

**FACULTY ANNUAL REPORT**

**FOR THE YEAR**

**2012**

**FACULTY OF SCIENCE**

**SUBMISSION TO SENATE**

(Date of Senate meeting at which report will serve, e.g. 14 July 2013)

**Prof PJJG Marais**

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**EXECUTIVE SUMMARY**

Provide an executive summary in which highlights and challenges of the Faculty are mentioned (**Maximum 2 pages**).

**SECTION A**

**1. INTRODUCTION**

EXECUTIVE SUMMARY

The total number of students enrolled in the Faculty stayed more or less the same at 6769 compared to 6617 in 2011 with

approximately 301 postgraduate students compared to 289 in 2011.

During the year a total number of 1535 diplomas and B Tech degrees were awarded compared to 1454 during the

previous year.

The number of postgraduate qualifications awarded in 2012 increased to 37 Master’s degrees and 11 Doctorates,

compared to 26 and 12 for the previous year.

The number of rated scientists remained at 21, contributing to the success rate of post graduate students and

research conducted in the Faculty. The Faculty of Science currently has 21 of the 38 rated researchers at TUT.

The Faculty has seen very positive growth with regards to its student success rate over the last couple of years. Student

success rate for undergraduate studies were maintained at 74.8% in 2012 (Compared to 71% in 2010). The Faculty is

now starting to see the results from its improvement plans being implemented. In line with the student success rate the

graduation rate of the Faculty also remained stable at 24.3% compared to 24.6% in 2012.

**HIGHLIGHTS & CHALLENGES**

**Department of Animal Science**

Dr KC Lehloenya became a rated researcher. Prof L Nedambale made a huge contribution to facilitate experiential training and post graduate study facilities for the students of this Department. The Department is indebted to Dr Morakile (DAFF) who on short notice took one of our M Tech students on for their PDP programme. DAFF also gave this Department R100 000 for research in reproductive technologies.

**Challenges**

* To appoint a new HoD for this Department when Prof Sutherland retires early 2013.
* It is clear that the Department must adjust itself more to the focus areas of molecular/ animal breeding/ reproductive technologies and nutrition.
* There is an over supply of animal production students in the market which exceeds the number of positions available. It is clear that the Department will have to adapt more stringent selection criteria to fill the few vacant posts available.

**Department of Biotechnology & Food Technology**

* The *Gauteng Department of Agriculture and Rural Development (GDARD)* awarded an amount of R 826 000-00 to the Department of Biotechnology and Food Technology for 2012; to utilize as student bursaries.
* On 7 August 2012, the Department of Biotechnology and Food Technology at Tshwane University of Technology hosted the annual *Product development workshop* for the TUT and UJ Food Technology National Diploma students who were working on their New Product Development projects
* The department is collaborating with the Maize Trust through Dr Corinda Erasmus (previously of the CSIR) and the SA Grain Laboratory (SAGL) on a research project to study the determination and prevalence of bound fumonisins in South African maize.

**Challenges**

Student success rate is still very high on all agendas and plans to improve on this is frequently discussed, changed and improved on. The interventions taken over the past few years (identifying struggling students etc.) are still in place and during 2011 yet again, a number of students received assistance from SDS (student development and support services).

**Department of Biomedical Science**

* The year 2012 was a productive year for the Department of Biomedical Sciences with various highlights such as the visit by Prof H Reddi, the inauguration of the AXIM Radiography Centre and the 10 years existence of the Centre of Tissue Engineering. All the programmes were audited and Quality Improvement Plans are monitored on an ongoing basis.

**Challenges**

* To increase the post graduate registration in 2013
* To expand Tissue Engineering as focus area in the Department
* To continue with the re-curriculum of all four programmes in the Department

**Department of Chemistry**

There has been a steady improvement in the department’s overall success rate and many staff members are contributing and sharing ideas on how to grow and sustain these gains. The teaching and development grant was instrumental in the appointment of Dr WW Mavuso who conducted a baseline study on the nature and source of problems leading to the dismal performance in three S2 subjects. The report will be submitted to the EXCO of the Faculty of Science for a broader discussion of the key problems that were identified and the possible solutions.

The completion of the renovation and refurbishment of the laboratories and classrooms is a great highlight of 2012 because of the excitement in anticipation of better efficiency and better technological infrastructure

**Challenges**

The poor state of general maintenance of TUT facilities and classrooms places an undue burden on lecturing staff since some of the venues are just not conducive for teaching and learning.

**Department of Crop Science**

Two projects related to Argentina – SA collaboration had three visitations from collaborators from Argentina. Two postgraduate students from TUT also visted Argentina.

Collaboration was initiated with Texas A & M University. Two TUT M Tech students are currently doing their research at Ukulima Farm, Modimolle with financial support from this collaboration.

Another collaboration has been initiated between TUT and UP on phenolics in cowpeas

**Challenges**

The most important challenge was losing two members of the academic staff through resignations. The Department had to rely on temporary staff.

**Department of Environmental Health**

TUT (Department of Environmental Health) was the first Institution in the country to receive approval from DHET as well as the Professional Board for Environmental Health to offer a 4-year professional degree programme.

Memorandum of Understanding was signed between TUT and the Department of Environmental Affairs. The focus of the MoU is to train Environmental Health Practitioners as Environmental Management Inspectors (Green Scorpions). This move will create job opportunities for our students. On completion of this course, they will be appointed as EMIs.

**Challenges**

The department experienced challenges in terms of postgraduate supervision. Academic staff members have however progressed very well with improving their qualifications to enable them to supervise post graduate students. Filling the vacancy after resignation of Prof Jagals in 2011 is still a huge challenge.

**Department of Environmental, Water & Earth Sciences**

Research output was very successful for 2012 and staff with their postgraduate students published widely with 25 papers in accredited journals, 9 in non-accredited journals, 7 articles in press or within electronic media. Furthermore, academic staff travelled widely where staff attended 6 international collaborative visits, three members of staff and five doctoral students presented their research findings at nine international conferences in seven different countries and two members of staff and eight post graduate students presented at 16 national conferences in 2012. The department also hosted three international scientists visiting us from abroad. Research funding accumulated was also extensive where R2 593 154 was sourced for applied research and R8 600 000 for THRIP-related projects.

**Challenges**

The majority of challenges are highlighted comprehensively within the QIP. As part of the plan in addressing solutions to these challenges, the department will submit a report in June 2013. Some of the more important challenges are: developing a departmental business plan by end 2013, addressing the shortcomings in the undergraduate student enrollment process which remains flawed, to increase the throughput rate of B Tech Block courses to full time one year course by 2014 and to reduce the registration and completion time of all postgraduate enrolments. Placing and monitoring cooperative education students into appropriate WIL environments continues to pose a serious challenge as suitable industrial venues are not always available and current staff are challenged to get to visit all students regularly due to their academic commitments on campus and the lack of staff numbers.

**Department of Horticulture**

Advisory Committee meetings were held for the first time in many years, and discussions and inputs addressing needs from industry in the current and future curriculum was achieved. Landscape Technology students were trained in AutoCad (a computer landscape design programme) for the first time, and a new computer centre, planned and put up by the Department, was used for the first time. Research projects were planned and initiated for ten new post graduate students, and three registered during 2012 already. A television programme on the BTech programme of Landscape Technology students was broadcasted on DSTV.

**Challenges**

The restoration of the laboratory used for practical training, took six months to be completed, with many obstacles and problems. Alternative venues had to be arranged which caused serious problems. Challenges during registration such as late or no appearance of new students, system problems such as communications via letters with students and student financing remains a problem. There is no post graduate laboratory available for full time post graduate students, but plans and arrangements to obtain a laboratory in building six are being investigated. Personnel is currently divided in Building 5 on ground floor and level 6, which makes day to day interaction and communication difficult.

**Department of Mathematics & Statistics**

The success rate for the DMS increased from 47% to 55% during 2010 to 2012. Six new staff members joined the Department, leaving only one position vacant.

**Challenges**

The death of the Head of Department left a gap that will be difficult to fill immediately; she had years of experience as a manager.

Based on the number of Teaching Input Units and Senior Lecturer Equivalents the DMS is understaffed. South Africa learners are always close to the bottom, if not last, in all international assessments on Mathematics providing TUT with a huge challenge to overcome this.

**Department of Pharmaceutical Sciences**

The undergraduate success rate was maintained in 2012, particularly in the BPharm and BTech Pharmaceutical Sciences programmes, with overall success rates of 87.5 and of 91.0% respectively.

Somatology held a “Somatology Research day” on the 21st of September 2012. TUT and the University of Johannesburg (UJ) participated and research presentations were delivered by both staff and BTech students while the guest speakers were from Industry.

An international examination for Somatology students (CIDESCO) was held in November 2012. The third year students took part in the examination, with a 90% pass rate.

**Challenges**

First year intake: Programme intake for following year is reported as full at the end of the academic year and at the start of the new year. However, student registration confirms that students do not report to TUT, leaving our first year intake low in some programmes.

Student throughput: Student academic performance and success is low in some subjects. Student development courses are provided to all students to promote academic performance; however students do not always use this opportunity to the best of their ability.

**Department of Physics**

The Department of Physics received a grant of R200 000 from the Photonics Initiative of South Africa (PISA) towards the purchase of photonics equipment for the Industrial Physics programme in 2012. In 2011, PISA gave the department R420 000.

Carl Zeiss, a photonics company, also donated a 2nd hand lens polishing machine and parts, valued at R60 000 in 2012.

The Diploma in Industrial Physics finally received the formal approval from the CHE and SAQA and the first new students will be registered in 2013.

**Challenges**

Mr Simpson, who retired on health grounds and this position has taken too much time to fill. Staff had to share his workload supported by part time lecturers.

The Department of Physics still faces a shortage of permanent staff. The Department has to rely on part time lecturing staff to augment teaching and learning; a situation that is not healthy.

**Department of Sport, Rehabilitation & Dental Sciences**

MOP has one staff member that started her master’s degree programme in rehabilitation studies through Strathclyde University in Scotland.

MOP relocated back to its laboratory after refurbishment as part of the “IEF Project”.

**Challenges**

Dental Technology suffers from aging and deteriorating facilities and infrastructure for training. IEF funding has been obtained that should correct the situation.

All new equipment required to work in the MOP lab were not fully delivered by the appointed supplier that will negatively affect the practical programme that is due to start in February.

The SET, OCS, MOP and BK programmes do not have post-graduate programmes. Application has been submitted to DEHT to offer a generic post-graduate programme in Health Sciences. It is hoped that this will be approved in 2013.

**Department of Nature Conservation**

Conclusion of a MOU with City of Tshwane regarding experiential learning at nature reserves.

Presentation of the annual departmental research seminar with an acceptable research output.

Ndumo Community Project (milestones) – Various highlights;

                - Successful workshops with teachers

                - 13 schools involved in environmental awareness

Ecoschools progam

Environmental education awareness programmes were offered at Tshwane South Schools (15 SCHOOLS).

Field Training Excursions – In 2012 a total of 12 excursions involving all diploma students were presented – each for a duration of one to two weeks to Limpopo, Mpumalanga, Gauteng, Northwest Provinces.

Placement of students at Disneyland, Orlando Florida, USA.

**Challenges**

Further improving lecturing facilities (i.e. facilities equipped with data projectors.

Improve broader participation of staff in research output.

Balancing work loads and improving qualification of some staff members.

Preparing under prepared students for tertiary education.

Improving departmental mentoring and support system to students.

Improving throughput rate of post graduate students.

Improving placements for WIL.

Improvement of quality assurance mechanisms including data basis, subject files and best management procedures for various key performance areas.

Implementing staff performance management systems.

Improve marketing of the department.

Promoting deserving staff.

**2. GOVERNANCE AND PLANNING**

**2.1 Faculty Strategic and Implementation Plan(s)**

* Provide information on implementation of Faculty Strategic and Implementation plans.

Each Faculty within TUT had to submit a business plan for the period 2009 – 2013. Most of the plans are long-term and will be monitored over a longer period. The Faculty further started the development of a new Strategic Plan in 2011 that continued during 2012. The Faculty Strategic Implementation Plan will be aligned to the Institutional Strategic Plan currently under review by the new Vice Chancellor.

The Faculty of Science consists of 14 departments; seven of these are situated on the Arcadia campus and seven on the Pretoria West campus. One of the 14 departments, Mathematics and Statistics, will continue to have staff on all the urban sites where they provide a valuable service to other faculties.

The Faculty is in an envious position because all of its current National Diplomas lead to B Tech degrees while most of the B Tech degrees lead to Master’s degrees. In the Department of Sport, Rehabilitation and Dental Sciences a number of programmes are without a suitable Master’s degree and this is a matter of serious concern to the Faculty.

At the end of this reporting period, the HEQF was still not finalized leading to huge uncertainty with regards to future planning of the Faculty. Not knowing in which programmes we will be allowed to have postgraduate programmes makes future planning very difficult and almost impossible to plan for recruitment of staff. The future PQM of the Faculty depends totally on the HEQF and not having clarity is placing a huge damper on all aspects of planning.

**2.2 Quality Improvement**

**DEPARTMENT OF ANIMAL SCIENCES**

All the programmes in the Department were self evaluated in 2011. The main complaint was that not all the study guides were up to standard. It was agreed to submit rectified study guides for all subjects by 2 December 2012.

**DEPARTMENT OF BIOTECHNOLOGY AND FOOD TECHNOLOGY**

The department of Biotechnology and Food Technology underwent an internal audit process during 2011. During 2012 the department submitted quality improvement plans (QIP) for both programmes. The main areas of improvement include improvement with regard to formal strategic planning sessions. Previously, these were mostly held as informal discussions but has consequently been addressed by having formal minuted meetings, held for strategic discussions specifically. A second shortfall is in the form of succession planning - this issue will receive the necessary attention. Lastly, continuous involvement with intervention strategies to improve overall throughput rate have been vigorously pursuit and the trend will continue. Different levels of success have been obtained.

**DEPARTMENT OF BIOMEDICAL SCIENCES**

An internal Review process was conducted in 2011 for all four programmes in the department. The recommendations included in the programme progress reports were thoroughly discussed and are addressed accordingly for improvement purposes

A few examples are:

* A unique Radiography Scaffolding Programme, as well as a variety of teaching and learning strategies and a range of applicable assessment practices, all contribute as integrated building blocks to efficient and professional training of Radiography students.
* Most full-time lectures are registered for senior qualifications.
* HOD interviews post-graduate students each semester (Twice per year).
* The main areas for improvement were identified as improvement of laboratory infra-structure; course content and specifically the experiential learning year are critical issues that are currently in the process of being addressed as in the QIP for Biomedical and Veterinary Technology.

**ADELAIDE TAMBO SCHOOL OF NURSING SCIENCE**

Many of the recommendations of the quality improvement plan has been implemented, however there are a number which have not yet been achieved. The appointment of a dedicated Programme Administrator to attend to student complaints, enquiries and queries. These include motivation for additional academic staff, timeous use of the ITS system to track student performance throughout the academic year, E-learning usage of all lecturers and the appointment of more clinical preceptors to accompany students.

**DEPARTMENT OF CHEMISTRY**

The Department of Chemistry has a standing item on the agenda of all our staff meetings to discuss issues of quality management and improvement plan as the outcome of the self evaluation programme review of 2011.

**DEPARTMENT OF ENVIRONMENTAL, WATER & EARTH SCIENCE**

Each undergraduate programme in the Department of Environmental, Water and Earth Sciences underwent a Quality Review audit in 2011, how each item will be addressed was submitted to the Directorate of Quality Promotions in May 2012. This document addresses all items and introduces an improvement plan that has been implemented in June 2012 as is due for review in June 2013

**DEPARTMENT OF HORTICULTURE**

Quality improvement plans were implemented, including the reviewing of the postgraduate programme for improvement purposes; introducing a student liaison committee in order to provide students with a forum for addressing their complaints and for providing input on the programme; introducing an Advisory Committee for the programme; reviewing the research activities for the programme in order to improve them; lecturers encouraging students to register for postgraduate studies; reviewing the financing and improvement of practicals, evaluating the provision of study guides that are in compliance with institutional requirements, implementing a quality management system; and appointing programme coordinators to manage the day-to-day activities of the programme.

**CROP SCIENCES**

A new HOD was appointed in 2012. The Departmental QIP is currently under revision.

**DEPARTMENT OF ENVIRONMENTAL HEALTH**

No programme was evaluated in 2012, however, the postgraduate programme was evaluated in 2011 and the programme review report from Directorate Quality Promotion was received in January 2012. The quality improvement plan is in place. Staff members are working hard to complete actions in line with the recommendations made by the review panel.

**DEPARTMENT OF MATHEMATICS & STATISTICS**

The B Tech Quality, M Tech Mathematical Technology and the M Tech Quality, and D Tech Mathematical Technology and D Tech Quality programmes were reviewed in 2011 as part of the Faculty of Science review process. The feedback from the various review panels were received and were studied by the two sections in the DMS. In response to the panels' feedback the DMS submitted the Quality Improvement Plans (QIP's). Staff members are participating in the implementation of these plans.

**DEPARTMENT OF PHARMACEUTICAL SCIENCES**

A Quality improvement plan was completed subsequent to the 2011 internal review and submitted to the Directorate Quality Promotion. Regular discussion takes place in the Department.

**DEPARTMENT OF PHYSICS**

Quality Reviews of the Fire Technology programme and that of Physics service subjects to other departments took place in 2011. The issue of lack of a formal quality management system in the Department of Physics was one of the major findings of the peer review committee. The Department now has a formal quality management system in place that includes Standard Operation Procedures (SOP) for its day-to-day activities. One particular recommendation, namely, the development and deployment of a formal programme quality management system (QMS) to manage the programme activities, was found to be highly valuable, and set the tune for the host of others. The Department of Physics has now an established quality management system (QMS).

**DEPARTMENT OF SPORT, REHABILITATION & DENTAL SCIENCES**

The South African Dental Technicians Council did a laboratory inspection at Dental Technology in November 2012.

No written report has yet been received. In their feedback session the committee indicated that the facilities are inadequate and in dire need of upgrading.

At the debriefing, the dean of the Faculty of Science, Prof Marais, informed the inspection committee that Dental Technology’s application for an IEF grant has been successful and that there should be adequate funding available to do a complete revamp of the facilities.

The inspection committee agreed to a phased in approach and will provide TUT with a schedule of improvement, starting with the most important needs.

N Cert : Dental Assisting had a audit from the Health Professions Council of SA 30/31 August 2012. No official report has been received from the Board as yet, but initial comments were quite positive.

**2.3 Risk Management**

A Faculty risk register was compiled during 2009 and was escalated down to individual registers for each department in 2010. This risk register was updated in 2012.

**2.4 Safety, Health and Environment**

* Monthly Safety, Health and Environment (SHE) meetings were held. All issues raised were given the necessary attention and the Faculty can report that no serious incidents were reported. The issue of the non-operational lifts on the Arcadia Campus were addressed on numerous occasions and should be acted upon as a matter of great urgency as it may pose a great risk in terms of safety and movement of disabled staff and students and with the transportation of hazardous materials (chemicals) to the labs from the ground floor.

**3. STUDENT DEVELOPMENT AND SUPPORT**

**Department of Biotechnology & Food Technology**

Through SAAFoST, annually, a number of bursaries are awarded to students from different universities based on academic merit. A Food Technology diploma student, Mr Jeremiah Molelekoa, was awarded the SAAFoST Academic Achievement Award, of R 1000. In addition to this, he was presented with an award certificate at a Northern Branch function.

A B Tech Biotechnology student, Mr Tebogo Selekolo, was nominated to receive a recognition award as one of the best assessors in the fields of Microbiology, Water, Food and Pharmaceutical. The Assessor Awards are an annual recognition of Assessor’ contribution, commitment, approachability, helpfulness, team work and professionalism when conducting assessment and representing SANAS.

**Department of Animal Sciences**

Mr Caiphus Hlungwani was awarded a RCI (Research Capacity Initiative) scholarship by SANPAD enabling him to attend workshops on research methodology and writing skills at various venues in the country. A MoU to manage this scholarship between SANPAD and TUT was signed by the DVC.

**Department of Biomedical Sciences**

Radiography student Nadine Cronje (209142406) received the Chancellor’s Medal for outstanding academic achievement at the graduation ceremony held on 3 May 2012.

**Department of Environmental Health**

Mr Ntobeko Sikhakhane received a national award for best student in Environmental Health at the 3rd All Africa Congress on Environmental Health held in Durban-November 2012

**Department of Pharmaceutical Sciences**

Maxleene Sandasi and Emmanuel Shikanga were awarded the prestigious Claude Leon Foundation in 2012 for postdoctoral fellowships for 2013.

**Department of Sport, Rehabilitation and Dental Sciences**

Nicolene Smit won the OSSUR award to visit Iceland OSSUR. His was for the best project presented by B-Tech’s 2012 MOP

**Department of Nature Conservation**

Chancellors Medal to Emma Harris (Eco Tourism Management) for the best B Tech student in the Faculty of Management Sciences – Joint venture with Faculty of Science.

**4. STAFF DEVELOPMENT AND CAPACITY BUILDING**

* A summary of the staff development opportunities offered to I/R staff within faculty, as well as an indication of staff members who have completed a higher qualification.

**4.1 Professional Staff Development Opportunities**

| **Activity** | | **2012** | | | **Details** | | | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Professional Development activities** | | | | | | | | | | | | | | | | | | | | | | |
| Academic orientation of newly appointed permanent staff | | | | | | | | | | | | | | | | | | | | | | |
| Permanent lecturing staff (Licence to Teach) | | 10 participants registered (in total for the Faculty)  5 participants successfully completing the programme (in total for the Faculty) | | | | January 2012 | | | | | | | | July 2012 | | | | | | | | |
|  | |  | | | | Number of participants registered | | | | Number of participants successfully completing the programme | | | | Number of participants registered | | | | | Number of participants successfully completing the programme | | | |
|  | |  | | | | 0 | | | | 0 | | | | 10 | | | | | 5 | | | |
| Part time lecturing staff | | 21 participants registered (in total for the Faculty) | | | | January 2012 | | | | | | | | July 2012 | | | | | | | | |
|  | |  | | | | Number of participants registered | | | | Number of participants successfully completing the programme | | | | Number of participants registered | | | | | Number of participants successfully completing the programme | | | |
|  | |  | | | | 19 | | | | 19 | | | | 2 | | | | | 2 | | | |
| Professors programme | | 2 participants registered (in total for the Faculty) | | | | January 2012 | | | | | | | | July 2012 | | | | | | | | |
|  | |  | | | | 0 | | | | | | | | 2 | | | | | | | | |
| Dean, HOD and Section Head Programme | | 7 participants registered (in total for the Faculty) | | | | January 2012 | | | | | | | | July 2012 | | | | | | | | |
|  | |  | | | | 6 | | | | | | | | 1 | | | | | | | | |
| Academic Leadership Programme (ALP) | | 6 ALPs were presented in 2012  32 Staff members attended at least 1 or more ALP | | | | Total nr invited | Jan | | Feb | March | | Apr | May | June | | July | Aug | | Sept | Oct | Nov | |
|  | |  | | | | 23 |  | | 16 |  | |  | 20 | 11 | |  | 7 | |  | 5 | 4 | |
| Study Guide Workshop | | 2 number of workshops  16 number of participants | | | |  | | | | | | | | | | | | | | | | |
| SLP: Curriculum Development and Support | 2 total number of Curriculum SLPs presented  14 total number of participants registered  0 total number of participants successfully completed the SLP | | |  |  |  | | --- | --- | --- | | **12 & 13 June 2012** | | | | **Nr successfully completed** | **Nr registered** | **Department** | | 0 | 2 | Nursing | | 0 | 1 | Mathematics and Statistics | | 0 | 1 | Horticulture | | 0 | 2 | Biomedical Technology | | 0 | 4 | Chemistry |  |  |  |  | | --- | --- | --- | | **18 & 19 October 2012** | | | | **Nr successfully completed** | **Nr registered** | **Department** | | 0 | 1 | Pharmaceutical Sciences | | 0 | 1 | Biomedical Technology | | 0 | 1 | Environmental, Water and Earth Science | | 0 | 1 | Horticulture | | | | | | | | | | | | | | | | | | | | |
| SLP: Licence to Teach | 2 total number of Assessment SLPs presented  5 total number of participants registered  1 total number of participants successfully completed the SLP | | | Dept | | | | Crop Sciences | | | Physics | | | | Chemistry | | | Mathematics and Statistics | | | | |
|  |  | | | Nr registered | | | | 1 | | | 1 | | | | 2 | | | 1 | | | | |
|  |  | | | Nr successfully completed | | | | 0 | | | 0 | | | | 0 | | | 1 | | | | |
| SLP: Assessment and Moderation in Higher Education | 2 total number of Assessment SLPs presented  1 total number of participants registered  0 total number of participants successfully completed the SLP | | | Dept | | | | Water Care | | |
|  |  | | | Nr registered | | | | 1 | | |
|  |  | | | Nr successfully completed | | | | 0 | | |
| Assessing Assessment Workshop | 0 number of workshops  0 number of participants | | | 0 | | | | | | | | | | | | | | | | | |
| External workshops (eg for the University of Limpopo & Medunsa) | 0 number of workshops  0 number of participants | | | 0 | | | | | | | | | | | | | | | | | |
| OBE awareness workshop | 0 number of workshops  0 number of participants | | | 0 | | | | | | | | | | | | | | | | | |
| Voice and Delivery Skills Workshops | 5 programmes in total  14 participants in total | | | Workshops  (One day) | | | | | | | | Workshop (One hour) | | | | | Individual sessions | | | | |
|  |  | | | Nr of workshops | | | | | Nr of participants | | | Nr of workshops | | Nr of participants | | | Nr of workshops | | | Nr of participants | |
|  |  | | | 1 | | | | | 1 | | | 6 | | 0 | | | 10 | | | 13 | |
| Teaching review | 1 number of reviews  9 number of participants | | |  | | | | | | | | | | | | | | | | | |

* Service delivery (Qualitative analysis of trends)

|  |
| --- |
| As evident from the numbers, very few staff members complete the programmes in their entirety. This is an issue that requires monitoring so as to curb continued low success rates. However, apart from the Licence to Teach Orientation programme which is part of the lecturers probation period there is no motivating factor that encourages lecturers to complete the programmes, especially the SLPs. Going forward, the directorate needs to put measures in place to ensure incentives for lecturers to complete programmes i.e. a point system or linking it to the excellence awards. |

* Closure

|  |
| --- |
| Although very few lecturers complete CDS programmes, this does not speak to the development that has occurred in the faculty. More and more, lecturers are approaching CDPs to ensure quality in their teaching and learning materials (Study guide and question papers and memorandums). There has been an increased need to ensure that teaching and learning material meet TUT standards and various consultations with lecturers has been fruitful in this regard. In future this needs to be more structured (per department) to ensure uniformity and standardisation of material in the faculty. With increased capacity in professional development this may be possible in the near future. |

The Faculty of Science is totally committed to continuous Academic Professional Development which is evident from the amount of courses and workshops undertaken by its staff. Big impetus is placed on Curriculum Development and Teaching & Learning Assessment.

These interventions are starting to bear fruit as The Faculty has seen very positive growth with regards to its student success rate. Student success rate for undergraduate studies were maintained at 74.8% in 2012. The Faculty is now starting to see the results from its improvement plans being implemented.

**4.2 Qualification Improvement**

[*Comment, list all staff that has completed new qualifications]*

|  |  |  |
| --- | --- | --- |
| ***Name of staff members*** | ***Qualification*** | ***Institution awarded*** |
| Dr LS da Silva | PhD. Food Science | UP |
| Dr JL Bekker | D Tech: Environmental Health | Tshwane University of Technology |
| Mrs J Bidie | M Tech (Mathematical Technology) | TUT |
| Dr TS Ramukumba | D Tech Nursing | TUT |
| Ms GB Lemeko | National Diploma: Office Management and Technology | TUT |
| Mrs. A Strauss | M-Tech: Clinical Technology | TUT |
| Mr. J Jooste | MA-Degree: Human Movement Sciences | University of Pretoria |
| Mr JJ Viljoen | PhD Zoology | University of Pretoria |
| Mr SP Lepule | M Tech (Chemistry) | TUT |
| Mr JH Linde | M Tech (Chemistry) | TUT |
| Dr AF Marais | M Tech (Chemistry) | TUT |
| Ms M Coetzee | M Tech Horticulture | TUT |
| Mr PH Grobler | B Tech (Audits) | UJ |

**4.3 Staff Involved In Further Study**

Staff involved in further studies in 2012

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Name of staff member*** | ***Qualification*** | ***Institution*** | ***Date of first registration*** | ***Currently registered***  ***Yes No*** | |
| WHJ van Rensburg | D Tech: Agriculture | TUT | January 2012 | Yes |  |
| MD Mansfield | M Tech: Agriculture | TUT | July 2012 | Yes |  |
| CJL du Toit | PhD | UP | 2011 | Yes |  |
| Ms EM Beukes | PhD Food Science | US | 2007 | Yes |  |
| Ms E Jordaan | D Tech Biotechnology | TUT | 2010 | Yes |  |
| Ms EM Mogale | M Tech Biotechnology | TUT | 2013 |  | N |
| Mr CF van Rooi | M Tech Food Technology | TUT | 2013 |  | N |
| S Pretorius | M Tech Biomedical Technology | TUT | 2005 |  | N |
| B Johnson | M Tech Radiography | TUT | Jan 2011 | Yes |  |
| C Boshoff | PhD: Zoology | UP | 01/06/2011 | Yes |  |
| M Swart | M Tech Clinical Technology | TUT | 2010 | Yes |  |
| S Steenkamp-Jonker | M Tech Veterinary Technology | TUT | 03/01/2012 | Yes |  |
| Hlongwane MM | M Tech (Chemistry) | TUT | 2009 | Yes |  |
| Khanye GE | M Tech (Chemistry) | TUT | 2005 | Yes |  |
| \*Koape LDR | PhD (Chemistry) | UNISA | 2010 | Yes |  |
| Lepule SP | M Tech (Chemistry) | TUT |  |  | Completed |
| Linde JH | M Tech (Chemistry) | TUT | 2013 |  | Completed |
| Mashigo MF | M Tech (Chemistry) | TUT | 2010 | Yes |  |
| Melato FA | D Tech (Chemistry) | TUT | 2010 | Yes |  |
| Nokwequ MG | D Tech (Chemistry) | TUT | 2006 | Yes |  |
| Vogel A | PhD (Chemistry) | York University, Canada | 2000 | Yes |  |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | M Sosibe |  |  |  |  | |  |  |  |  |  | | M TECH | TUT | 2010 | Yes |  |
| Mokgobu MI | PhD: Medical Immunology | University of Pretoria | 2010 | Yes |  |
| Harmse JL | D Tech: Environmental Health | Tshwane University of Technology | 2012 | Yes |  |
| Morodi TJ | DPhil: Applied Ethics | University of Stellenbosch | 2010 | Yes |  |
| Mudau LS | D Tech: Environmental Health | Tshwane University of Technology | 2009 | Yes |  |
| Shirinde JM | PhD: Public Health | University of Pretoria | 2011 | Yes |  |
| Marais AF | M Tech: Chemistry | TUT | 2010 |  | Completed |
| Mrs L Monyatsi | D Tech Water Care | TUT | June 2007 | Yes |  |
| Mrs L Sikhosana | postgraduate diploma : Water Engineering | Wits | January 2012 | Yes |  |
| Mrs J Mankazana | D Tech Water Care | TUT | January 2008 | Yes |  |
| K Prinsloo | M Tech | TUT | 2013 |  | Completed |
| M Coetsee | M tech | TUT | 2006 |  | Completed |
| Motsepe KA | D Tech (Mathematical Technology) | TUT | 2010 | Yes |  |
| Grobler PH | B.Tech:Quality | UJ | 2012 |  | Completed |
| Grobler PH | M.Tech: Chemistry | TUT | 2009 | Yes |  |
| Khunoana ME\* | M Sc | UP | 2011 | Yes |  |
| Pete AN\* | D Tech | TUT | 2011 | Yes |  |
| Ncube CN\* | PhD Mathematics | UNISA | 2010 | Yes |  |
| Aphane M | PhD Mathematics | UNISA | 2009 | Yes |  |
| Spoelstra H | M Tech | TUT | 2009 | Yes |  |
| Naidoo M | PhD | Rhodes | 2009 | Yes |  |
| Ms R de Swardt | D Litt et Phil | UNISA | 2011 | Yes |  |
| Ms D Beckmann | M Tech Nursing | TUT | 2009 | Yes |  |
| Ms ME Chokwe | D Tech Nursing | TUT | 2010 | Yes |  |
| Ms EJ Ligthelm | M Tech Nursing | TUT | 2009 | Yes |  |
| Mr ML Pilusa | D Tech Nursing | TUT | 2012 | Yes |  |
| Ms NG Mafutha | D Tech Nursing | TUT | 2012 | Yes |  |
| Ms Z Janse van Rensburg | D Tech Nursing | TUT | 2012 | Yes |  |
| Ms JJM Jansen van Rensburg | D Cur Nursing | Wits | 2012 | Yes |  |
| Ms de Villiers | D Tech Nursing | TUT | 2010 | Yes |  |
| Ms JS Meintjes | D Tech Nursing | TUT | 2009 |  | N |
| Ms GB Lemeko | B Tech: Office Management and Technology | TUT | 2013 | Yes |  |
| Ms C Leonard | DTech Pharmaceutical Sciences | TUT | 2012 | Yes |  |
| Ms NP Mncwangi | DTech Pharmaceutical Sciences | TUT | 2012 | Yes |  |
| Ms D Baron | M Tech Somatology | TUT | 2012 | Yes |  |
| Ms C Louw | M Tech Somatology | TUT | 2012 | Yes |  |
| Ms B Komane-Mofokeng | D Tech  Pharmaceutical Sciences | TUT | 2012 | Yes |  |
| Ms TP Mathai | N Dip Public Relations | Sandton College | 2011 | Yes |  |
| MK Maremane | PhD | UNISA | Feb 2011 | Yes |  |
| S Titus | PhD | UNISA | July 2012 | Yes |  |
| J Madonsela | PhD | Utrecht |  | Yes | N |
| CM Snyman | Masters degree: Public Health | UNISA | January 2011 | Yes |  |
| M. Schmidt | Masters degree: Rehabilitation studies | Strathclyde University Scotland | September 2012 | Yes |  |
| Philani Nongogo | PhD | UP | 2010 | Yes |  |
| Julius Jooste | MA Human Movement | UP | **2013** |  | Completed |
| Anita Strauss | M Tech: Clinical Technology | TUT | **2013** |  | Completed |
| AJ Botha | D Tech | TUT | 2012 | Yes |  |
| N Pillai | PhD | WITS | 2011 | Yes |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | |
| **ACADEMIC STAFF NOT MEETING QUALIFICATION REQUIREMENTS FOR POST LEVEL** | | | | | | | | |
|  | | | | | | | | |
|  |  |  |  |  |  |  |  |  |
| **NAME** | **POST** | **STAFF** | **DEPARTMENT** | **Current** | **Registered** | | **To** | **Expected date** |
|  | **LEVEL** | **No.** |  | **Status** | **No** | **Yes** | **Retire** | **of completion** |
| Janse van Rensburg WH | 6 | 303984 | Animal Sciences | D Tech at TUT |  | 1 |  | 2015 |
| Gibson RG | 7 | 555630 | Animal Sciences | Not registered | 1 |  |  |  |
| Mansfield DF | 8 | 558370 | Animal Sciences | M Tech at TUT |  | 1 |  | 2013 |
| Mashiya JG | 8 | 523267 | Animal Sciences | Not registered | 1 |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Swart, JM (Ms) | 8 | 588636 | Biomedical Sciences | M Tech at TUT |  | 1 |  | 2013 |
|  |  |  |  |  |  |  |  |  |
| Khanye MK | 7 | 801198 | Chemistry | Not registered | 1 |  |  |  |
| Koape LDR | 7 | 814117 | Chemistry | PhD at UNISA |  | 1 |  | 2013 |
| Matlaila KM (Ms) | 9 | 700267 | Chemistry | Not registered | 1 |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Harmse, JL (Mr) | 6 | 301892 | Environmental Health | D Tech at TUT |  | 1 |  | 2014 |
| Mokgobu, MI (Ms) **HoD** | 7 | 813420 | Environmental Health | PhD at UP |  | 1 |  | 2013 |
| Morodi, TJ (Mr) | 7 | 820818 | Environmental Health | PhD at US |  | 1 |  | 2014 |
|  |  |  |  |  |  |  |  |  |
| Kotzé PA | 7 | 535168 | Environmental Water & Earth Sci. | Working on proposal for M Tech | 1 |  |  | ?? |
|  |  |  |  |  |  |  |  |  |
| Whitcomb L | 8 | 203378 | Horticulture | Not registered | 1 |  |  | Dec 2013 |
|  |  |  |  |  |  |  |  |  |
| Jordaan JP | 7 | 203629 | Mathematics & Statistics | Working on proposal for M Tech | 1 |  |  |  |
| Joseph, J (Ms) | 7 | 700185 | Mathematics & Statistics | Not registered | 1 |  |  |  |
| Ncube CN | 7 | 536091 | Mathematics & Statistics | PhD at UNISA |  | 1 |  | Dec 2013 |
| Pete, NA | 7 | 700587 | Mathematics & Statistics | Working on proposal | 1 |  |  |  |
| Steyn SD (Ms) | 7 | 518565 | Mathematics & Statistics | Not registered | 1 |  |  |  |
| Khunoano M | 8 | 822802 | Mathematics & Statistics | Registered for MSc at UNISA |  | 1 |  | 2013 |
| Mouton SA (Ms) | 8 | 534226 | Mathematics & Statistics | Not registered | 1 |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Botha AJvdS **HoD** | 6 | 100579 | Nature Conservation | D Tech at TUT |  | 1 |  | 2015 |
| Krynauw DJ | 7 | 300969 | Nature Conservation | D Tech at TUT |  | 1 |  | 2015 |
| Lowry AV | 8 | 104183 | Nature Conservation | Retire end 2013 |  |  | 1 |  |
|  |  |  |  |  |  |  |  |  |
| Koekemoer D (Ms) | 8 | 624683 | Nursing Science | M Tech Nursing |  | 1 |  | 2012 |
|  |  |  |  |  |  |  |  |  |
| Leonard, CM (Ms) | 7 | 573906 | Pharmaceutical Sciences | DTech Pharm Sc TUT |  | 1 |  | 2014 |
| Nazer, DP (Mr) | 7 | 591815 | Pharmaceutical Sciences | Not yet registered | 1 |  |  |  |
| **Louw, CA (Ms)** | 8 | 504793 | Pharmaceutical Sciences | MTech Somatology TUT |  | 1 |  | 2014 |
| Baron, DJ (Ms) | 7 | 100196 | Pharmaceutical Sciences | D tech |  | 1 |  | 2016 |
|  |  |  |  |  |  |  |  |  |
| Boshoff, AR (Mr) | 7 | 100463 | Sport, Rehab & Dental Sciences | Retires end of 2014 |  |  | 1 |  |
| Prinsloo, EM (Ms) | 7 | 200689 | Sport, Rehab & Dental Sciences | No progression possible | 1 |  |  |  |
| Smit, WA (Mr) | 7 | 301345 | Sport, Rehab & Dental Sciences | Not registered | 1 |  |  |  |
| De Wet, KB (Mr) | 8 | 543365 | Sport, Rehab & Dental Sciences | Agreed to do MSc at UJ | 1 |  |  | Dec 2013 |
| Phoffu, GM (Ms) | 8 | 816667 | Sport, Rehab & Dental Sciences | Not registered | 1 |  |  |  |
| Pieterse, S (Ms) | 8 | 200549 | Sport, Rehab & Dental Sciences | No progression possible | 1 |  |  |  |
| Schwartz, S (Ms) | 8 | 301337 | Sport, Rehab & Dental Sciences | Not registered | 1 |  |  |  |
| Snyman, CM (Mr) | 8 | 533203 | Sport, Rehab & Dental Sciences | MPH at UNISA |  | 1 |  | Dec 2013 |
| Fourie, CE (Mr) | 9 | 576212 | Sport, Rehab & Dental Sciences | Not registered | 1 |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  | **TOTAL** |  | 19 | 16 | 2 |  |
|  |  |  | **%** |  | 51.4% | 43.2% | 5.4% |  |
|  | | | **TOTAL** |  | **37** | | |  |
|  |  | |  |  |  |  |  |  |

**Academic staff appointed with condition**

There are still 37 academic staff members (19%) who are appointed with condition. This is a large improvement of the 75 staff members (38%) who were placed with condition in 2009. At least 16 staff members are making excellent progress with their studies and several more indicated that they will start in 2013.

**4.4 Awards Received By Staff Members**

**Department of Animal Sciences**

Dr Luseba - Best Product Award – Indigenous Plant Forum 2012

**Department of Biomedical Sciences**

Carin Boshoff – Best speaker award: SAAVT Big 5 congress; Berg en Dal, Kruger National Park, South Africa, 30 – 31 October 2012.

**Department of Environmental Health**

Dr JC Engelbrecht received an award from the President of the South African Institute of Environmental Health at the 3rd All Africa Congress on Environmental Health in Durban for outstanding contribution, dedication and loyalty to the Environmental Health Profession. His tremendous courage and perseverance to uphold this profession was acknowledged.

Dr JL Bekker received the Certificate of Merit at the Lecturer of the year 2011 ceremony.

**Department of Environmental, Water & Earth Science**

Mrs L Monyatsi: Water research award held at the Chemical Technology Awards for 2012.

Prof JP Maree: DTI Technology award: Runner-up in THRIP quality and quantity of students category

**Department of Pharmaceutical Sciences**

Prof A Viljoen named Faculty of Science Researcher of the Year 2011.

Dr I Vermaak named Faculty of Science Junior Researcher of the Year 2011.

Ms B Komane-Mofokeng named Faculty of Science Young Female Researcher in training of the Year 2011.

Dr G Enslin, Ms N Mncwangi, Ms B Mofokeng and Dr I Vermaak awarded NRF Thuthuka funding.

**4.5 Staff Involvement With In Committees, Management of Scientific Councils, Boards, Etc.**

**Department of Sport, Rehabilitation & Dental Sciences**

* Mr W.A. Smit became the TUT’s representative on the Education Committee of the South African Dental Technicians Council.
* N Neveling served on the HPCSA Academic Board and is also a board member of Biokinetics Association of South Africa.

**Department of Physics**

* Dr Asante was appointed to serve on the Group of Experts Committee that is charged by CHE-SAIP to oversee the quality of undergraduate physics programme in all universities in South Africa.
* Dr Coetzee was appointed as the chair of the Faculty Success Rate Committee in 2012. She is also a panel

member of HEQC Evaluators

**Department of Pharmaceutical Sciences**

* Both Dr P Demana and Prof D R Katerere are members of the MCC and serve on various committees.
* Dr C Tarirai is serving on the ethics committee of the CSIR.
* Prof A Viljoen serves as the associate editor: Journal of Ethnopharmacology, the editor: Journal of Essential Oil Research and the reviewing editor: South African Journal of Botany.
* Dr I Vermaak serves on the executive committee of the Academy of Pharmaceutical Science South Africa.
* Dr P Demana serves as a moderator of the pre-registration examination of the SAPC.
* Prof D Katerere was elected to be Vice-Chair of the Indigenous Plant Use Forum (IPUF) in July 2012
* Professor A Viljoen unanimously voted in as the president-elect of the International Society of Ethnopharmacology, Austria 2012.

**Department of Horticulture**

* Prof R Slabbert is a Reference Group Member for the Water Research Commission of SA.

**Department of Environmental, Water & Earth Sciences**

* Prof R Jansen: sits as a member of the Scientific and Ethics committee of the National Zoological Gardens (Pretoria). He is also a Board member on the Mabula Ground Hornbill Project, Chairman of The African Pangolin Working Group and Deputy Chair: Africa on the IUCN-SSC Pangolin Specialist Group.
* Prof JP Maree sits on panels at the WRC and at the CSIR
* Dr CS Fourie is on the steering committee of the South African Geophysical Association as well as the steering committees of Coaltech Geology and Geophysics and Inkaba yeAfrica

**Department of Environmental Health**

* MI Mokgobu is a member of the advisory committee on education sub-committee of the Health Professions Council of South Africa (Professional Board for Environmental Health)
* Dr JC Engelbrecht has been co-opted on the Education Sub-committee of the Health Professions Council of South Africa (Professional Board for Environmental Health Practitioners) to assist with the evaluation of new programme submission from training Institutions. He was also re-elected as a member of EXCO of the Africa academy for Environmental Health

**Department of Crop Sciences**

1 Board member of SASHS

1 Management Board member of the SA Journal of Plant & Soil

1 Advisory Board Member for TOMPI SELEKA COLLEGE OF AGRICULTURE

1 Country Representative for the INTERNATIONAL SOCIETY OF PRECISION AGRICULTURE (ISPA)

**Department of Biomedical Sciences**

Du Toit, D:

* + Director of The African Clinical Research Organisation (ACRO)
  + Chairperson of the Ethics committee of the Medical Research council (MRC)
  + Chairperson of the Animal Ethics committee of the Medical Research council (MRC)
  + Chairperson of the National Health Research Ethics Council of South Africa (NHREC)
  + Member of the task team of Biosafety and Biosecurity (ASSAF)

Boshoff, C:

* + Management of South African Association of Veterinary technologists
  + Member of the CPD para-veterinary committee
  + Moderator for South African Veterinary Council, Veterinary technology exam's

International professional body

* + National Representative for South Africa (2011-2013) on the International Association of Suicide Prevention

Hoffmann, WA:

Member of Journal review panels

* + Journal of Adolescence (international journal)
  + Curationis (local journal)
  + South African Journal of Psychology
  + Heath SA Gesondheid

**Department of Animal Sciences**

\*Prof Siebrits serves on the Research committee of the SA Pork Producers Organisation as well as on the Pork committee of the Red Meat Research and Development Trust.

\* Prof Sutherland is acting chair person of SARRG

**Department of Nature Conservation**

Mr Panagos serves on the African Journal of Range and Forage Science Editorial Advisory Panel.

Prof. Funston serving on the IUCN Cat Specialist Group, the African Lion Working Group and the Save Valley Conservancy Management Committee. Prof Reilly has just completed his tenure as president of the Southern African Wildlife Management Association and he also continues to serve on the Council of the South African Council for Natural and Allied Scientific Professions (SACNASP). He also serves on the national council of the South African Wingshooters Association and was recently elected as Vice President of the South African Hunters and Game Conservation Association. He has also continued his responsibilities as a Board member of the Southern African Wildlife College and Trustee of the Booysendal Conservation Trust. Mr Botha serves as editorial advisor for the South African Journal of Agricultural Extension

**5. COMMUNITY ENGAGEMENT PROJECTS**

**Department of Crop Science**

The Department is involved with community projects at Vukuzenzele in collaboration with Cullinan Diamond Mine, as well as another project with the Pulanala community of Mpumalanga.

Another project is entitled ‘Maize grain yield comparison under conventional and site-specific nitrogen management in a dryland farming system’.

This project was conducted on 5 Agricultural lands completed in November 2012. Communities from Sekhukhune, and Waterberg Districts in Limpopo were involved. It was a Precision Agricultural Project about nutrient management on maize fields under dryland farming conditions. This project was in collaboration with researchers from Limpopo Department of Agriculture. A paper was presented at the Combined Congress 2013 in KwaZulu Natal.

**Department of Horticulture**

The Department built a vegetable garden at the Tshwane Creche, where more than 200 pre-school kids are educated and will be benefitting from this garden, since they receive a cooked meal daily. The extra seedlings not planted at Tshwane crèche, were taken to Ayanda Primary School and Sjambok Primary school, where the school kids are also growing vegetables gardens.

**Department of Environmental, Water and Earth Sciences**

Matjiesfontein School: Dr Fourie has initiated a rural school academic development programme in this small rural (historical) village in the Karoo. More specifically, two members of the Arcadia TUT library staff spent a few days in the small school library cataloging and inventorying existing books and a large number of books donated by TUT. Redundant TUT computers where repaired and also donated to the school and a new computer center was established. The honorable deputy minister Derrick Hanekom formally opened both the library and computer centre at the school in April 2012. The impact these two centers will have on the children of Maaitjiesfontein will be great in terms of developing these young students ability in reading and information technology.

**Department of Nature Conservation**

1.         ***Ndumo Community Project***

Through this project it is aimed to develop, encourage, sensitize and motivate a rural community i.e. school learners, their educators, parents, traditional leaders as well as staff from Ezemvelo KZN Wildlife to increase their concern about their environment through a specialized training programme. The project has been ongoing since 2000, and there are 13 schools surrounding Ndumo Game Reserve who receive a 20 session environmental education awareness programme every year. The school learners also celebrate special days i.e. arbour day, water week, world environmental day, bird week etc. Eight schools are registered as ecoschools. This is a WESSA initiative. Most of these schools have done extremely well under very difficult circumstances. The project is also encouraging children surrounding the reserve to partake in various environmental clubs i.e bird squad, eco-warriors and  garden warriors.  Parents are also involved in clean up operations and in skills training i.e. computer training and the Gogo’s knitting club. The teachers attend three teacher facilitation workshops annually and the tribal authorities are involved in environmental literacy sessions, this includes the Nduna’s, as well as Inyangas.  The project has developed three libraries over the past 12 years and children are encouraged to read. The project also trains TUT students in community relations, reserve management, law enforcement and in environmental education. TUT students are also involved in various research projects. The department of crop sciences are assisting the project through the development of vegetable gardens at schools and in the community. Through this initiative, the school learners are encouraged to grow vegetables and to better their nutritional intake. The project is also distributing a product called e’Pap into the community, which is also helping to improve the nutrition of school learners. Please see the website: [www.ndumocommunity.com](http://www.ndumocommunity.com)

2.         ***Environmental Education Awareness Programme in schools***

This project has grown over the years.Since 1996,17 schools in Gauteng have been involved in this outreach project. The allocated schools get an environmental educational awareness programme every Wednesday presented by second year nature conservation students, starting in April each year. Through this initiative our TUT students as well as the schools teachers get trained in environmental education. They need to practice what they preach.  Through this programme Gauteng’s school learners are encouraged to become environmentally literate and to make the correct decisions pertaining to their environment, as well as to take ownership for their environmental actions. Each school gets 15 environmental education awareness sessions annually. The schools include children who are sight impaired, hearing impaired as well as the able bodied learners. TUT students are encouraged to become “hands-on” with the environment as well as with their learners. All educational tools are made from recycled material.  The education department is also involved in this initiative and the programme is evaluated annually. The lecturer is also involved in developing new environmental chapters in the new school curriculum.

3.         ***Justice College***

The Justice College is a training branch of the Department of Justice and Constitutional Development. Environmental, ecological and biodiversity lectures were presented to magistrates and public prosecutors during Justice College courses in Cape Town and Pretoria. These inputs are a vital component in the successful prosecution of environmental crimes.

**Adelaide Tambo School of Nursing Science**

The UNEDSA Nursing Community of Practice Project, funded by Atlantic Philanthropies is in its final year and will be drawing to a close in March 2013 when the current funders will withdraw. It is hoped that alternative funding for the project will be acquired as the Project has achieved many successes. Three additional registered nurses were appointed on contract-basis in 2012, enlarging the project team to 14 members of staff. Two staff members resigned. The aim of developing the mobile Primary Health Care (PHC) Community Service in the informal settlement of Soshanguve was to provide community health learning opportunities for the B Tech nursing students of the Adelaide Tambo School of Nursing Science, while serving the community. This PHC service offers healthcare in the disciplines of mother and well baby care, antenatal care, early childhood development, lifestyle diseases, cancer screening and palliative care.  Since commencement of this service in 2009, a total number of 17 539 patient consultations have taken place for 5 115 registered patients, and 9 972 student placements provided learning opportunities for first and second year nursing students. Dr Ramukumba is on the Board of Onthatile and assists the organization with funding proposals.

**6. CO-OPERATIVE EDUCATION**

* 1. **Work Integrated Learning**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | **6.1: Work Integrated Learning** | | | | | | **Year** | **Students Registered** | **Students Passed** | **Students Not Completed** | **Success Rate** | | 2008 | 1,394 | 1,189 | 202 | 85.3% | | 2009 | 1,228 | 984 | 243 | 80.1% | | 2010 | 1,279 | 1,082 | 191 | 84.6% | | 2011 | 1,102 | 936 | 160 | 84.9% | | 2012 | 1,385 | 1,207 | 166 | 87.1% | | | |
|  |  |

More students were prepared for workplace this year which increased the work place readiness of those who were placed. Most of students who registered for work integrated learning were placed in industry and monitored. Improvement still needed on students preparation and monitoring.

**6.2 Advisory Committees**

**Department of Animal Sciences**

No formal advisory committees were held during 2012. It is very difficult to discuss with the industry the feasibility of a programme if one doesn’t know what the programme will entails and when it will be implemented. However *Ad hoc* meetings between lecturers and employers took place on a very regular base.

**Department of Biotechnology & Food Technology**

Annual advisory committees were held on the 9th of November 2012. The advisory committees for both programmes are very active and they make very valuable contributions, outside these meetings as well as during the meetings

**Department of Biomedical Sciences**

The following matters were discussed on the various Advisory meetings:

Biomedical Technology:

* + The industry requested that the preparation classes held for the board examination be reinstated.
  + It was requested that TUT investigate the possibility of part-time presentation for the N Dip Biomedical Technology to convert Technicians to Technologists.

Clinical Technology:

* + The retirement of the chair, Dr Cedric Schultz, at the end of the 2012 was discussed.
  + An audit from the HPCSA is also expected in the 2nd part of 2013.  It is suggested/proposed that an official letter from the Advisory Committee will be drafted to request the HPCSA for guidelines and procedures during the audit process.
  + The Advisory Committee members were impressed with the new Skills Laboratory.
  + The committee was informed that there are problems with registration at the HPCSA. At the moment there are different options to register at the HPCSA as a clinical technologist.  Clinical technologists with only a National Diploma are wrongly registered as independent practitioners – these technologists should only work under the supervision of a clinical technologist with at least a BTech degree.  This is due to a fault in the registration options and should be addressed with the HPCSA.
  + The openness and friendliness of the industry is much appreciated.  The training of the best Clinical Technologists should be kept up and the industry should continue to communicate openly with TUT.
  + It was mentioned that the Public sector are having trouble with suppliers and that a moratorium has been placed on filling new posts in the Public Sector.  There are fears that pulmonology unit might lose its HPCSA training accreditation due to the lack of supplies at this stage.
  + It is also noted that a lot of the current BTech students are having difficulty obtaining data for their projects due to the lack of supplies at Steve Biko Academic Hospital. This is noted with great concern.
  + It was reported that the BTech degree has been changed to a 1 year full time degree.

Radiography:

* + Students are often appointed as qualified radiographers in the clinical practice where they were trained as students. This is an indication that clinical practices are satisfied with the academic level and practical skills of our students.
  + The Control Radiographer of Steve Bhiko has personally commented on TUT Radiography students at more than one occasion. These students maintain a high standard of professional skills and can from day one be sent to the speciality units without any problems. On the other hand most other newly qualified radiographers lack experience and confidence to conduct these specialized examinations. This is mainly due to the close professional relationship and effective cooperative training that exist between the TUT Radiography programme and the clinical training practices.

Veterinary Technology:

* + The new extended Veterinary Technology course was discussed.  The committee thanked TUT for the positive changes that the University hope to achieve with the changed programme, after addressing the concerns that were previously brought to the Advisory committee from the industry and stakeholders.  A concern was expressed however on the shortened experiential training and how the one-day competencies of SAVC will be met.
  + Collaboration and co-operation between the Deans of UP, North-west, TUT and UNISA were established. There is a definitive change of attitude between the universities and a sense of sharing and co-operation t hat will be beneficial to all the universities.

There are currently too few technology students to fill the vacant positions in the state departments. TUT increased the 1st year intake in 2013, to start to address this problem.

**Department of Chemistry**

No meeting was held in 2012. The advisory committee is scheduled to meet early in 2013 to be briefed about the recurriculation and positioning of the departmental programmes in relation to industrial expectations in the fluctuating economy since a large number of graduates rare normally absorbed by the mining houses in the North-West , Limpopo, and Mpumalanga provinces.

**Department of Crop Sciences**

*Will be constituted in 2013.*

**Department of Environmental Health**

A representative and well attended advisory committee was held on the 12th of June 2012. Their main concerns were in line with challenges encountered with regards to WIL placements. Deputy Director for Environmental Health (Mr Ramathuba) from the Department of National Health as well as the SAIEH chairperson (Tshwane) volunteered to work with the department in engaging industry with regards to this challenge. Community service also remains a problem and few final year students are being allocated for community service. Students can therefore not be able to apply for jobs until they complete their community service. Mr Ramathuba made an indication that a resolution has been made that students will in future be placed at municipalities with provision of funding. The department was also tasked with resuscitation of SLP’s since there is a need for EHP training and CPD points.

**Department of Environmental, Water & Earth Sciences**

Each programme held advisory committee meetings in 2012:

Environmental Science: 18th July

A report back was given to members with regards the Department and Programme Quality Review and the plans to implement recommendations made from this review in the form of a Quality Improvement Plan (QIP). The Advisory Committee also supported the implementation of the 4 year extended Programme for all new students in January 2013. Mathematics, English, Physics and Chemistry will now be year programmes and we expect the pass rate to increase. Mrs Patricia Forbes was elected as Committee Chair for 2013.

Geology: 18th July

The current Departmental structure was discussed: Geology now needs to grow and develop with a specialization in Geophysics; additional technicians are required and it was agreed that the programme will now be an extended four year course to increase throughput rate.

Water Care: 15th June

The committee was informed that staff are working on a comprehensive QIP for the programme and this will be submitted to all members. Extensive discussion was had on the new proposed HEQF. Important issues that emerged where (a) additional on-site training required, (b) possible introduction of e-training and (c) introduction of accredited short courses. The meeting also discussed the development of an Advanced Diploma particularly for personnel already in industry.

**Department of Horticulture**

Two advisory committee meetings were held; one for each programme Horticulture and Landscape Technology. The Industry were involved in the evaluation of the current National Diploma curriculum, as well as developing a new curriculum. Recommendations were noted and will be implemented in the new curriculum.

**Department of Mathematics & Statistics**

There were no Advisory Committee meetings during 2012

**Adelaide Tambo School of Nursing Science**

The Advisory Committee had been constituted in 2011. In 2012, two meetings were held, one in April and a second in September. The meetings were valuable and improvements in the undergraduate monitoring and evaluation systems resulted from the input of the meeting. It was also clear that the School’s challenges were not isolated and that the same was experienced by other nursing departments.

**Department of Pharmaceutical Sciences**

Somatology Advisory committee meetings were held in May and September 2012. Curriculum matters regarding industry needs were addressed.

In December 2012 a meeting of national stakeholders was hosted by the department of Pharmaceutical Sciences to discuss the Pharmacy Technical Assistant and Pharmacy Technician programmes ad their implementation at TUT. The meeting was very well attended and planning will continue in 2013 to implement these programmes as soon as possible.

**Department of Physics**

Two Academic Advisory Committee (AAC) meetings of the two Physics programmes, namely, Industrial Physics and Fire Technology were held in the course of the year.

In the case of the Academic Advisory Committee for Fire Technology, issues regarding admissions, South African Emergency Service Institute (SAESI) qualifications and related RPL were discussed. The concern that the admission requirements of SAESI are different and indeed lower as compared to that of TUT was raised. In future, a SAESI candidate would be required to write a comprehensive admission test on the three components of the programme, namely, the science, technology and management that would be based on 3rd year subjects. Also discussed was the issue of career path of the fire fighter.

Members of AAC of Industrial Physics assisted the department in mapping the way forward regarding WIL. Some industries offer to be involved in the giving of lectures in Industrial Physics I as a subject.

**Department of Sport, Rehabilitation & Dental Sciences**

Dental Technology had two meetings. The first one focused on new trends, especially CAD-CAM, re-curriculation and the programme’s fit in the NQF. The committee is unanimous that a diploma in Dental Technology will serve the profession’s best interest in view of the current need in the industry. The second meeting was held to look at the infrastructure and to find a way forward to improve it in order to continue providing quality education.

Occupational Therapy Assistants programme had a meeting on 26 October 2012.

In MOP, one meeting was held in May to attend to matters regarding TUT and industry.

In OCS, one Advisory Committee meeting was held in which the committee approved Quality Improvement Plan based on quality audit. In Dental Assisting, a meeting was planned for 2013

**Department of Nature Conservation**

Meetings took place as follows:

Nature Conservation: 29 August 2012

Game Ranch Management: 28 August 2012.

Advisory Committee meetings were convened for both Nature Conservation and Game Ranch Management courses. Most members on the current committee have only recently started their terms, and are therefore familiarizing themselves with their roles and responsibilities. Future meetings will be more productive in terms of recommendations. These committees and their contributions will be particularly relevant when the current courses are revised in 2014

**Comment:**

These metings are valuable to academic programmes as they are an indication of industry participation in the particular programme. In most meetings PQM and carriulum design were on the agenda this year. In some programme Industry attendance was satisfatory and efforts are made to improve industry attendance in all programmes. Most departments held at least one meeting this year. This is an improvement from last year in this regard. Even though some departments did not have any meetings, efforts are made to improve the situation.

**6.3 Industry Liaison**

**Department of Animal Sciences**

Since this Department does not own a farm for practical demonstrations in roduction subjects it is reliant on industry to conduct its practical. During practical visits and WIL visits all lecturers are connected and in consultation with different people from the industry.

Prof Siebrits serves on the Research committee of the SA Pork Producers Organisation as well as on the Pork committee of the Red Meat Research and Development Trust.

Dr D. Luseba serves on the Board of Trustees of the Indigenous Knowledge Systems of South Africa (iIKSSA)

Mr CJL du Toit is involved with the Red Meat producer's organization as a point of contact regarding greenhouse gas emissions.

All lectures are exposed to industry during practical excursions and WIL visits.

**Department of Biotechnology & Food Technology**

Students in the Food Technology programme frequently engage with industrial and professional members of the food industry community. This is done via factory visits, guest lectures, as well as attending lectures hosted by the various professional associations (e.g. SAAFoST, CST-SA and SASDT). Personnel and senior students of the department are also involved in giving information sessions to prospective students (high school level) at the annual TUT open day or career expos. Biotechnology students and staff are also part of the annual exhibition of GDARD held at the Tshwane showground. Further contact with the industry is through the South African Society for Microbiologists (SASM) and networking with AfricaBio, PUB and other role players.

**Department of Environmental Health**

Dr JC Engelbrecht acted as a specialist advisor of the Minister of Environmental Affairs on air quality appeals board for emission licenses appeals by industry.

Dr JL Bekker has been appointed on the South African Bureau of Standards (SABS) technical committee for edible oils

Dr JL Bekker is the convener for the coordinating committee for meat industry training (CCMIT)

**Department of Environmental, Water & Earth Sciences**

The following MoU’s were signed with industrial partners as part of Prof JP Maree’s THRIP grant and industrial mine water treatment research programme:

* Key Structure Holdings and TUT
* Marlow Aquatec and TUT
* The following Mou’s were signed as part of the Science and Technology Train concept of Dr Fourie:
* Free State University and TUT
* Exige Geophysics and TUT

Undergraduate industrial engagement was dominated by a number of visits throughout the year by staff to visit students in their workplace whilst undertaking their Work Integrated Learning (WIL) requirements in the Environmental Science and Geology programmes. Reports for each student by the industrial partners are available in the department.

**Department of Horticulture**

Mrs L Marais was invited to act as evaluator at the Malanseuns Open day. Senior students were involved with designing and constructing display gardens at Garden Worlds Spring Festival as well as at Plantland-The Wilds. Three post graduate students are involved in research projects at the ARC-Roodeplaat and ARC-Infruitec

**Department of Pharmaceutical Sciences**

Collaboration exists between Dr E Olivier and three pharmaceutical companies. Dr D Katerere collaborates with Ithemba and an intern is currently working on a joint project. Prof D Katerere – working within Themba laboratories on various projects.

Ms C Leonard – liaised with new stakeholders from Pharmaceutical industry from SANDOZ, ADCOCK INGRAM and ASPEN

**Department of Physics**

The following industries have supported the Industrial Physics programme and are willing to assist in the WIL programme.

1. Carl Zeiss
2. DST
3. CSIR (NLC, DPSS)
4. Necsa
5. Goldfields
6. South African Institute of Non-destrucive Testing (SAINT)
7. SAAB
8. MIL-OP SYSTEMS
9. DENEL

Beside the existing MOU agreement with the Tshwane Metropolitan Municipality, Jo’burg and Ekhurhuleni metros are also offering bursary to students who hail from their respective metros. Johannesburg and Ekhurhuleni will assist 20 and 10 students respectively. The formal MOUs between the two metros and TUT will be signed in 2013.

**Department of Sport, Rehabilitation and Dental Sciences**

Blue Bulls Rugby Union agreed to assist to place OCS students in rugby community to help with coaching and development.

**Department of Nature Conservation**

* Mr Danie Krynauw: Frequent inputs: NRF panel meetings – international collaboration grants
* Wildlife ranching SA – on-going contact and inputs
* SA National Parks and Conservation Departments of Gauteng, Limpopo, KZN, North West provinces

**7. INSTRUCTIONAL TECHNOLOGY**

With the refurbishment of the classrooms and laboratories on the Pretoria and Arcadia campus significant improvements have been made with regards to the minimum standards necessary to create a more conducive learning environment. Smart boards, Data Projectors and screens have been installed in the newly refurbished venues making it easier and more interactive teaching larger groups.

**8. EXTERNAL FUNDING**

The following external funding was received:

**Department of Biomedical Sciences**

DHET: Veterinary Science Grant – R500 000

DHET: Clinical Technology Clinical Training Grant - R451 298

Radiography: Clinical Training Grant – R252 305

Biomedical Technology: Clinical Training Grant - R980 000

**Environmental, Water & Earth Sciences**

As part of the TUT, Faculty of Science application for the 2012/23 DoE Teaching and Development grant, our department was awarded the following:

R90 000 was approved for two staff members to study further towards doctoral degrees .

R100 000 was approved to purchase Sangari I-box and clickers to aid undergraduate teaching.

More than R10 Million THRIP funding received.

**Department of Physics**

Received R200 000 from PISA for the purchase of photonics equipment

**Department of Sport, Rehabilitation and Dental Sciences**

Pick ‘n Pay donated R50,000 to MOP programme.

**Department of Nature Conservation**

South African Honorary for top students in Nature Conservation with the Game Capture Unit in Kruger National Park has been going on for three years now with an estimated value of R80 000. Funding is from both SANParks and Honorary Rangers. SANParks provide accommodation, uniform, training and guidance. Honorary Rangers pay student salary.

CATHSSETA also provided bursary support to four students to the value of ± R120 000 whilst WRSA supported five students to the value of R140 000.

**SECTION B: KEY PERFORMANCE INDICATORS**

**1. STUDENT OVERVIEW AND DEMOGRAPHICS**

**1.1 Student overview by campus (including Headcount, FTE Enrolments and Passes, Graduation and Success Rates)**

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Year** | **Campus** | **Student Headcount** | **Graduates** | **Graduation Rate** | **FTE Enrolled** | **FTE Passed** | **Success Rate** | | 2009 | PRETORIA CAMPUSES | 6,392 | 1,268 | 19.8% | 4,772.673 | 3,429.561 | 71.9% | | SOSHANGUVE CAMPUSES | 193 | 161 | 83.4% | 164.418 | 109.010 | 66.3% | | GA-RANKUWA CAMPUSES | 20 | 9 | 45.0% | 167.520 | 129.267 | 77.2% | | eMALAHLENI CAMPUS | 3 | 1 | 33.3% | 156.634 | 76.438 | 48.8% | | NELSPRUIT CAMPUS | 1 | 1 | 100.0% | 49.540 | 35.279 | 71.2% | | POLOKWANE CAMPUS | 1 | 0 | 0.0% | 14.200 | 10.200 | 71.8% | | OTHER CAMPUSES | 1 | 0 | 0.0% | 0.000 | 0.000 | 0.0% | | **Total** | **6611** | **1,440** | **21.8%** | **5,324.985** | **3,789.755** | **71.2%** | | 2010 | PRETORIA CAMPUSES | 6,612 | 1,385 | 20.9% | 4,778.770 | 3,522.680 | 73.7% | | SOSHANGUVE CAMPUSES | 7 | 27 | 385.7% | 82.680 | 33.850 | 40.9% | | GA-RANKUWA CAMPUSES | 3 | 7 | 233.3% | 178.180 | 90.320 | 50.7% | | eMALAHLENI CAMPUS | 0 | 0 | 0.0% | 122.100 | 57.500 | 47.1% | | NELSPRUIT CAMPUS | 0 | 0 | 0.0% | 46.950 | 19.850 | 42.3% | | POLOKWANE CAMPUS | 0 | 0 | 0.0% | 18.600 | 10.300 | 55.4% | | **Total** | **6622** | **1,419** | **21.4%** | **5,227.280** | **3,734.500** | **71.4%** | | 2011 | PRETORIA CAMPUSES | 6,617 | 1,736 | 26.2% | 4,765.326 | 3,652.500 | 76.6% | | SOSHANGUVE CAMPUSES | 0 | 12 | 0.0% | 137.258 | 90.676 | 66.1% | | GA-RANKUWA CAMPUSES | 0 | 2 | 0.0% | 195.675 | 110.150 | 56.3% | | eMALAHLENI CAMPUS | 0 | 0 | 0.0% | 91.000 | 48.400 | 53.2% | | NELSPRUIT CAMPUS | 0 | 0 | 0.0% | 45.832 | 22.044 | 48.1% | | POLOKWANE CAMPUS | 0 | 0 | 0.0% | 16.600 | 6.300 | 38.0% | | **Total** | **6617** | **1,750** | **26.4%** | **5,251.691** | **3,930.070** | **74.8%** | | 2012 | PRETORIA CAMPUSES | 6,755 | 1,641 | 24.3% | 4,793.022 | 3,639.774 | 75.9% | | SOSHANGUVE CAMPUSES | 14 | 4 | 28.6% | 77.570 | 43.477 | 56.0% | | GA-RANKUWA CAMPUSES | 0 | 2 | 0.0% | 186.025 | 116.875 | 62.8% | | eMALAHLENI CAMPUS | 0 | 0 | 0.0% | 73.429 | 43.545 | 59.3% | | NELSPRUIT CAMPUS | 0 | 0 | 0.0% | 43.768 | 30.604 | 69.9% | | POLOKWANE CAMPUS | 0 | 0 | 0.0% | 16.900 | 10.100 | 59.8% | | **Total** | **6769** | **1,647** | **24.3%** | **5,190.714** | **3,884.375** | **74.8%** | | | | | | | | | |
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The Faculty has seen very positive growth with regards to its student success rate over the last couple of years. Student

success rate for undergraduate studies were maintained at 74.8% in 2012. The Faculty is now starting to see the results

from its improvement plans being implemented. In line with the student success rate the graduation rate of the Faculty

also remained stable at 24.3% compared to 24.6% in 2012

**1.2 Student headcount by mode of instruction (contact/distance)**

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| |  |  |  | | --- | --- | --- | |  | | | | **Year** | **Contact mode** | **Total** | | 2008 | 6,418 | 6,418 | | 2009 | 6,611 | 6,611 | | 2010 | 6,622 | 6,622 | | 2011 | 6,617 | 6,617 | | 2012 | 6,769 | 6,769 | |

The student headcount has remained very stable within the Faculty averaging around 6600 for the past 5 years. 2012 has seen an increase of 152 students compared to 2011.

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| **1.3 Student headcount by race, gender and disability (D)** |
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| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **1.4 Number of students in foundation courses** | | | | | | | **Qualification Headcount** | **2008** | **2009** | **2010** | **2011** | **2012** | | B TECH NURSING SCIENCE (EXTENDED) | 112 | 157 | 104 | 97 | 113 | | N DIP ANALYTICAL CHEMISTRY (EXTENDED) | 565 | 590 | 243 | 336 | 371 | | N DIP BIOTECHNOLOGY (EXTENDED) | 131 | 174 | 142 | 377 | 400 | | N DIP DENTAL TECHNOLOGY (EXTENDED) | 20 | 16 |  |  |  | | N DIP FOOD TECHNOLOGY (EXTENDED) | 117 | 163 | 139 | 301 | 451 | | N DIP WATER CARE (EXTENDED) | 347 | 416 | 275 | 251 | 334 | |

**2. FACULTY STUDENT HEADCOUNT ENROLMENTS**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **2.1: Headcount Enrolments by Major Field of Study** | | | | | | | **Major Field of Study** | |  | | --- | | **Headcount Enrolments** | | | | | | | **2008** | **2009** | **2010** | **2011** | **2012** | | BUS/MAN |  |  | 61 | 52 | 52 | | EDUCATION |  |  | 23 |  |  | | OTHER HUM | 556 | 570 |  |  | 1 | | SET | 5,862 | 6,041 | 6,538 | 6,565 | 6,717 | | **Total** | **6,418** | **6,611** | **6,622** | **6,617** | **6,769** | |

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| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **2.2: Headcount Enrolments by Qualification Type** | | | | | | | **Qualification Type** | |  | | --- | | **Headcount Enrolments** | | | | | | | **2008** | **2009** | **2010** | **2011** | **2012** | | Diplomas and Certificates | 4,535 | 4,496 | 4,584 | 4,551 | 4,624 | | Degrees | 1,645 | 1,690 | 1,748 | 1,730 | 1,811 | | **Undergraduate Total** | **6180** | **6186** | **6332** | **6281** | **6435** | | Masters | 178 | 173 | 200 | 221 | 219 | | Doctoral | 60 | 67 | 67 | 68 | 82 | | **Postgraduate Total** | **238** | **240** | **267** | **289** | **301** | | Occasional |  | 185 | 23 | 47 | 33 | | **Total** | **6,418** | **6,611** | **6,622** | **6,617** | **6,769** | | |
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The Faculty has reached some stability and will not be able to grow unless additional infrastructure can be added and more staff appointed.

**3. GRADUATION OVERVIEW**

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| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Graduates by Major Field of Study** | | | | | | | **Major Field of Study** | **Graduates** | | | | | | **2008** | **2009** | **2010** | **2011** | **2012** | | BUS/MAN |  |  | 22 | 22 | 16 | | EDUCATION |  |  | 0 |  |  | | OTHER HUM | 131 | 142 |  |  | 0 | | SET | 1,645 | 1,298 | 1,397 | 1,728 | 1,631 | | **Total** | **1,776** | **1,440** | **1,419** | **1,750** | **1,647** | | | | | |
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| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **3.2: Graduates by Qualification Type** | | | | | | | **Qualification Type** | **Graduates** | | | | | | **2008** | **2009** | **2010** | **2011** | **2012** | | Diplomas and Certificates | 1,110 | 826 | 816 | 977 | 988 | | Degrees | 636 | 580 | 575 | 724 | 633 | | **Undergraduate Total** | **1,746** | **1,406** | **1,391** | **1,701** | **1,621** | | Masters | 24 | 26 | 21 | 38 | 19 | | Doctoral | 6 | 8 | 7 | 11 | 7 | | **Postgraduate Total** | **30** | **34** | **28** | **49** | **26** | | Occasional |  | 0 | 0 | 0 | 0 | | **Total** | **1,776** | **1,440** | **1,419** | **1,750** | **1,647** | | |
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| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **3.3: Graduates by First Order CESM** | | | | | | | **First Order CESM** | **Graduates** | | | | | | **2008** | **2009** | **2010** | **2011** | **2012** | | Agriculture and Renewable Natural Resources | 422 | 363 |  |  |  | | Agriculture, Agricultural Operations And Related Sciences |  |  | 401 | 473 | 476 | | Architecture and Environmental Design | 14 | 4 |  |  |  | | Business, Economics And Management Studies |  |  | 22 | 22 | 16 | | Education |  |  | 0 |  |  | | Engineering |  |  | 14 |  |  | | Health Care and Health Sciences | 728 | 594 |  |  |  | | Health Professions And Related Clinical Sciences |  |  | 537 | 745 | 716 | | Home Economics | 40 | 39 |  |  |  | | Industrial Arts, Trades and Technology | 37 | 26 |  |  |  | | Law |  |  |  |  | 0 | | Life Sciences |  |  | 132 | 150 | 165 | | Life Sciences and Physical Sciences | 399 | 269 |  |  |  | | Mathematical Sciences | 5 | 3 |  |  |  | | Mathematics And Statistics |  |  | 13 | 8 | 4 | | Physical Education, Health Education and Leisure | 65 | 60 |  |  |  | | Physical Sciences |  |  | 300 | 352 | 270 | | Public Administration and Social Services | 66 | 82 |  |  |  | | **Total** | **1,776** | **1,440** | **1,419** | **1,750** | **1,647** | | | | | | | | | |
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**4. RESEARCH AND RESEARCH OUTPUT**

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| **JOURNAL PUBLICATIONS AND M&D GRADUATES FOR THE 2012 PUBLICATION YEAR** | | | | | | | | | | | | | | |
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|  |  | |  | | | |  |  |  |  |  |  |  |  |
|  | **COST CENTRE** | | **DEPARTMENT** | | | | **Staff** | **Journal**  **Units** | **Units /staff** | **M&D**  **Units** | **Total**  **Units** | **UNIT/STAFF MEMBER** |  |  |
| 1 | B374 | | Environmental, Water and Earth Sciences | | | | 20 | 10.91 | 0.5 | 10 | 20.91 | 1 |  |  |
| 2 | B326 | | Pharmaceutical Sciences | | | | 21 | 12.49 | 0.6 | 5 | 17.49 | 0.8 |  |  |
| 3 | B320 | | Adelaide Tambo School of Nursing Science | | | | 22 | 3.57 | 0.2 | 9 | 12.57 | 0.6 |  |  |
| 4 | B381 | | Mathematics and Statistics | | | | 33 | 3.57 | 0.1 | 7 | 10.57 | 0.3 |  |  |
| 5 | B378 | | Chemistry | | | | 32 | 7.6 | 0.2 | 10 | 17.6 | 0.6 |  |  |
| 6 | B282 | | Nature Conservation | | | | 18 | 2.77 | 0.2 | 5 | 7.77 | 0.4 |  |  |
| 7 | B370 | | Biotechnology and Food Technology | | | | 12 | 0.58 | 0.04 | 0 | 0.58 | 0.04 |  |  |
| 8 | B310 | | Biomedical Sciences | | | | 40 | 2.43 | 0.06 | 6 | 8.43 | 0.2 |  |  |
| 9 | B324 | | Sport, Rehabilitation & Dental Sciences \*\* | | | | 32 | 14.33 | 0.4 | 0 | 14.33 | 0.4 |  |  |
| 10 | B274 | | Crop Sciences | | | | 13 | 2.83 | 0.2 | 6 | 8.83 | 0.8 |  |  |
| 11 | B270 | | Animal Sciences | | | | 12 | 2.32 | 0.2 | 4 | 6.32 | 0.5 |  |  |
| 12 | B314 | | Environmental Health | | | | 11 | 1.49 | 0.1 | 8 | 9.49 | 0.9 |  |  |
| 13 | B380 | | Physics | | | | 9 | 0.5 | 0.05 | 0 | 0.5 | 0.05 |  |  |
| 14 | B278 | | Horticulture | | | | 9 | 0.33 | 0.03 | 0 | 0.33 | 0.03 |  |  |
| 15 | B387 | | Executive Dean's Office | | | | 4\* |  |  | 0 | 0 | 0 |  |  |
|  |  | |  | | | | **200** | **65.72** | **2.88** | **70** | **135.72** | **6.62** |  |  |
|  | **NOTE:** | |  | |  |

**\*\*M&D students enrolled at Department of Biomedical Sciences.**

**A total number of 106 articles have been submitted to DHET for the 2012 publishing year in the Faculty of Science.**

**The top 15 staff in the Faculty produced 25.1 units of the total 65.72 units that were part of the journal submission to DHET.**

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| **PAPERS PUBLISHED DURING 2012 BY INDIVIDUAL STAFF MEMBERS** | | | | | | | | |
|  |  |  |  |  |  |  |  |  |
|  | **STAFF MEMBER** | **DEPARTMENT** | | | **RANK** | | **Papers** | **Units** |
| 1 | Viljoen AM (Prof) | Pharmaceutical Sciences | | | Professor | | 17 | 4.6 |
| 2 | Toriola, A (Prof) | Sport, Rehabilitation & Dental Sciences | | | Professor | | 12 | 3.65 |
| 3 | Okonkwo, JO (Prof) | Environmental, Water and Earth Sciences | | | Professor | | 10 | 3.03 |
| 4 | Nongogo, P (Mr) | Sport, Rehabilitation & Dental Sciences | | | Lecturer | | 3 | 2.5 |
| 5 | Kefeni, KK (Dr) | Environmental, Water and Earth Sciences | | | Doctorate | | 5 | 1.75 |
| 6 | Shaw, BS (Prof) | Environmental, Water and Earth Sciences | | | Associate Professor | | 6 | 1.73 |
| 7 | Goon, DT (Dr) | Sport, Rehabilitation & Dental Sciences | | | Doctorate | | 6 | 1.73 |
| 8 | Funston, PJ (Prof) | Nature Conservation | | | Senior Lecturer | | 4 | 1.52 |
| 9 | Azeez, JO (Dr) | Crop Sciences | | | Contract | | 2 | 1.5 |
| 10 | Vermaak, I (Dr) | Pharmaceutical Sciences | | | Lecturer | | 5 | 1.44 |
| 11 | Kamatou, GP (Dr) | Pharmaceutical Sciences | | | Technician | | 5 | 1.39 |
| 12 | Jacobs, S (Dr) | Sport, Rehabilitation & Dental Sciences | | | Lecturer | | 5 | 1.33 |
| 13 | Van der Berg, L (Dr) | Sport, Rehabilitation & Dental Sciences | | | Lecturer | | 5 | 1.33 |
| 14 | McCrindle, RI (Prof) | Chemistry | | | Contract | | 5 | 1.19 |
| 15 | Chen, W (Dr) | Pharmaceutical Sciences | | | Contract | | 5 | 1.14 |

**4.2 International visits**

**Department of Sport, Rehabilitation & Dental Sciences**

* Ms Schmidt and Mr Schutze visited Netherlands and France to attend to training given by the suppliers of the equipment bought.
* All lecturers in SET presented either posters or oral presentations at conferences pertaining to sport and exercise. Lecturers were also invited as keynote speakers, to conduct specific workshop and to chair international sessions at various conferences.

**Department of Physics**

* Dr A Coetzee attended the SAARMSTE conference in Lilongwe, Malawi (15-20 Jan 2012).

**Department of Pharmaceutical Sciences**

* Prof Viljoen was invited to give plenary lectures at 5 international conferences; Brazil, Russia, Austria, Shanghai and Jordan. Dr Vermaak visited Umbio in Umea, Sweden to take part in a two day workshop for hyperspectral imaging during which she delivered an oral presentation on aspects of our applications using the camera. In addition, time was spent with the application specialist (a co-author on one of the papers that was submitted on the application of hyperspectral imaging and accepted for publication in 2013, to increase knowledge and skills on data interpretation.

**Department of Mathematics & Statistics**

The following staff members participated at international events.

* Dr CJ Louw delivered papers titled "*Developing a model that would inspire lecturers to engage in a variety of methodologies for active learning delivery* " and "*Early identification of University of Technology engineering students at risk*" at the World Engineering Education Forum's Annual International Conference from 15 to 18 October in Buenos Aires. She also had a poster "*Engineering Mathematics: Engaging students through technology*".
* Prof SV Joubert attended the TIME 2012 Conference: 20 years Celebration of Technology Integration into Mathematics Education from 10 to 14 July in Tartu, Estonia. The title of his paper was "*Using Fourier series to analyse mass imperfections in vibrating gyroscopes*."
* Ms M Aphane presented a paper titled "*Extention of continuous maps on fuzzy metric spaces*" at at the 2012 Ibero-American Conference on Toplogy and its Applications, 9 – 13 April 2012, in Gaunajuato, Mexico.
* Mr CN Ncube also attended and presented at this conference.
* Prof Joubert gave a presentation, at the Topical problems of Continuum Mechanics 2012, Yerevan Tsakhkadzor, Armenia, October 08-12, 2012.
* Prof I Fedotov and Prof SV Joubert presented papers at the 14th International Conference of Hyperbolic Problems devoted to Theory, Numerics and Applications held in Padova, Italy from 25 to 29 June 2012. The titles of their papers were:
  + Fedotov: *On classification of hyperbolic models arising in the theory of longitudinal vibrations of elastic bars*.
  + Joubert: *Determining vibration eigen functions numerically*.
  + Prof Shatalov visited the Institute for Problems in Mechanics in Moscow, Russia. He met with several researchers to discuss, inter alia, the dynamics of growing bodies and vibrating gyroscopes.

**Department of Environmental, Water & Earth Science**

Non-conference related international visits were dominated by course-orientated visits to the Netherlands where our staff are sponsored training by NUFFIC in water treatment technologies that is later to be implemented in a revised curriculum in our undergraduate programmes.

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| --- | --- | --- |
| **Staff member** | **Destination** | **Reason for visit** |
| Prof R Jansen | Hungary | NRF supported collaborative research projects on African and European Otters |
| Mr P Kotze | Delft, Netherlands | April: Short course: Advanced Water Treatment Technology; Unesco-IHE, June: Short course: Managing Water Organizations; Unesco – IHE |
| Mrs J Nesengani | Delft, Netherlands | April: Short course: Advanced Water Treatment Technology; Unesco – IHE, June: Short course: Water Treatment Processes and Plants; Unesco – IHE |
| Mrs M Coetzee | Delft, Netherlands | April: Short course: Modelling Wastewater Treatment Processes and Plants; Unesco – IHE, July: Short course: Decentralized Water supply and Sanitation; Unesco – IHE |
| Prof JO Okonkwo | Vienna, Austria | Training workshop update for POPs experts |
| Prof JO Okonkwo | Nairobi, Kenya | UNIDO planning workshop on NIP review and update for POPs for Africa region |

**Department of Environmental Health**

* Two staff members attended a workshop on water point mapping and supervision of postgraduate students in Sudan under the SNOWS Project. We anticipate to produce two research articles this current year from the water point mapping project in collaboration with Venda University.
* One staff member attended an annual general meeting for the SNOWS project at Copenhagen University

**Department of Crop Sciences**

* Mr. Peter Tinyani, an M-Tech student, visited the Laboratorio de Compuestos Proteicos Instituto de Tecnología de Alimentos Centro deInvestigacion de Agroindustria Instituto Nacional de Tecnología Agropecuaria (INTA), LasCabañas y de los Reseros. INTA CC77 (B1708WAB), Morón Buenos Aires, Argentina under the South Africa Argentine NRF Programme

**Department of Biomedical Sciences**

* Hoffmann, W.A.:

Attendance of “UNESCO Ethics Teacher Training Course”.  Presented by various international bioethics education experts: Prof Henk ten Have (USA), Prof Zvonko Šošić (Croatia), Prof Arda Berna (Turkey), Prof Nenad Hlača (Croatia) and Prof Ana Borovečki (Croatia). Venue: Inter-University Centre, Dubrovnik, Croatia.  Date: 2-6 July 2012.  The trip was funded by 1) TUT Research Ethics Committee, and 2) Personal TUT Research Fund (L194)

**Department of Nature Conservation**

Prof. Reilly visited post graduate student Greg Canning’s project on Fregate Island in the Seychelles.

Prof Funston visited Holland (Post Graduate student assessment / public defense – Leiden University) and Spain (Conference).

**4.3 Visiting researchers**

**Department of Animal Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Name*** | ***Country*** | ***Duration of visit*** | ***Purpose of visit*** |
| Prof Wang Yunbo | China | 3 days | Collaboration |
| Prof Ewa Sawosz | Poland | 1 day | Collaboration |

**Department of Biomedical Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Name*** | ***Country*** | ***Duration of visit*** | ***Purpose of visit*** |
| Prof H Reddi | USA | 2 weeks | Lecturing and building capacity in Tissue Engineering |

* Prof Hari Reddi visited the Department of Biomedical Sciences from 2 – 14 September 2012. He conducted lectures at the University, Faculty of Sciences as well as in the Department of Biomedical Sciences. He also gave a guest lecture at the CSIR. The purpose of Prof Reddi’s visit was also to build capacity in the department regarding Tissue Engineering.

**Department of Chemistry**

The department hosted a visiting scholar from Cameroon who came to us after he received a Research and Advanced Training fellowship award from The Academy of Sciences for the Developing World (TWAS). Mr Charles Kede is a doctoral student from the University of Yaounde who was hosted by Dr PP Ndibewu of the Department of Chemistry from April to July 2012.

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| --- | --- | --- | --- |
| ***Name*** | ***Country*** | ***Duration of visit*** | ***Purpose of visit*** |
| Dr Agnieszka Ludwiczuk | Poland | One week | Collaboration in liverwort project (workshop was held with stakeholders) | NRF grant  (NS Mokgalaka) |
| Charles Kede | Cameroon | April – July 2012 | Research and access to equipment unavailable at home institution | TWAS |

**Department of Crop Sciences**

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| --- | --- | --- | --- |
| ***Name*** | ***Country*** | ***Duration of visit*** | ***Purpose of visit*** |
| Paul Hebinck | The Netherlands | 3 days | Prepare book chapter |
| Pim De Beer | The Netherlands | 3 months | Research on WRC Project K5/1804 |
| Dr. Srichai Kanlayanarat | Thailand | A day | To organize postgraduate student exchange programme on Postharvest Biology and Technology with the Department of Crop sciences |
| Ms, Anna Roche | Argentine | One month | Exchange visitor under Argentine –SA Research Programme |
| Prof. R. Bongiovanni | Argentina | 1 Week | NRF Project titled: Development of crop yield prediction models for variable rate fertilization with economically optimal nitrogen  rates by field site, using remote |

**Department of Environmental Health**

Prof Paul Hunter from the University of East Anglia visited the department in September 2012 as part of the SNOWS collaboration project. However, for the duration of the visit, he was based at Senthumule (Venda) busy with field work. He together with Dr S Mukhola (Executive Dean: Humanities) initiated a research project on domestic onsite water management. This project will yield not less than 4 publications and two doctoral students. During the visit, Prof Hunter also managed to execute his supervisory responsibilities by consulting with his postgraduate student, a staff member registered for a doctoral degree.

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| --- | --- | --- | --- |
| ***Name*** | ***Country*** | ***Duration of visit*** | ***Purpose of visit*** |
| Prof Paul Hunter | Norwich | week | Collection of research data and consultation with postgraduate student |

**Department of Environmental, Water & Earth Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Country** | **Organization** | **Purpose of visit** |
| Prof Lars Ottermuller | Norway | University of Bergen | Collaborative research |
| Prof Christian Wolkersdorfer | Germany | International Mine Water Association | Collaborative research (THRIP) |
| Dr Eisa Mohamed | International representative | UNIDO | Cooperation with TUT on POP research |

**Department of Mathematics & Statistics**

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| --- | --- | --- | --- |
| ***Name*** | ***Country*** | ***Duration of visit*** | ***Purpose of visit*** |
| Prof A Manzhirov | Russia | 21 days | Scientific research |
| Professor H Porst | Germany | 3 weeks (April 2012) | Research and lecture. |

**Department of Sport, Rehabilitation & Dental Sciences**

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| ***Name*** | ***Country*** | ***Duration of visit*** | ***Purpose of visit*** |
| Mr Morgan Gundani | Zimbabwe (National University of Science and Technology, Bulawayo) | 1 month | Gain experience and exposure in SET courses/practical’s |

**Department of Nature Conservation**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Name*** | ***Country*** | ***Duration of visit*** | ***Purpose of visit*** |
| **Dr. Bill Langbauer** | **United States** | **3 weeks** | **Project discussions with TUT and SANPARKS** |

**4.4 Conference participation**

**Department of Nature Conservation**

1. COLLINSON, W.; D. PARKER; R. BERNARD; B.K. REILLY & H. DAVIES-MOSTERT. Wildlife road traffic accidents: Wildlife road traffic accidents: a new technique for counting flattened fauna. Southern African Wildlife Management Association Symposium, Klein Kariba, September, 2012.

2. PRETORIUS, M. & G. MALAN. Tracking Tytos: Following the movements of radio tagged African Grass-Owls (Tyto capensis). The Endangered Wildlife Trust’s Birds of Prey Programme, Annual Conference 2012, De Hoop Nature Reserve.

3. FUNSTON, P.J., GROOM, R. & JACKSON, C.R. Low lion abundance as a result of anthropogenic mortality: is there evidence for a cascading effect on the large predator guild as a result of reduced inter-specific competition. 10th Annual Savanna Science Network Meeting, 5-9 March, 2012, Skukuza.

4. MARUPING, N., FUNSTON, P.J. & FERREIRA, S.M. Bovine tuberculosis as an extrinsic driver of lion home range variability. 10th Annual Savanna Science Network Meeting, 5-9 March, 2012, Skukuza.

5. GROOM, R. & FUNSTON, P.J. The impact of lions on wild dogs: How management decisions can influence species demographics. 10th Annual Savanna Science Network Meeting, 5-9 March, 2012, Skukuza.

6. DE CROM, E.P. 2012. Ecotourism and nature experiences: Does an unpolluted environment matter? 3rd Annual Eco-Health and Wellbeing Research Forum, Vanderbijlpark, 21-22 November.

7. NKABENG, M, FUNSTON, P.J. & FERREIRA, S.M. Bovine tuberculosis as an extrinsic driver of lion home range variability. 10th Annual Savanna Science Network Meeting, 5-9 March, 2012, Skukuza

**Department of Animal Science**

1. International Society of Ethnopharmacology – India, 2012

2. International Dairy Federation congress in Cape Town 2012. Presented a poster titled: Methane emissions of the South African Dairy Industry

**Department of Biotechnology & Food technology**

JOOSTE, P.J. 2012 The importance of distinguishing between quality and safety in identifying food safety hazards. Invited paper presented at the 15th Annual SAATCA International Auditor Conference “Excellence through Auditing” held on 12 & 13 September at the CSIR International Convention Centre in Pretoria

**Department of Biomedical Sciences**

Participation at international conferences, symposia, etc.

Du Toit, D. – International Microbicides conference, Sydney Australia,

15 – 18 April 2012, Knowledge sharing activities for Ethics Review Committee and National Regulatory Authorities in Sub-Saharan Africa.

Du Toit, D. – 4th Meeting of the European Commission International Dialogue on Bioethisc, 19 June 2012 in Copenhagen, Denmark.

Shai, LJ: International Conference on Advancement of Plant Science (ICAPS), Chiang Mai, Thailand, 14-18 November 2012. Helinus integrifolius extracts have antioxidant activity and inhibit the activity of alpha-amylase and alpha-glucosidase (ORAL).

**Participation at national conferences, symposia, etc**.

Boshoff, C. – presented at the SAAVT Big 5 congress; Berg en Dal, Kruger National Park, South Africa, 30 – 31 October 2012.

Boshoff, C. – attended the NBT standard setting workshop, Cape Town, 30 September 2012 – 2 October 2012.

Steenkamp-Jonker, S - South African Association of Veterinary Technologists, Big 5 Congress, Berg and Dal, Kruger National Park, 30 & 31 October 2012

Oral presentation: Morphological characterization of Echinococcus felidis using a Scanning Electron microscope.

Steenkamp-Jonker, S - Department of Biology, University of Limpopo, Medunsa Campus,2nd Annual post-graduate research day 2012, Dikhololo Game Reserve. Oral Presentation: Morphological characterization of Echinococcus felidis using a Scanning electron microscope.

Johnson, B – attended the NBT standard setting workshop, Cape Town,

30 September 2012 – 2 October 2012.

Hazelhurst, LT - attended the NBT standard setting workshop, Cape Town,

30 September 2012 – 2 October 2012.

Hazelhurst, LT – attended the 13th Annual Congress of the South African Heart Association, Sun City, 19 – 22 July 2012.

Hoffmann, WA. 2012. “Facilitating research: ethics and research integrity”. Invited speaker at the Southern African Research and Innovation Management Association (SARIMA) workshop on “Fundamentals of Research Administration”, Farm Inn Conference Venue, Pretoria, South Africa, 14 February 2012.

Hoffmann, WA. 2012. “The seven things that all TUT researchers must know about human research ethics”, Oral presentation, Research Day, Faculty of Science, Tshwane University of Technology, Pretoria, South Africa, 3 August 2012

Hoffmann, WA: Seminar on “Research Ethics and Community Engagement”. Presenter: Prof Harold Annegarn, University of Johannesburg, South Africa. Venue: Human Sciences Research Council, Pretoria, South Africa. Date: 12 June 2012.

Hoffmann, WA: "Legal aspects relating to the applications of biotechnology”. One-day Conference, College of Law, University of South Africa (UNISA), Pretoria, South Africa. Date: 21 August 2012.

Hoffmann, WA - “U.S.-Africa Partners in Protection: Addressing Regulatory Challenges in 2012”. Two-day workshop for research ethics committees in Africa (South Africa, Botswana, Zambia, Kenya, Uganda). Presented by the US Division of AIDS (DAIDS), US National Institute of Allergy and Infectious Diseases, and the US National Institutes of Health. Venue: Hyatt Regency Hotel, Johannesburg, South Africa. Date: 28-29 August 2012.

Hoffmann, WA - Workshop on “The adventure of being an academic - Appreciative Inquiry”. Presenter: Prof Freddie Crous (Dept of Industrial Psychology, University of Johannesburg, South Africa). Venue: UJ Island, Vaal Dam, South Africa, 27-28 October 2012

**Department of Crop Sciences**

*NTSHABELE, P.M.,* ***SOUNDY, P.*** *& APOSTOLIDES, Z., 15 to 20 January 2012. Shade net effects on chemical composition of Pelargonium sidoides (Geraniaceae). Skukuza, South Africa. Paper presented at the 2nd All Africa Horticulture Congress.*

*PHOLO, M.S.,* ***SOUNDY, P.*** *& DU TOIT, E.S., 15 to 20 January 2012. Vegetative propagation of Pelargonium sidoides: factors affecting rooting of leaf-bud cuttings. Skukuza, South Africa. Paper presented at the 2nd All Africa Horticulture Congress.*

***MAFUNE, M., SIVAKUMAR, D.,*** *REGNIER, T. & COMBRINCK, S. Effect of combined treatment of lemongrass oil and modified atmosphere packaging on quality retention of two avocado cultivars. 2nd All Africa Horticulture Congress ‘’Horticulture for Humanity’’ Poster.*

***MAMPHOLO, M.B., SIVAKUMAR, D.,*** *BEUKES, M. & JANSEN VAN RENSBURG. Effect of different modified atmosphere packaging on retention of overall quality and bioactive compounds in Brassica rapa.subsp. Chinensis. Poster*

***TINYANE, P.P., SIVAKUMAR, D. & SOUNDY, P.*** *Influence of photo-selective netting on fruit quality parameters and bioactive compounds in tomatoes .2012 CIGR Section VII International Technical Symposium on“Innovating the Food Value Chain”Postharvest Technology and Agri-Food Processing. Stellenbosch, South Africa, 25-29 November Oral*

***SELLAMUTHU, P.S.,*** *DENOYA, G.,* ***SIVAKUMAR, D.,*** *POLENTA, G. &* ***SOUNDY, P.*** *Comparison of the contents of bioactive compounds and quality parameters in selected mango cultivars. 2012 CIGR Section VII International Technical Symposium on “Innovating the Food Value Chain” Postharvest Technology and Agri-Food Processing. Stellenbosch, South Africa, 25-29 November. Poster*

***MAMPHOLO, M.B., SIVAKUMAR, D.,*** *VAUDAGNA, S., DENOYA, G, SANOW, C, VAUDAGNA, S. & POLENTA, G. 2012 CIGR Section VII International Technical Symposium on “Innovating the Food Value Chain” Postharvest Technology and Agri-Food Processing. Stellenbosch, South Africa, 25-29 November. Oral. 8*

***MAFUNE,M SIVAKUMAR, D, SELLAMUTHU, P.S., SOUNDY, P.*** *Influence of combined treatment of lemongrass oil and modified atmosphere packaging on quality retention of avocado cultivars. 2012 CIGR Section VII International Technical Symposium on “Innovating the Food Value Chain” Postharvest Technology and Agri-Food Processing. Stellenbosch, South Africa, 25-29 November. Oral.*

***MAMPHOLO, M.B., SIVAKUMAR, D.,*** *BEUKES, M., JANSEN VAN RENSBURG, W. The effect of modified atmosphere packaging on quality parameters and bioactive compounds of traditional leafy vegetable Amaranthus cruentus L. 2012 CIGR Section VII International Technical Symposium on “Innovating the Food Value Chain” Postharvest Technology and Agri-Food Processing. Stellenbosch, South Africa, 25-29 November,Oral.*

**Department of Environmental Health**

**Participation at international conferences, symposia, etc.**

Ms LS Mudauparticipated in the 6th African consortiums meeting funded by Welcome Trust in Ghana . She presented a poster on “Assessment of household water use and treatment after Cholera outbreak” (November 2012)

**Participation at national conferences, symposia, etc.**

Five staff members (Ms MI Mokgobu, Ms JM Shirinde, Mr JL harmse, Dr JL Bekker and Dr JC Engelbrecht) attended the 3rd All Africa Congress on Environmental Health in Durban. Papers presented included two oral and two poster presentations.

JL Bekker participated in the 7th International Wildlife ranching Symposium in Kimberley (October 2012)

JL Bekker participated in South African Veterinary & Paraveterinary congress at the CSIR-Pretoria (August 2012)

**Department of Environmental, Water & Earth Sciences**

Three members of staff and five doctoral students presented their research findings at nine international conferences in seven different countries in 2012.

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| --- | --- | --- | --- |
| **Staff member** | **Destination** | **Conference name** | **Type of presentation** |
| DR CJS Fourie | Potsdam, Germany | 9th Inkaba yeAfrica | 2 x posters, 1 x oral |
| Mr TT Rukuni | Philadelphia, USA | Solid waste Technology | Oral |
| Mr TT Rukuni  (by invitation) | Leuven, Belgium | Accelerated Carbonation for Environmental Materials | Oral |
| Mr A Adeniyi | Adelaide, Australia | Sustainable irrigation and drainage | Oral |
| Mr MD Malia | Philadelphia, USA | Solid waste technology management | Oral |
| Ms O Agboola | Southampton, UK | Waste management and the Environment | Oral |
| Prof MNB Momba | Dubai, UAE | 1st world biotechnology congress | Oral |
| Mr Kamika | Dubai, UAE | 1st world biotechnology congress | Oral |
| Prof JO Okonkwo | Queensland, Australia | 32nd International symposium on Dioxin | Oral |

**Participation at national conferences, symposia, etc.**

Two members of staff and eight post graduate students presented at 16 national conferences in 2012

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Staff / student** | **Destination** | **Conference name** | **Type** |
| 1 | Prof R Jansen | NZG Pretoria | NZG annual research colloquium | Oral |
| 2 | Mr TT Rukuni (Keynote speaker) | Sandton, JHB | Envision international | Oral |
| 3 | Mr TT Rukuni (Keynote speaker) | Loskop, Middleburg | Environmin | Oral |
| 4 | Mr TT Rukuni | Cape Town | WISA | Oral |
| 5 | Mr T Mtombeni | Cape Town | WISA | Oral |
| 6 | Mr T Mtombeni | Pretoria (UP) | SA institute of Physics | Oral |
| 7 | Mr MD Maila | Cape Town | WISA | Poster |
| 8 | Mr MD Maila | JHB | Water Research Showcase | Oral |
| 9 | Mr MD Maila | JHB | Waternet | Oral |
| 10 | Ms M Masukume | Cape Town | WISA | Oral |
| 11 | Ms Adeyemo, FE | Cape Town | WISA | Oral |
| 12 | Mr Kamika | Cape Town | WISA | Oral |
| 13 | Kachienga, LO | Birchwood, JHB | Waternet | Oral |
| 14 | Prof MNB Momba | Birchwood, JHB | Waternet | Oral |
| 15 | Mr Teklehaimanot | Birchwood, JHB | Waternet | Oral |
| 16 | Prof MNB Momba | Cape Town | IDF World dairy summit | Oral |

**Department of Mathematics & Statistics**

**Participation at international conferences, symposia, etc.**

The following staff members participated at international events.

* Dr CJ Louw delivered papers titled "*Developing a model that would inspire lecturers to engage in a variety of methodologies for active learning delivery* " and "*Early identification of University of Technology engineering students at risk*" at the World Engineering Education Forum's Annual International Conference from 15 to 18 October in Buenos Aires. She also had a poster "*Engineering Mathematics: Engaging students through technology*".
* Prof SV Joubert attended the TIME 2012 Conference: 20 years Celebration of Technology Integration into Mathematics Education from 10 to 14 July in Tartu, Estonia. The title of his paper was "*Using Fourier series to analyse mass imperfections in vibrating gyroscopes*."
* Ms M Aphane presented a paper titled "*Extention of continuous maps on fuzzy metric spaces*" at at the 2012 Ibero-American Conference on Toplogy and its Applications, 9 – 13 April 2012, in Gaunajuato, Mexico.
* Mr CN Ncube also attended and presented at this conference.
* Prof Joubert gave a presentation, at the Topical problems of Continuum Mechanics 2012, Yerevan Tsakhkadzor, Armenia, October 08-12, 2012.
* Prof I Fedotov and Prof SV Joubert presented papers at the 14th International Conference of Hyperbolic Problems devoted to Theory, Numerics and Applications held in Padova, Italy from 25 to 29 June 2012. The titles of their papers were:
  + Fedotov: *On classification of hyperbolic models arising in the theory of longitudinal vibrations of elastic bars*.
  + Joubert: *Determining vibration eigen functions numerically*.

Prof Shatalov visited the Institute for Problems in Mechanics in Moscow, Russia. He met with several researchers to discuss, inter alia, the dynamics of growing bodies and vibrating gyroscopes.

**Participation at national conferences, symposia, etc.**

The following people participated in local events during 2012.

* Prof Shatalov and prof Fedotov gave talks at the 8th South African Conference on Computational and Applied Mechanics (SACAM) in Johannesburg, 3-5 September 2012. The latter were accepted for publication in the proceedings of the conference. The titles were:
  + *Exact Solutions and Numerical Simulation of Longitudinal Vibrations of the Rayleigh-Love Rod with Variable Cross-Sections*.
  + *On the Resonance Behaviour of Longitudinally Vibrating Rods*.
* Ms Aphane attended the post-graduate symposium on 20 April 2012 at UNISA where she presented a talk on *The extention of continuous maps on quasi metric spaces*.
* Mr CN Ncube attended and presented at the UNISA Department of Mathematical Sciences' postgraduate symposium on 29 April 2013. He also attended and presented at the College of Science Postgraduate Symposium on 3 October 2013 and attended the Topology Algebra and Category Theory (TACT) International Conference at UNISA.
* Prof Joubert had an oral presentation at SAMS2012, Stellenbosch, RSA, 31 October to 2 November 2012.

**Adelaide Tambo School of Nursing Science**

**Participation at international conferences, symposia, etc.**

International conferences:

Dr TS Ramukumba (poster x 1; oral x 1)

Ms ME Chokwe (oral x1)

**Participation at national conferences, symposia, etc.**

National conferences:

Prof SCD Wright (oral x2)

Ms Ligthelm (oral x 1)

Ms D Beckmann (oral x)

Dr TS Ramukumba (oral x 2)

Ms ME Chokwe (oral x1)

**Department of Pharmaceutical Sciences**

**Participation at international conferences, symposia, etc**

Staff participated as follows:

* 8th joint meeting of the International Congress on Natural Products Research (ICNPR), New York, USA, 28 July – 1 August 2012
* 8th International Symposium on Chromatography of Natural Products (ISCNP), Lublin, Poland, 17 – 20 May 2012.
* 16th International Congress PHYTOPHARM, St-Petersburg, Russia, 9-11 July 2012
* 8th International Symposium on Chromatography of Natural Products. Lublin, Poland. 17 – 20 May 2012
* 13th International Congress of the Society for Ethnopharmacology. Graz, Austria. 2- 6 September 2012
* The 3rd International Symposium on Medicinal Plants. Jordan, Petra. 21 – 23 November 2012
* Modernization and Internationalization of TCM. Shanghai, China. 20 – 21 October 2012.
* VIII International Symposium of Pharmacognosy. Ilheus, Brazil. 18 – 22 April 2012.
* 7th Conference of The World Mycotoxin Forum and the XIIIth IUPAC International Symposium on Mycotoxins and Phycotoxins. Rotterdam, the Netherlands, on 5-9 November 2012.
* 7th Conference of The World Mycotoxin Forum and the XIIIth IUPAC International Symposium on Mycotoxins and Phycotoxins. Rotterdam, the Netherlands, on 5-9 November 2012.

**Participation at national conferences, symposia, etc.**

Three staff members presented Papers at the Academy of Pharmaceutical Sciences Conference in Grahamstown in September 2013*.*

**Department of Physics**

**Participation at national conferences, symposia, etc.**

Three students involved in masters (1) and doctorate (2) studies presented their work at the 57 South African Institute of Physics (SAIP) conference held at the University of Pretoria in July 2012. They all gave oral presentations. The titles were:

1. “*Surface structure modification of Cu(111) by Sb dopants for temperature sensing application”* ( G NDLOVU, JKO ASANTE, BWK MWAKIKUNGA, WD ROOS and KT HILLIE).
2. *“XPS analysis of surface modification of Cu-Ru composites for interconnect applications”* (R Sule, JKO Asante and WD Roos).
3. *“Selectivity of ice crystallization and refrigeration waste heat integration in freeze desalination of brine – Application and Optimisation*” ((T Mtombeni, JP Maree, CM Zvinowanda, JKO Asante, FS Oosthuizen, H Jessen and WJ Louw)

**Department of Sport, Rehabilitation & Dental Sciences**

**Participation at international conferences, symposia, etc.**

In Sport and Exercise Technology (SET) programme:

8 oral papers

3: poster presentations

2 keynote speakers

3 chairpersons

In Officiating and Coaching Science (OCS) programme:

Two poster presentations (Mr Julius Jooste; Mrs Anita Strauss) were made at an international conference on Science and Soccer in Ghent, Belgium.

**Participation at national conferences, symposia, etc.**

Prof AL Toriola served as a member of the National Advisory Panel which jointly organized the 2012 SASReCon conference in Pretoria from 30 November to 1 December, with the National Department of Sport and Recreation.

**Department of Chemistry**

**Participation at international conferences, symposia, etc.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Name*** | ***Country*** | ***Duration of visit*** | ***Type of visit*** | ***Presentation\**** |
| Regnier T | China | 7 days | 18th medicinal and Mushroom congress | Oral |
| AF Marais | Malawi | 16-19 Jan 2012 | Conference | Oral |
| AF Marais | South Africa | 11-15 Mar 2012 | Conference | Oral |
| AF Marais | Mozambique | 8-11 July 2012 | Conference | Poster |
| AF Marais | Rome, Italy | Presented by co-worker | Conference | Poster |
| Katskov D | Slovakia | 7 days | Conference | oral |
| Katskov D | China | 7 days | Conference | invited |
| Katskov D | Russia | 7 days | Conference | keynote |

*\*Invited, plenary, keynote, oral, or poster*

**Regnier T., Combrinck S.,** Paley K., Beyer D. 2012. Application regime for disease control using thyme oil.Proceeding of the 18th Congress of the International Society of Mushroom Sciences, Beijing, China, 384-389

**Fiona Marais**, Pieter Maraisand Ina Louw. 2012: A team teaching approach for first year chemistry.*SAARMSTE 2012, Malawi 16-19 January, 2012***.**

**Fiona Marais**,Pieter Marais2012: Is there a relationship between conceptual knowledge of first year chemistry students and their academic success? *SAARMSTE 2012, Malawi 16-19 January, 2012***.**

**Fiona Marais**,Pieter Marais and Ina Louw. 2012: Foundation Provision: Does it really make a difference to success? *SAARMSTE 2012, Lilongwe, Malawi 16-19 January, 2012***.**

**AF Marais, RI McCrindle**& **PP Ndibewu**. 2012: Pre-concentration of platinum group metals in river water samples. *Environmin 2012, Loskop Dam,Mpumalanga, 11-15 March 2012.*

**AF Marais, RI McCrindle**& **PP Ndibewu**. 2012: Pre-concentration of platinum group metals to facilitate their cost-effective determination. *4th SEANAC conference Maputo, Mozambique, 8-11 July 2012.*

**Fiona Marais**, Pieter Marais.2012: Changing how we teach first year chemistry.*ICCE-ERICE 2012, Rome, Italy, 15-20 July 2012.*

**4.5 Funding for research**

**Nature Conservation**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** | **Research activity** | **Amount**  **2011 2012** | |
| **NRF** | **Incentive for rated researchers** |  | **R40 000** |
| **Ree Park Zoo** | **Grant** |  | **R33 000** |

**Department of Animal Science**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** | **Research activity** | **Amount**  **2011 2012** | |
| FRIC | Conformation and kinematic analysis |  | R41560.00 |
| Boerperd Breeders Soceity | Motion Analysis Software |  | R32000.00 |
| DAFF | Reproductive Technologies |  | R100 000.00 |
| NRF | China bilateral project | 0 | 218136 |
| SANPAD | RCI-programme | 0 | n/a |
| NRF | International Travel/ Luseba |  | 15000 |
| FRIC | D-Tech: Mr WHJ van Rensburg | 0 | R45000 |
| NRF Thutuka | PhD: Mr CJL du Toit | 0 | R151820 |

**Department Biotechnology & Food Technology**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** [NRF, etc] | **Research activity** | **Amount**  **2011 2012** | |
| Maize Trust | Fumonisin research activities | R150 000.00 | R120 000.00 |
| NRF - THRIP |  |  | R85 000.00 |
| Medical Research Council (MRC) | Doctoral studies |  | R28 500.00 |
| CSIR Nanotechnology | Microbiological analyses |  | R20 000.00 |
| CRIC | Prof PJ Jooste | R43 000.00 | R150 000.00 |
| FRIC | D Tech project | R30 000.00 | R63 000.00 |
| Publications (2010 received in 2012) | Prof PJ Jooste  Mrs B du Plessis |  | R 59 500.00  R 8750.00 |
| **TOTAL** |  | **R223 000.00** | **R534 750.00** |

\* The Maize Trust has granted the department an amount of R150 000-00 per year for the period 2011 to 2013. This project has also been submitted to the NRF for additional THRIP funding. In the course of the project at least two B Tech students and one M Tech student will be trained in terms of their research projects. A pilot project is being conducted to investigate

\*\* A doctoral student in the department will also be involved in the second phase of the project.

**Department of Biomedical Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** [NRF, etc] | **Research activity** | **Amount**  **2011 2012** | |
| NRF | Medicinal plants and diabetes mellitus |  | 335,800.00 |

**Department of Crop Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** | **Research activity** | **Amount**  **2011 2012** | |
| Incentive funding | Vegetable production under protection |  | R  40 000 |
| TUT starter funds | Vegetable production under protection |  | 350 000 |
| WRC | Research on small-scale irrigation |  | 148 000 |
| WAU | Research on small-scale irrigation |  | 27 000 |
| UP | Finalise report on African leafy vegetables (shared with Prof MM Slabbert, Horticulture) |  | 122 000 |
| NRF | SA-Argentine. Developing novel postharvest treatments for fresh cut fruits (mangoes as model crop for South Africa) to extend the shelf life while maintaining the overall quality | 150 000 |  |
| NRF | Competitive funding for rated researchers  Influence of photoselective netting on quality of harvest and during storage of tomatoes | 150 000 |  |
| Postharvest innovation DST | Developing green chemistry application via essential oil and modified atmosphere packaging to control postharvest diseases in peaches and avocado | 270 000 |  |
| NRF | Incentive funding | 40 000 |  |
| ARC contractual income | Biochemical analysis | 7 000 |  |
| NRF | Development of crop yield prediction models for variable rate fertilization with economically optimal nitrogen  rates by field site, using remote sensing applications. | 110 420 | 129 000 |
| NRF | Precision Agriculture |  | 49 000 |

**Department of Environmental Health**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** | **Research activity** | **Amount**  **2011 2012** | |
| NRF | Postgraduate research funding for a Doctorate student  (Thuthuka, NRF grant) | - | R89 000 |
| South African Poultry Association | Postgraduate research funding  for a Masters student | - | R138 000 |
| South African Poultry Association | Postgraduate research funding for a Doctorate student | - | R170 000 |
| MRC | Staff Research capacity Building | - | R600 000 |

**Department of Environmental, Water & Earth Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| **Staff member** | **Source** | **Research activity** | **Amount** |
| Dr CJS Fourie | Inkaba yeAfrica | German/RSA collaboration in Earth Science | R500 000 |
| Dr CJS Fourie | Coaltech | Coal mining related | R60 000 |
| DR CJS Fourie | THRIP | Water treatment: drainage | R4 300 000 |
| Mrs L Monyatsi | NRF | Doctorate | R100 000 |
| Prof JP Maree | THRIP | Water treatment: mine water | R4 300 000 |
| Prof MNB Momba | WRC | Microbial water contamination | R319 200 |
| Prof MNB Momba | JHB Water | Microbial water contamination | R223 954 |
| Prof MNB Momba | NRF | Microbial water contamination | R190 000 |
| Prof JO Okonkwo | WRC | Brominated flame retardant contamination | R900 000 |
| Prof JO Okonkwo | Organization for prohibition of chemical weapons | Brominated flame retardant contamination | R300 000 |

Total research related income: R2 593 154

Total THRIP related income: R8 600 000

**Total: R11 193 154**

**Department of Mathematics & Statistics**

**Table 1** Research funding

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** | **Research activity** | **Amount**  **2011 2012** | |
| Shatalov: NRF Incentive Foundation for Rated Researchers | Research in the field of growing bodies (2011-2012).  Research in theory of vibratory gyroscopes (2011-2012).  Research visit to Moscow, Russia (2012).  Partial funding of visit of Dr M. Tenkam to the World Congress on Engineering (London, 2012) | 40 000 | 40 000 |
| Joubert: NRF | Incentive funding for rated researcher (Mathematical Technology) | R40 000 | R40 000 |
| Joubert: NRF | Staff development bursaries for M Tech Students | R50 000 | R25 000 |

**Adelaide Tambo School of Nursing Science**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** | **Research activity** | **Amount**  **2011 2012** | |
| NRF | Rating tract |  | 72000.00 |
| TUT | Emerging researcher |  | 100000.00 |

**Department of Pharmaceutical Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** | **Research activity** | **Amount**  **2011 2012** | |
| NRF – D Baron | M Tech Somatology | - | R8 000.00 |
| NRF – C Louw | M Tech Somatology | - | R51 076.00 |
| NRF – B Komane-Mofokeng | D Tech Pharmaceutical Sciences | - | R174 000.00 |
| G Enslin | Thuthuka (rating track) |  | R250 000 |
| N Mncwangi | Thuthuka (doctoral research) |  | R450 000 |
| I Vermaak | Thuthuka (post doctoral track) |  | R125 000 |

**Department of Physics**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** [NRF, etc] | **Research activity** | **Amount**  **2011 2012** | |
| NRF | Segregation studies | R20 000 | R20 000 |

**Department of Sport, Rehabilitation & Dental Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source**] | **Research activity** | **Amount**  **2011 2012** | |
| NRF BTech Bursaries (BK0 | BTech: Research project and studies |  | R30 000 x 4 |

**Department of Chemistry**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Source** | **Running costs** | **Student Bursaries** | **Bi-lateral Funding** | **Instrumentation** |
| NRF (Rating incentive) | 160 000 |  |  |  |
| NRF (Competitive programme for rated researchers) | 95 000 |  |  |  |
| TUT (rating incentive top-up) | 20 000 |  |  |  |
| NRF (SA/Germany) |  |  | 190 800 |  |
| NRF/TUT | 142 000 |  | 128 000 | 50 000 |
| TUT/CSIR |  | 60 000 |  |  |
| NRF IRDP | 444 880 | 25 000 |  |  |
| TUT CRIC Niche Area | 206 827 |  |  |  |
| TUT DRIC | 91 000 |  |  |  |
| Subtrop (Stinkbug research) | 150 000 |  |  |  |
| Subtrop (mango Snout weevil research) | 40 000 |  |  |  |
| ARC( SA PIP prochloraz research) | 30 000 |  |  |  |
| **Total** | **1 379 707** | **85 000** | **318 800** | **50 000** |

**5. TEACHING INPUT UNITS (TIUS) AND TEACHING OUTPUT UNITS (TOUS)**

Note: These tables have been populated by SMS and the staff numbers do not correspond to own information. No comments can be made and the inclusion of part-time staff skewed the staff profile entirely.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **5: Teaching Input Units and Teaching Output Units** | | | | | | | **Indicator** | **2008** | **2009** | **2010** | **2011** | **2012** | | Teaching Input Units | 18,738.23 | 18,729.67 | 19,331.56 | 19,219.05 | 19,371.46 | | Teaching Output Units | 2,020.00 | 1,670.00 | 1,658.50 | 2,016.50 | 1,896.25 | | | | | | | |
|  |  |  |  | **6. STAFF PROFILE, QUALIFICATIONS AND RATIOS** | |
| |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **6.1: Staff Headcount by Race and Gender** | | | | | | | | | | | | | **Year** | **African** | | **Coloured** | | **Indian** | | **White** | | **Total F** | **Total M** | **Total** | | **F** | **M** | **F** | **M** | **F** | **M** | **F** | **M** | | **Permanent** |  |  |  |  |  |  |  |  |  |  |  | | 2008 | 42 | 48 | 1 | 2 | 6 | 2 | 78 | 74 | 127 | 126 | 253 | | 2009 | 47 | 52 | 1 | 2 | 6 | 2 | 78 | 74 | 132 | 130 | 262 | | 2010 | 54 | 58 | 1 | 2 | 8 | 1 | 80 | 69 | 143 | 130 | 273 | | 2011 | 61 | 58 | 1 | 2 | 7 | 1 | 83 | 64 | 152 | 125 | 277 | | 2012 | 67 | 70 | 2 | 1 | 7 | 3 | 84 | 60 | 160 | 134 | 294 | | **Temporary** |  |  |  |  |  |  |  |  |  |  |  | | 2008 | 83 | 108 | 2 |  | 3 | 3 | 105 | 116 | 193 | 227 | 420 | | 2009 | 93 | 129 | 2 |  | 2 | 2 | 95 | 115 | 192 | 246 | 438 | | 2010 | 103 | 131 | 2 |  | 2 | 1 | 96 | 91 | 203 | 223 | 426 | | 2011 | 145 | 177 | 1 |  | 2 | 3 | 79 | 85 | 227 | 265 | 492 | | 2012 | 152 | 191 | 1 |  | 2 |  | 74 | 75 | 229 | 266 | 495 | | | | | | | | |
|  |  | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **6.2: Number of Staff per Person Category** | | | | | | | | | | |
| **Person Category** | **2008** | | **2009** | | **2010** | | **2011** | | **2012** | |
| **Perm** | **Temp** | **Perm** | **Temp** | **Perm** | **Temp** | **Perm** | **Temp** | **Perm** | **Temp** |
| Executive/admin./mgmt. professional | 1 | 1 | 2 |  | 2 |  | 2 | 1 | 2 |  |
| Instructional/research professional | 186 | 173 | 196 | 182 | 199 | 178 | 196 | 215 | 205 | 212 |
| Non-professional administration | 45 | 188 | 42 | 202 | 46 | 205 | 57 | 241 | 59 | 246 |
| Service | 13 | 4 | 10 | 2 | 10 | 1 | 9 | 1 | 9 | 1 |
| Specialised/support professional | 6 | 48 | 10 | 50 | 14 | 40 | 12 | 33 | 17 | 35 |
| Technical | 2 | 6 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 |
| **Total** | **253** | **420** | **262** | **438** | **273** | **426** | **277** | **492** | **294** | **495** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  | | --- | | **6.3: Instructional/Research Staff per Qualification Type** | | | | | | | | | | | | | | | | |
| **Qualification Type** | **2008** | | | **2009** | | | **2010** | | | **2011** | | | **2012** | | |
| **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** |
| Diplomas and Certificates | 10 | 20 | 30 | 6 | 12 | 18 | 6 | 8 | 14 | 7 | 7 | 14 | 6 | 7 | 13 |
| Degrees | 38 | 30 | 68 | 45 | 48 | 93 | 44 | 45 | 89 | 42 | 57 | 99 | 38 | 53 | 91 |
| **Undergraduate Total** | **48** | **50** | **98** | **51** | **60** | **111** | **50** | **53** | **103** | **49** | **64** | **113** | **44** | **60** | **104** |
| Postgraduate to Masters | 6 | 42 | 48 | 5 | 56 | 61 | 6 | 65 | 71 | 7 | 71 | 78 | 16 | 78 | 94 |
| Honours | 16 | 28 | 44 | 10 | 22 | 32 | 9 | 20 | 29 | 8 | 21 | 29 | 12 | 20 | 32 |
| Masters | 64 | 38 | 102 | 72 | 27 | 99 | 72 | 24 | 96 | 72 | 33 | 105 | 73 | 30 | 103 |
| Doctoral | 52 | 15 | 67 | 58 | 17 | 75 | 62 | 16 | 78 | 60 | 26 | 86 | 60 | 24 | 84 |
| **Postgraduate Total** | **138** | **123** | **261** | **145** | **122** | **267** | **149** | **125** | **274** | **147** | **151** | **298** | **161** | **152** | **313** |
| **Total** | **186** | **173** | **359** | **196** | **182** | **378** | **199** | **178** | **377** | **196** | **215** | **411** | **205** | **212** | **417** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  | |  | | --- | | **6.4: Instructional/Research Staff Ratios** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | **2008** | | | **2009** | | | **2010** | | | **2011** | | | **2012** | | | | **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** | | I/R Staff / Student FTE Ratio | 1:29.0 | 1:84.6 | **1:21.6** | 1:28.1 | 1:81.7 | **1:20.9** | 1:26.6 | 1:79.4 | **1:19.9** | 1:27.5 | 1:67.7 | **1:19.5** | 1:27.0 | 1:67.2 | **1:19.3** | | Support Staff FTE / I/R Staff Ratio | 1:2.9 | 1:0.9 | **1:1.8** | 1:3.0 | 1:0.8 | **1:1.8** | 1:2.8 | 1:0.8 | **1:1.7** | 1:2.4 | 1:0.9 | **1:1.7** | 1:2.2 | 1:1.0 | **1:1.7** | | | | | | | | | | | | | | |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**7. PQM ALIGNMENT TO HEQSF**

**7.1 Extent to which PQM has been aligned to the HEQSF**

|  |  |  |
| --- | --- | --- |
| **DEPARTMENT** | **Number of Programmes** | **Number of revised/ new Programmes** |
| Physics | 1 | 1 (Dip: Industrial Physics) |
| Environmental Health | 1 | 1 (B Tech Environmental Health) |
| **Total faculty** | **2** |  |

**7.2 Number of current programmes being phased out per department**

|  |  |  |
| --- | --- | --- |
| ***Programme code*** | ***Name of programme*** | ***Phasing out date*** |
| NCOY97 | National Certificate: Occupational Therapy Assistants | 2012 -2013 |

**7.3 New programmes offered for the first time in 2012**

|  |  |  |
| --- | --- | --- |
| **Programme code** | **Name of programme** | **Date of introduction** |
| NONE |  |  |

**7.4 Programmes under revision**

|  |  |  |
| --- | --- | --- |
| **Programme code (if available)** | **Name of programme** | **Envisaged implementation date** |
| All the programmes in the Faculty are being renewed in order to align them with the HEQSF. It would not be logical to single out any specific programmes. | | |