,679 rated researchers in six categories that cover experienced, young and ‘disadvantaged’ academics. Researchers apply for ratings to the NRF, and panels of experts in 22 subject fields assess the standing of researchers among their peers, based on work produced during the previous seven years. Ratings, the NRF contends, are thus “assigned on the basis of objective statements contained in reviewers’ reports”. Researchers get financial support at varying levels based on their rating, from an incentive funding programme. This ‘glue’ money is to keep their research programmes going. Academics can use the money at their discretion, with limited conditions attached. Around one in seven of all researchers are now rated in one category or another.

There are five A-rated scientists, 24 work for the University of Cape Town, and there are 14 and 7 respectively at the universities of the Witwatersrand and Stellenbosch.

Among the 60 A-rated scientists, 24 work for the University of Pretoria, three at KwaZulu-Natal, two at North-West and at the University of Johannesburg, and one at Rhodes and the Nelson Mandela Metropolitan University.

Funding Universities

For many years university funding declined in terms of the proportion of total state finance committed to higher education - from 4% in 1999 to 2.5% in 2007 - forcing universities to raise tuition fees steeply. At the same time, student numbers grew while staff numbers remained static.

Universities have three primary sources of funding: government, student fees, and donations and entrepreneurial activities. In terms of state allocations, funding is linked to national policy goals and to the performance of universities. Direct funding allocations to universities are based on research graduates and publication outputs, teaching outputs weighted by qualification level, student numbers weighted by study fields and course levels and ad hoc or infrastructural funding for institutions that have high numbers of poor students or are small institutions.
A 2008 report by Higher Education South Africa, *Tuition Fees: Higher education institutions in South Africa*, revealed that by 2004 direct first stream funding from the government had dropped to 43% of university income (from 49% in 2000) while the proportion of second stream income from fees rose to 29% (from 24% in 2000). For the past two years, universities have been making a concerted effort to ensure that fee increases remain within the inflation rate of that particular year. On average, 28% of universities’ income was generated from third stream type activities in 2004 (slightly up from 27%). Under increasing pressure from government to contain soaring tuition fees, universities are seeking ways of generating more third stream income through donations, investments and entrepreneurial activities. Higher education also sees raising alternative income as a way of bolstering university autonomy.

Since 2007, education (all levels) comprise on average 5.5% of GDP and amount to approximately 19.5% of total government funding. For the 2009/10 period government has set aside R15.2 billion for direct transfer to the universities and R2.1 billion for the National Student Financial Aid Scheme.

**Governance**

Universities are autonomous institutions in South Africa, but the higher education system is under increasing pressure to ensure that the sector produces the skills the economy needs and is efficient, affordable and accountable. Over the past year, and in each of these areas, both the former and new Minister have called universities to book, and with the establishment of the new higher education department it is likely that the sector will come under increased scrutiny.

Universities submit institutional plans to the Department of Education, which determines the appropriate programme mix for every institution based on its current profile, relevance to regional and national priorities, its capacity to take on new programmes, and the need to avoid duplication between institutions.

Curriculum transformation efforts have been directed at producing much-needed skills, creating a National Qualifications Framework, enabling flexible learning, and encouraging more inter-disciplinary and relevant curricula.

**Quality Assurance**

A quality assurance system was introduced in South Africa in 2004. Quality assurance is the responsibility of the statutory advisory body, the CHE. Its Higher Education Quality Committee (HEQC) conducts audits of universities - there have been 28 audits of public and private institutions so far - based on self-evaluation by institutions of their performance against a range of criteria, and external peer assessment. The HEQC also accredits courses and does national reviews, quality promotion and capacity development.

A new higher education qualifications framework has come into effect this year and is aimed at strengthening the quality assurance system and laying the foundation for credit accumulation and transfer, which was hindered by separate qualifications structures for universities and universities of technology.

The policy also defines how higher education qualifications fit into the National Qualifications Framework (NQF), which covers all
levels of education and registers all qualifications. The framework sets minimum admissions requirements for all programmes, but leaves it up to universities to set their own admissions policies beyond those minimums. It allows recognition of prior learning and work integrated learning.

Qualifications are structured in credits. For instance, there are 120 credits for the first year of a Bachelor degree, with each credit representing 10 notional study hours. Credits can straddle different levels of the NQF - levels five to seven cover undergraduate, and eight to 10 postgraduate qualifications depending on what is appropriate for the qualification. From 2009 all new higher education programmes must comply with the framework, be registered on it and accredited by the Department of Education. There will be a transitional period for existing programmes to be restructured to achieve full compliance.

Conclusions
Over the past two years the South African government has been asking higher education to play a fundamentally greater role in the development of the country. Through a range of initiatives that are intended to accelerate economic growth, reduce poverty and supply scarce skills, the government is calling on higher education to assist in this drive towards citizen empowerment. While still respecting the autonomy of our institutions, government have become highly sensitised to the role that the university plays within society.

At least in the new Department’s priority area of internationalisation it is obvious that South African universities are more than fulfilling their mandate.

South African higher education faces many challenges, among them uneven quality across the sector, low postgraduate numbers, high student drop-out rates, and the need to attract and retain more high level (especially black) academics and managers. However, there have been major achievements. Since the transformation of higher education began in the mid-1990s, the number of students in South Africa’s public universities has nearly doubled and the racial make-up of the student body has radically improved. Higher education has been restructured, new funding and quality assurance mechanisms have been put in place, and universities have become more responsive to the needs of South Africa and all its citizens.

Further Education and Training
South Africa’s Further Education and Training (FET) system has also been restructured through its own merger process. This has meant that the sector that had 152 technical colleges now has 50 on 256 campuses across the country. The FET sector has been expanded through a R1.9 billion recapitalisation project funded by government in order to improve the quality and to tackle the country’s skills shortage. FET colleges enrolled around 123,000 students in 2009, up from 25,000 in 2007. By 2014, the government wants 1 million students enrolled at colleges. The colleges will now fall under the Department of Higher Education and Training and it is expected that their offering will be more closely aligned with the universities, especially the universities of technology in the future. The modernisation of the sector was necessary in order to offer vocationally oriented training that is closely linked to industry requirements and the world of work.

The Minister, Dr Blade Nzimande, went further in August 2009 to propose that the FET Colleges will also be used to work with municipalities, business and local communities to incubate small enterprises.

It is hoped that this vibrant, accessible and high quality sector will impart the kind of skills and knowledge needed by South Africans to be productive and to keep abreast with modern technology, will meet the country’s pressing human resource needs, encourage lifelong learning, reduce unemployment and contribute towards development. FET Colleges are spread through the country, in urban and rural areas, and so are accessible to many (including mature) potential students. In addition, it is foreseen that the FET Colleges will work closely with the Sector Education Training Authorities in order to establish ‘an early warning system’ of what and where skills are needed within the country and to provide them in the shortest possible time.

Private Higher Education
There are 99 private higher education institutions operating legally in South Africa, according to the register of institutions published by the Department of Education (August 2009), including 75 that are fully registered and 24 with provisional status. Although there are far more private than public higher education institutions, the private sector is dwarfed by public universities in terms of student numbers. Present estimates place the number of students in the private sector at slightly over 30,000 students.

Most private colleges offer advanced certificates and diplomas with a vocational focus, responding to the high demand for market-oriented qualifications and producing drastically needed skills.

Political reforms from the 1990s prompted a boom in private higher education in South Africa, with local and foreign institutions and entrepreneurs spotting a potentially lucrative market. Demand for tertiary education was growing, as was interest in globally known qualifications as the previously isolated country rejoined the world community. The growth in private colleges took the country by surprise, and there was no framework in place to register, accredit or quality assure the sector. So the Department of Education set about constructing one, through the Higher Education Act of 1997 and Regulations for the Registration of Private Higher Education Institutions, gazetted in 2002. It also created registration, accreditation and quality systems for private institutions.

Up to 2007, 443 institutions had lodged applications for registration as ‘privates’, while only 144 were either provisionally or fully registered. The result of this shake up of the system meant that many private institutions, some of who were opportunistic
fly-by-nights, folded. Of those in the 2009 Register of Private Higher Education Institutions most offer advanced certificates and diplomas in fields such as theology, information technology and computing, commerce and management, media, and alternative therapies. That said, one Catholic institution, St Augustine College, is remarkable in that in 2008 it had 168 Master’s and 12 PhD students enrolled, which amounted to more postgraduate students than 13 of the 23 higher education institutions for the same year.

There are also a number of institutions offering a range of degree and postgraduate qualifications, such as Monash South Africa and the Independent Institute of Education, Damelin and Midrand Graduate Institute, as well as major providers of advanced certificates and diplomas such as Lyceum College and City Varsity.