

10 May 2019

To All Partner Institutions

Dear Colleagues,

University Capacity Development Programme (UCDP) National Collaborative Project: Strengthening Academic Staff Development in Mathematical and Statistical Sciences in South Africa

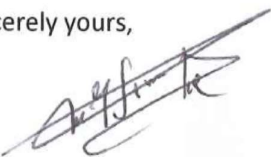
I am pleased to confirm that the funding under the above project is still available for the period 1st January, 2019 to 30th June, 2020. A request is being sent for approval by DHET for the programme to be extended to 31st December 2020. The University of Pretoria (UP) continues to be the lead university in this project – which will still be led by myself, as Dean of the Faculty of Natural and Agricultural Sciences.

For your convenience, please, find attached updated and useful information about the following aspects of the project:

- Updated list of partner institutions;
- Priority Activities for 2019;
- Requests for project related information;
- Potential beneficiaries;
- Contact Details;
- 2019 Funding Guidelines.

One of the goals of the UCDP is “to increase the number of permanent academic and professional staff at South African universities who hold doctoral degrees and to build post graduate supervisory capacity in South African universities.” Therefore, it is imperative that we take full advantage of this opportunity.

Sincerely yours,



Prof. J.M.-S. Lubuma.

Dean

UPDATED AND USEFUL INFORMATION

University Capacity Development Programme (UCDP) Grant National Collaborative Project: Strengthening Academic Staff Development in Mathematical and Statistical Sciences in South Africa.

31 March 2019

1. Partner Institutions

The project involves the following Partner Universities (22), Centres of Excellence (1), Institute (1), Learned Societies (2), and Government Agency (1):

Universities	Universities	Universities	Centres of Excellence
Cape Peninsula University of Technology	Tshwane University of Technology	University of Pretoria	Centre of Excellence in Mathematical and Statistical Science (MaSS)
Durban University of Technology	University of Cape Town	University of South Africa	Institute
Mangosuthu University of Technology	University of Fort Hare	University of the Western Cape	The African Institute of Mathematical Sciences (AIMS) - Muizenberg
Nelson Mandela University	University of the Free-State	University of the Witwatersrand	Learned Societies
North-West University	University of Johannesburg	University of Venda	The South African Mathematical Society (SAMS)
Rhodes University	University of KwaZulu-Natal	University of Zululand	The South African Statistical Association (SASA)
Sol Plaatje University	University of Limpopo	Walter-Sisulu University	Government Agency
Stellenbosch University			National Research Foundation (NRF)

Other Universities that have not been listed above as partners are encouraged to participate in the activities of the project. This communication serves as a formal invitation to all institutions in South Africa that may be interested in becoming partners in the project to contact the Academic Leader of the project as soon as possible.

2. Governance Structure

The following governance structure has been retained:

- a) Advisory Committee: Current Human Capacity Development Steering Committee of Mathematics and Statistics chaired by Professor Loyiso Nongxa (Wits).
- b) Project Coordinator: Professor Jean M.-S. Lubuma, Dean NAS (UP).
- c) Academic Project Leader: Professor Mapundi K. Banda (UP).
- d) Project Administrator: Ms Samedah Davis (On part-time basis).
- e) Node Leaders: Appointed by each Partner Institution.

Node Leaders are requested to assist with quality assurance of funding applications before they are submitted to UP. They should also ensure that supervisors motivate how the funding requested will assist the applicants in their research substantively. Some applications are incomplete or are submitted with inadequate information; such applications are referred back which leads to delays. In addition, levels and items of funding requested should be consistent with the applicant's institution's own policies as well as the project's guidelines.

3. Remaining Duration of the Project

The agreed upon end date of the project will be 30th June, 2020. The Advisory Committee met on 14th March, 2019 to determine the project priorities for the 2019 period. During this meeting it was also agreed that a request to extend the end date of the project to 31st December, 2020 be submitted to DHET for consideration. The outcome of this request will be communicated as soon as the DHET responds.

4. Priority Activities for 2019

Determination of the priorities will be guided by the project proposal that was submitted to DHET in 2016 as well as respective demand for activities. As a result the meeting of the Advisory Committee further agreed that the budget as presented in 2016 be revised to reflect the current demand and spending trends. An application for a budget revision will be submitted to the DHET for approval.

- Winter and Summer schools will be prioritised in 2019. There has been very little demand for this activity. The budget for this activity has also been revised to make the funds available for other activities.
- The other activities will be funded as has been the case since 2017.
- Furthermore, the proposal to top-slice the allocation for candidates from previously disadvantaged institutions is still in effect.

Copies of the proposal and funding application guidelines are available on the project website for your perusal.

5. Further Issues to Note

UP would pay institutions in line with the allowed activities as detailed in the UCDP Proposal by way of invoice and in accordance with the rules of the UP Finance Department.

The importance of communication is emphasized. UP has set up a website for the project on the Faculty website under the following link: <http://www.up.ac.za/ntdg>

6. Requests

Deans of participating institutions and/or their representatives are requested to provide by **no later than 30th June, 2019** the following information:

- a) The names of academic staff who are working towards registering or completing their MSc and PhD studies in order for us to update our database of prospective participants in the project. This should also include their Supervisors' names and HOD's;
- b) The names of academic staff who benefitted from the project in 2018 and have completed their MSc and PhD studies since;
- c) The names of academic staff who completed their PhD's in the last five years in order for us to update our database;
- d) The names of academic staff who will act as node leaders. The node leaders will take responsibility of coordinating the activities of the project on behalf of the participating institutions.

The above requested information is needed to:

- Continually update the beneficiary records of the project;
- To monitor the extent to which project objectives and deliverables are being met;
- Identify bottle-necks that beneficiaries might be facing in achieving milestones in their career;
- Collecting data for final reporting with the hope that the DHET would provide funding for a further 3-year cycle.

7. Potential Beneficiaries

Mathematics and Statistics academic staff at all Universities that offer Postgraduate studies and programmes are eligible to apply and be supported through the staff development initiative. They will be selected on merit following an appropriate review process. In particular, the candidate participation in the project will require the permission of the candidate's Head of Department (HOD). The HOD would then take responsibility for ensuring compliance in accordance with activity guidelines, as well as responsibility for reporting. Node leaders would forward these approved candidates to the Advisory Committee via the Academic Project Leader.

We wish to re-iterate that according to DHET guidelines, potential beneficiaries are academic staff in the categories (see the 2019 funding guidelines) above who are either permanent residents or citizens of South Africa.

Staff who completed their M.Sc. more than five (5) years ago, and have been previously funded, will no longer be funded unless they submit proof of PhD registration.

Beneficiaries must apply timeously at least six (6) weeks before a local event and at least four (4) months before an international event in order to provide enough time for the Advisory Committee to review the applications.

It is mandatory that post activity reports be submitted within a month after the event. All unspent funds should be returned to UP.

The timeous collection of this information is critical for project auditing processes.

Contact Details

Academic Project Leader - Professor MK Banda

Email: mapundi.banda@up.ac.za

Phone: 012 420 2544

Project Administrator – Ms Samedah Davis

Email: samedah.davis@up.ac.za

Phone: 012 420 6789

We would also like to take this opportunity to welcome Ms. Davis as the new Project Administrator. Furthermore, we would like to convey heartfelt gratitude to Ms Meiring for her contributions as the Project Administrator in 2017 – 2018. We wish her all the best in her new career.

8. Closing

To close, the University of Pretoria wishes to voice its appreciation to the DHET for the introduction of the intervention, which is of valuable importance to produce highly trained man-power in the critical area of Mathematical and Statistical Sciences. Such an initiative is one of the several interventions that will link-in the NRF initiatives already started and those some of the Universities have been implementing individually. The University of Pretoria considers this role as an honour and will do all in its power to support the other role players in this initiative. Should you have any queries regarding the project, please, do not hesitate to contact the University of Pretoria.



higher education
& training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

PROPOSAL FOR COLLABORATIVE PROJECTS

TEACHING DEVELOPMENT GRANT 2016	
PROJECT NAME	<i>STRENGTHENING ACADEMIC STAFF DEVELOPMENT IN MATHEMATICAL AND STATISTICAL SCIENCES IN SOUTH AFRICA</i>
INSTITUTIONS INVOLVED	<i>Universities of Pretoria; Witwatersrand; Limpopo; Walter Sisulu; Venda; Northwest; Western Cape; Stellenbosch; Nelson Mandela Metropolitan; Fort Hare; Johannesburg, and South Africa, including the DST-NRF Centre of Excellence in Mathematical and Statistical Science, the South African Statistical Association (SASA); the south African Society for Mathematics (SAMS) and the National Research Foundation, as facilitator.</i>
PROJECT COORDINATOR	<i>Prof Jean M-S Lubuma, Dean: Faculty of Natural and Agricultural Science, University of Pretoria</i>
CONTACT DETAILS OF PROJECT COORDINATOR: <i>Postal address, telephone & email</i>	<i>Faculty of Natural and Agricultural Science, University of Pretoria, Agricultural Sciences Building, Room 2-32, Lynwood Road, PRETORIA 0002 Tel.: 012 4203201/2222; Email: jean.lubuma@up.ac.za</i>

DEADLINE FOR SUBMISSION OF PROPOSALS: 31 JULY 2016 EXTENDED

1. Executive Summary

The importance of a sound foundation and research base in the mathematical and statistical sciences is absolutely critical for development and innovation in science, engineering, and technology. Without this foundation, the establishment of any knowledge-based economy is doomed to failure. The very development of human resources in the fields of science, engineering and technology depend fundamentally on a solid understanding of mathematics and/or statistics¹. The influence of mathematical and statistical sciences extends beyond these fields to many others, including the social sciences and humanities. Innovations that spur economic and social development are underpinned by examples of developments in all fields of science. An obvious example is data-driven innovation. Especially within the context of such infrastructure developments as the Square Kilometer Array (SKA), combined with the mass of social-development related data, South Africa cannot afford to be left behind in one of the major intellectual developments of the next decade.

The health and vibrancy of the mathematical and statistical sciences in any society rests primarily with the country's higher education sector. Universities teach, train and produce graduates that contribute to both the private and public sectors. It is these same graduates that teach mathematics and statistics to school children from preschool to grade twelve. Without university academics at the cutting edge of global research and teaching techniques, university curricula will not incorporate the latest developments. This will result in poorly trained graduates, and poorly educated scholars. Poorly educated scholars are ill equipped to cope with university mathematics and statistics, and so a downward spiral perpetuates. The impact of 'under-qualified' teachers, especially for mathematics, on the educational outcomes of the South African schooling system is well documented. Only a handful of the small pool of high school graduates who enter the university system with good mathematics grades opt to pursue a formative degree that leads to majors in mathematical and statistical sciences. Further to this, some South African universities have in recent years lowered and continue lowering the entry qualification into the academic track to an honours degree which is woefully inadequate. Traditionally and internationally, a PhD is preferred as the basic entry qualification for teaching and research at the university level. This, coupled with the lack of formal training in pedagogy or the methods of teaching of mathematics and statistics, and ability to incorporate new methods of content delivery usually results in lecturers that teach what they were taught, possibly in the same way that it was taught to them by their professors and lecturers!

¹ Review of mathematical sciences research at South African higher education institutions. (2008). Department of Science and Technology (The 2008 Review)

The result is a serious state of decline in the fields of mathematics and statistics. Academic statistics, as an example, is described as being in a state of crisis². Reflecting on this “crisis”, the 2008 *Review of Mathematical Sciences...* in South Africa, coordinated by the National Research Foundation (NRF) referred to above stated in part that “...there is acute shortage of qualified statisticians. In some of the universities...[there are] ... no senior persons doing statistics. ...some of the research cannot be published due to industrial proprietary rights. There is a danger of the imminent collapse of research activity in statistics when the present cohort of senior researchers [and teachers] retires”. The same report further reflected on mathematics research and teaching and noted, “Of grave concern is the age profile of active mathematics researchers. A preponderance of the top-rated and the most productive researchers are 55 [years] or older. There are too few researchers in the 30-55 age groups and a dearth of students majoring in mathematics and enrolling for Honours, Masters or Doctoral studies. This bodes poorly for the future in terms of both further research and also for developing the next generation of mathematical science academics”. Eight years later this situation has not significantly changed. The lack of academic capacity at many national universities means that there is a risk of departments closing and under-represented fields disappearing altogether from the South African intellectual landscape. These sciences need to be invigorated with more people coming into the system, better qualified people within the system and relevant new national (rather than individual) research thrusts. The development of human capacity, the support of interconnectivity, and the provision of strong foundations will provide space for students, academics and researchers to interact collaborate and generate exciting new ideas and synergy.

2. Project Description and Scope

Growth in research in the mathematical and statistical sciences requires sufficient numbers of suitably qualified people entering at every level of the system, the teaching, nurturing and development of those moving through into higher levels. The few graduates who continue in academia are often in an environment that has little or no support and appropriate interventions to nurture and build their capacity – they are academically isolated, poorly funded, and often lack regular ongoing supervision in their specialised area. Currently, the numbers and education of postgraduates are insufficient to meet the staffing needs at academic institutions. It is understood that academics at all higher education institutions play a tri-lateral role: that of teaching, research (knowledge production) and community

² South African Statistical Association proposal to the NRF for resolving the current crisis in academic statistics 2013

engagement. To develop effective graduates requires staff engaged in both research and the generation of new knowledge. This is then infused into the teaching and training of students. The means of and environment within which effective teachers and researchers are produced must be addressed. A situational analysis of the in-service staff FTE equivalents in all public South African universities is detailed in Table 1-Applied Mathematics, Table 2 - Mathematics) and Table 3 - Statistics) between 2010 and 2014. The gaps between in-service staff with honours and Masters and those with PhD's urgently need attention.

Table 1: Staff FTE for Applied Mathematics

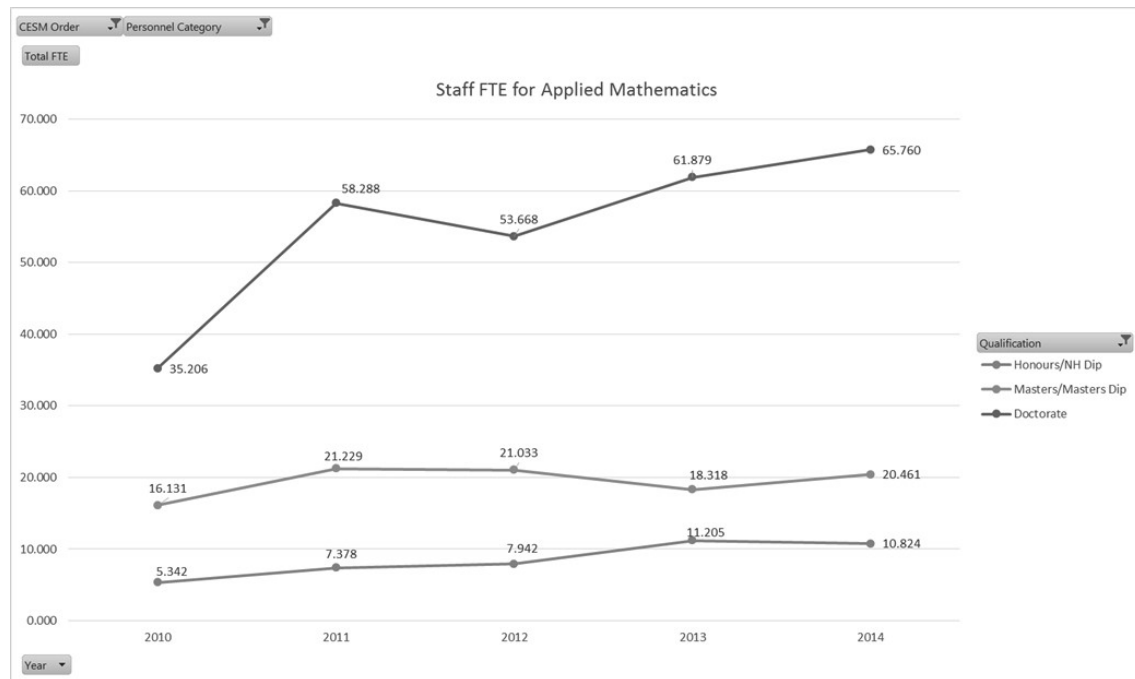


Table 2: Staff FTE for Mathematics

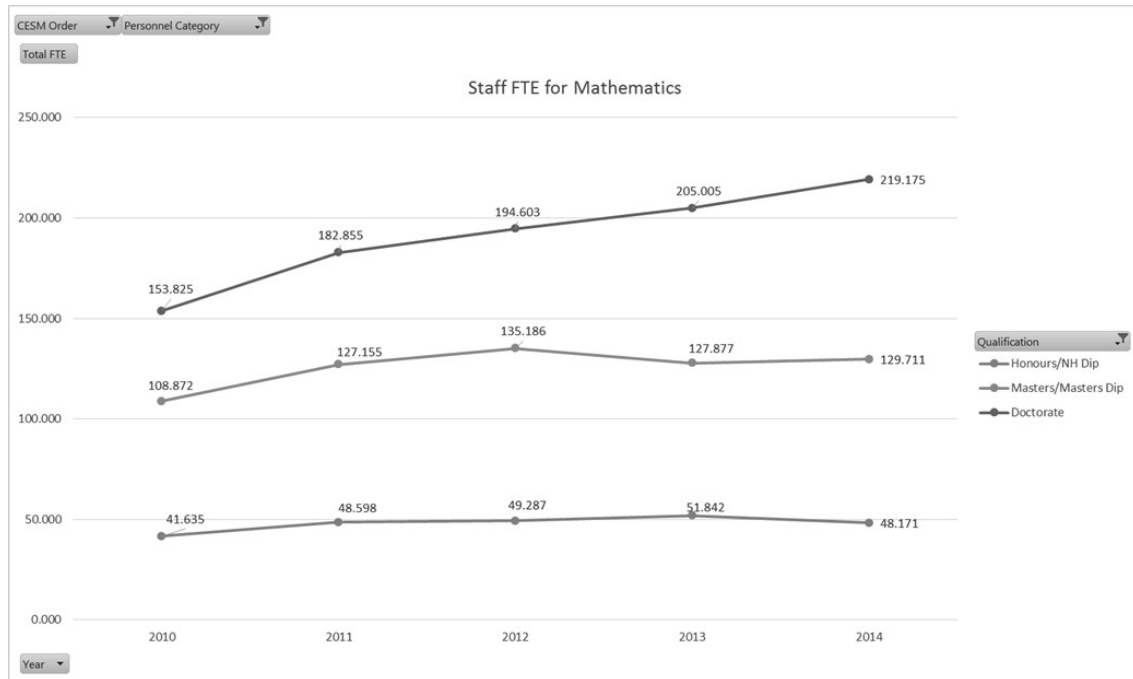
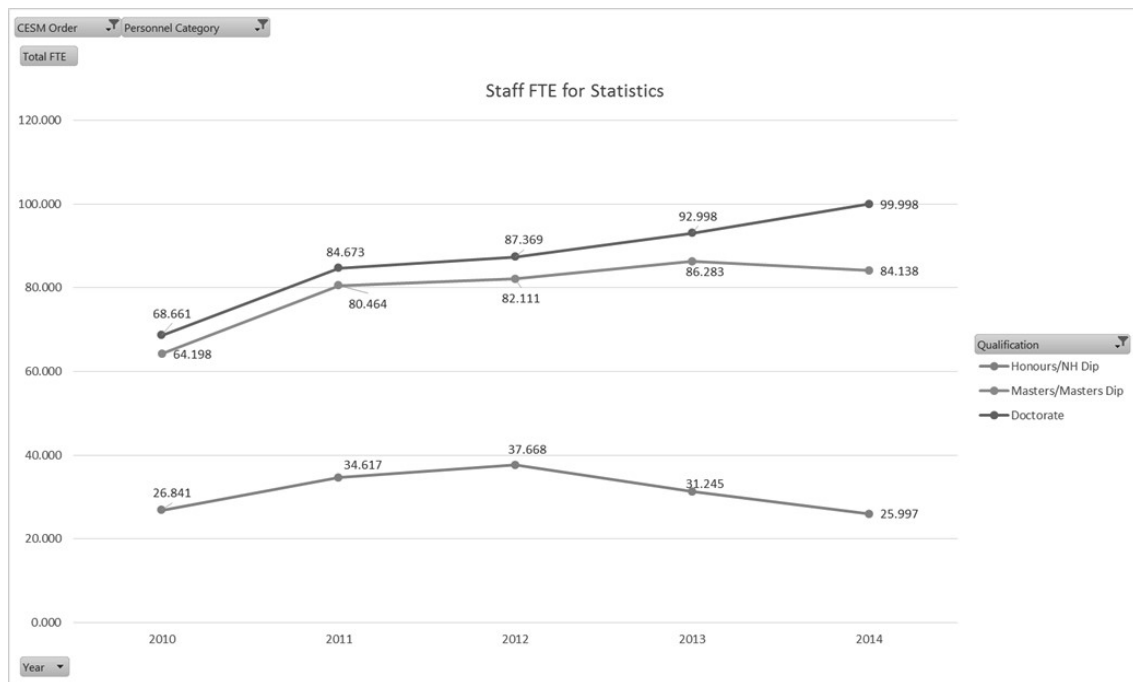


Table 3: Staff FTE for Statistics



Student throughput and efficiency in higher education are also important considerations. The assumption is that an honours student will complete his/her studies in one year, that a Masters student will complete within two years and that a PhD student will complete his/her studies in 3 years. Furthermore, it is hoped that high percentages of a cohort of students do complete their studies and attain qualification. If these assumption hold, honours graduation rates would be close to 100% per year, Masters graduation rates would be close to 50% per year and PhD graduation rates approximately 30% per year of given cohorts. This assumption however, does not take into consideration students that take longer than their allotment period, and also does not take into consideration part-time students. The current realities are such that many students in the fields of mathematical and statistical sciences drop-out and or take longer than the stipulated time to complete their studies, and fewer numbers of those that complete lower degrees opt to pursue further studies up to PhD due to a variety of reasons, top of which include lack of financial support, nurturing, mentoring and supervision to mention but a few.

Table 4 Student turnover for Applied Mathematics

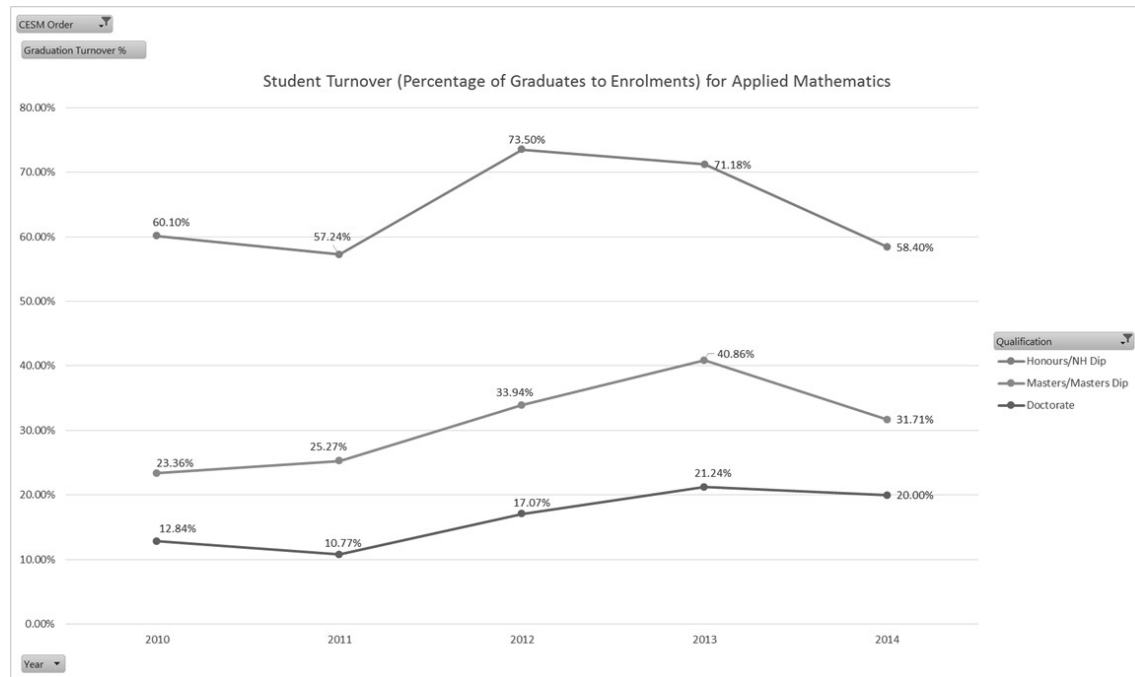


Table 5 Student turnover rates for Mathematics

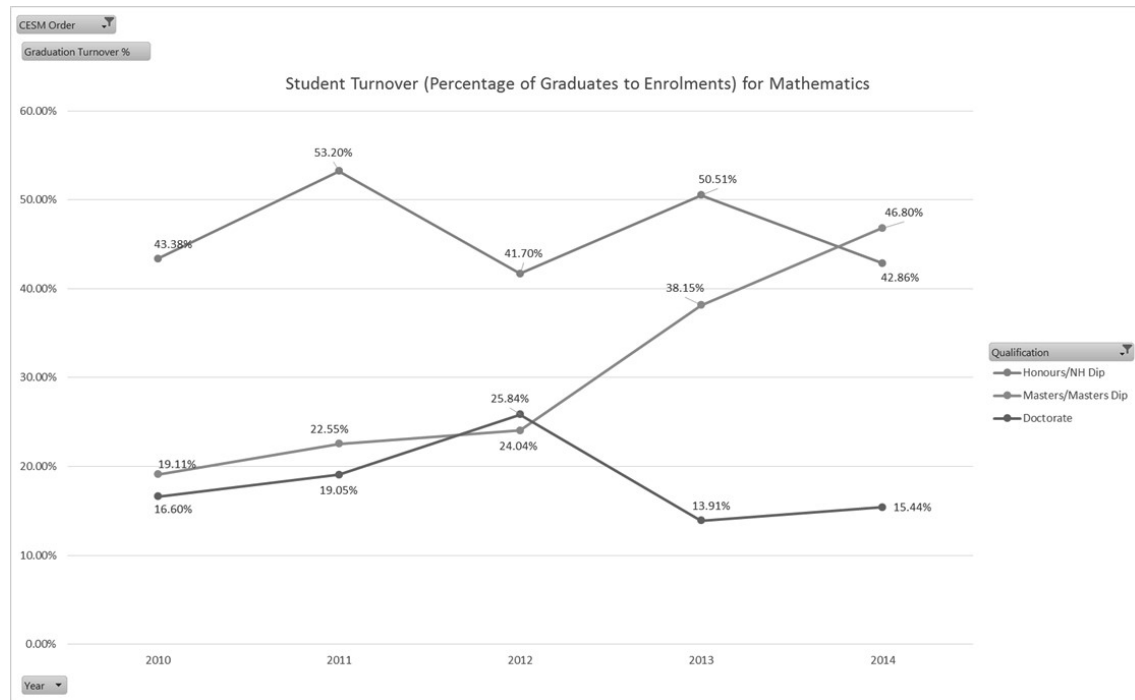
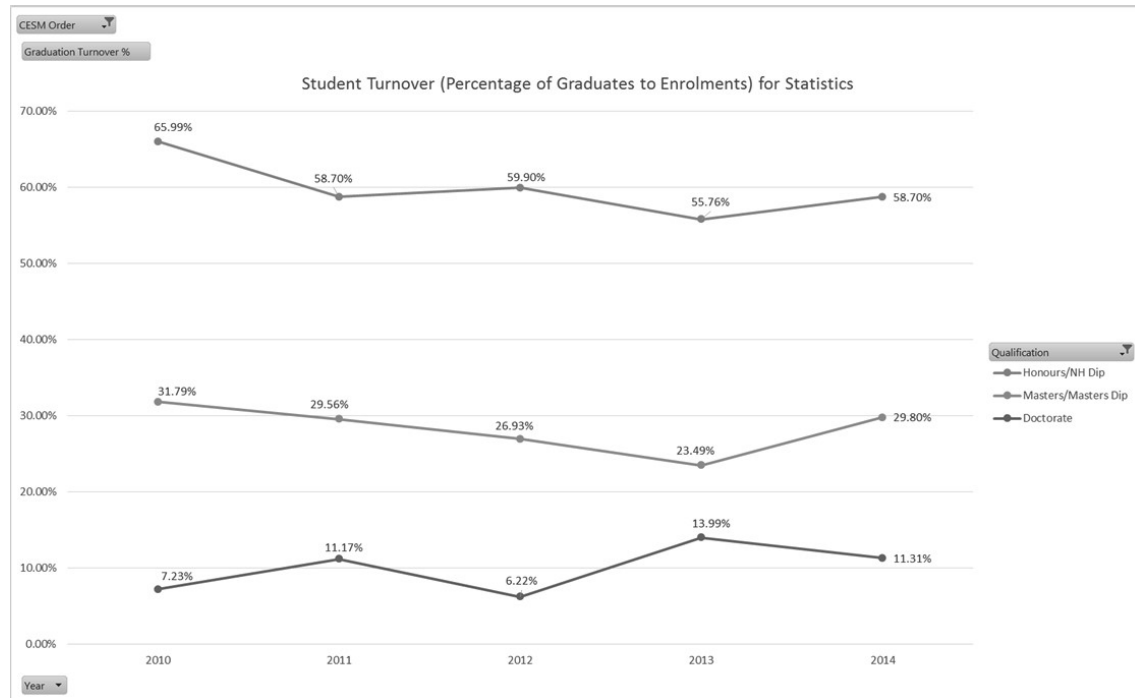


Table 6 Student turnover rates for Statistics



Improving the qualifications of mathematics and statistics academics is critical in order to contribute to the achievement of the National Development Plan target of at least 75% of higher education staff with a doctoral degree. This of course is also to improve the quality of academics and pool of potential supervisors in the fields of mathematics and statistics.

This project aims to scale up the current small-scale interventions by the NRF of the vulnerable discipline of academic statistics in which approximately R12m has been invested for the two three-year cycles with effect from 2015 to support masters and doctoral students through full time, part-time and staff development studies. The project will also dovetail the other interventions in support of and to improve mathematical and statistical sciences like DST-NRF Centre of Excellence in Mathematical and Statistical Sciences, DST-NRF research chairs initiatives and co-investments in research chairs between the DST, and First Rand Foundation, Anglo American Chairman's Fund and Rand Merchant Bank Fund in mathematics education and in numeracy education.

It is anticipated that mathematics and statistics staff at all universities that offer and postgraduate studies and programmes, and are employed as academics at higher education institutions will be eligible to apply and be supported through this staff development initiative. They will be selected on the basis of the criteria and processes developed by the institutions that are involved in this initiative – criteria and process which will take cognisance of among others, the principles of excellence, equity, transparency and fairness towards the achievement of the transformed mathematics and statistics research and academic sector.

3. Proposed interventions, deliverables and outcomes

The next generation of academics

The first part of this intervention is to identify, select and attract mathematics and statistics staff that possesses honours and or masters qualifications to study beyond these levels, and subsequently qualify to register and pursue doctoral studies.

This will be achieved by:

- Award two-year masters bursaries to a cohort of successful honours graduates employed within the mathematics and or statistics university departments, schools and or programmes to cover fees, education requisites and living cost for (2 years) masters degree;

- Absorb as many mathematics and statistics masters graduates into the academic departments in the country and continue support as below.

The objective of this intervention is to develop well-structured, in-service staff development opportunities for mathematics and statistics academic staff that are not yet in possession of either Masters or PhD degrees. It is envisaged that improving the qualifications of staff has the potential to significantly improve the quality of teaching of mathematical and statistical sciences at the undergraduate and graduate levels and improve research in the fields.

This will be achieved by:

- providing opportunities for a cohort of academic staff that have an honours degree/qualification as their highest qualification to either:
 - register for full-time or part-time Masters degree studies in mathematical and statistical sciences;
 - complete current Masters degree studies in mathematical and statistical sciences
- providing opportunities for academic staff that have a Masters degree as their highest qualification to either:
 - register for full-time or part-time PhD degree studies in mathematical and statistical sciences
 - complete current PhD degree studies in mathematical and statistical sciences

These participants will be supported in the following ways:

- The costs associated with buying out of teaching time to allow the staff to complete their studies; or
- Awarding of a short term (six month) sabbatical covered so as to enable prospective students to complete their studies within an acceptable time frame;
- Time-off for ALL programme participants to enable them attend and participate in at least TWO (2) structured block-release lectures and other interventions per year. Agreements with heads of department so as to enable 100% participation will be part of condition for participation.

Structured Masters and PhD programmes will be designed so as to:

- Expose prospective Masters or PhD students to the core topics in mathematical and statistical sciences that underpin further study in these disciplines³, with a special emphasis on the breadth and depth of that exposure. This need not be limited to in-service students only;
- Expose prospective Masters or PhD students to a formal component on contemporary teaching methods and curriculum development. Here, teaching and pedagogy specialists will be brought in to provide specialist instruction/training to strengthen teaching competency in mathematics and statistics. Such specialists would be invited to contribute to block release lectures throughout each year, for example Rhodes University's Higher Education Diploma instructors. This need not be limited to in-service students only.
- Expose prospective Masters or PhD students to other core skills such as scientific computing, communication, report writing and academic publication. This need not be limited to in-service students only.

Emerging academics

The objective is to develop opportunities for all emerging mathematics and statistics academic staff to develop a research culture within their institutions, to build their research capacity, and to develop research programmes in mathematics and statistics across departments and institutions. This will include persons that have recently completed their PhDs and working on the research and teaching expertise or specialisation portfolios. It is envisaged that this will significantly improve the productivity of emerging researcher outputs, thus increasing the international visibility of South African mathematical and statistical sciences. It will obviously also feed back into the quality of teaching of mathematical and statistical sciences at the undergraduate and graduate levels. It will also strengthen the supervision capacity of emerging researchers.

This will be achieved by:

- increasing the number of post-doctoral fellows in mathematics and statistics in South African institutions;
- increasing networking opportunities with established national and international researchers in mathematics and statistics;

³ Mathematics and statistics experts, SAMS, SASA, CoE-MSS etc. will agree on the key subfields and or areas that will be "taught" at these block-releases

- identifying suitable mentors to support the academic development of emerging researchers;
- Attendance at set interventions like research proposal writing; manuscript preparation for publication; development of reviewer skills etc.

These participants will be supported in the following ways:

- financial and other support for national, African and international post-doctoral fellows will be made available;
- emerging academics will be encouraged to participate in networking opportunities with established national and international researchers such as guest lectures, workshops, conferences, symposia;
- emerging academics will be encouraged to use networking opportunities to identify mentors and to create research networks with both national and international academics. Established researchers and professional societies will play an active role in exploring mentorship opportunities;
- staff exchange both nationally and internationally, will be encouraged to ensure successful mentorships and the development of research networks with emerging academics;
- other interventions such as proposal writing workshops, grantsmanship; manuscript preparation for publication; teaching techniques etc. that may coincide with the Annual SAMS or SASA; conferences; travel grants, buying out time for sabbaticals or teaching relief will also be available.

Established academics

The objective is to develop research opportunities for established mathematics and statistics academic staff to strengthen regional, national and international research programmes, and to create sustainable succession plans for emerging researchers with potential. It is envisaged that this will significantly improve the productivity of established researchers, thus increasing the international visibility of South African mathematical and statistical sciences. It will obviously also feed back into the quality (and possibly the excitement!) of teaching of mathematical and statistical sciences at the undergraduate and graduate levels, and will further strengthen the supervision capacity of both established and emerging researchers.

This will be achieved by:

- Providing a series of intensive one or two week workshops focusing on more advanced topics. These would not necessarily be limited to in-service academics, Potential Masters students and PhD candidates not employed in higher education institutions would not be excluded from these events, but would have to cover their own costs and or supported through funding other than this DHET staff development grant
- Providing platforms for established researchers to assess and interrogate internationally exciting research developments;
- Providing professional development retreats and other similar events around rapidly developing areas of research activity, cutting edge topics of exceptional contemporary interest and potential impact;
- Providing support for established researchers to branch out into potentially high risk new directions and potentially increase the impact of their research;
- Provide mentorship and guidance for established researchers in the development of short, medium and long term succession planning, including but not limited to the identification of undergraduate students with significant potential.

Outcomes and deliverables of this programme is to increase the number of academics in mathematics and statistics with improved postgraduate qualifications – ultimately a higher percentage of academics with doctoral qualifications in these fields! Better qualified and better informed academic staff who will have been exposed to the frontiers of knowledge in their areas of interest, and be well placed to generate interest and mentor juniors in these.

- In the short term (2017-2019), It is envisaged that by 2020, all academics teaching in the Mathematics and Statistics departments of all 26 universities in South Africa will have completed a Masters degree.
- In the medium term to long term (2021 onwards), the proportion of academics teaching Mathematics and Statistics at all 26 universities in South Africa who are PhD-holders will increase with a target of 15% by 2026.
- Established researchers, including retired researchers will be actively involved in the introduction of new, contemporary research topics into curricula, will actively identify young talent and will be actively involved in the development of regional, national and international research programmes.
- Established, improved and consolidated academic networks both locally and internationally among newly qualified academic staff;

- Leveraged more resources for in-service training and collaboration through national and international existing and new partnerships

4. Project Beneficiaries

The beneficiaries of the program will be

- (a) Development and strengthen the pool of academics for all universities;
- (b) the students graduating with junior degrees (bachelors and honours) having been better trained by more qualified mathematics and statistics lecturers in cutting edge contemporary research;
- (c) the academics currently in the employ of our universities being afforded the opportunity to gain confidence in their own teaching and research abilities, to improve their qualifications, and thus enhance their chances of promotion;
- (d) the participating universities having better qualified academics on their staff complement, enhancing their research output and their competitive status for student recruitment.

5. Alignment of the Project with the purpose and goals of the Teaching Development Grant

The project aims to support the development of better qualified in-service mathematics and statistics academics at all higher education institutions in South Africa, and in so doing better ensure a more sustainable academic pipeline. Entry level academics will be supported to engage in post-graduate studies, especially in the scarce skills areas of mathematics and statistics. This focus on the quality of in-service academics will more effectively support the development of new generations of academics. Enhanced student learning through the sustained focus on improving the quality and impact of university lecturers will inevitably improve student success. Since the qualifications of in-service academics at previously disadvantaged institutions are generally lower than those at more advantaged institutions, it is anticipated that the benefits of this project will primarily flow towards students and lecturers from marginalised groups.

This project is strongly aligned with priority ***“Development of university teachers and teaching”***. By developing pedagogical competencies to teach their disciplines well, university lecturers will competently teach at multiple levels, from undergraduate to postgraduate. The improved ability of university lecturers to supervise postgraduate student research more effectively will thus flow from both the pedagogical competency and the improved qualifications, resulting in academics that are well-grounded in their disciplines. Obvious quantitative success measures would be increased student success, especially at previously disadvantaged institutions, and increased percentages of lecturers with higher teaching qualifications.

6. Project Budget⁴

Total funds required by year	FY1	FY2	FY3	Total
	R8 288 500	R8 620 040	R8 964 801	R25 873 341 ⁵

Budget Required For FY 1			
Budget Item	#Units	Cost per Unit	Total
1. Winter/summer School-travel & board	6 ⁶	R1 000 000	R6 000 000
2. Activities planning Workshops	3	R135 000	R405 000
3. Local Conference Participation	30	R5 000	R150 000
4. Annual Steering Committee Meetings, Activities/Travel, venue	1	00000	000000 ⁷
5. International course participation	6 ⁸	R80 000	R480 000
6. Staff time Buy-out/ Replacement staff costs	10	R50 000	R500 000
7. Administrative costs/ support: Administrative Assistant (FT) & Academic Staff (PT)	10%		R753 500

⁴ The Unit Costs used here are closely aligned to some of the existing NRF Rates

⁵ Inflation increase of 4% year-on-year added to FY2 and FY3

⁶ Two (2) for each of Pure Mathematics; Applied Mathematics; and Statistics groups of the community

⁷ The National Research Foundation will contribute/cover costs up to ±R60 000

⁸ Two (2) for each of Pure Mathematics; Applied Mathematics; and Statistics groups of the community

Total	R8 288 500
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Budget Required For FY 2			
Budget Item	#Units	Cost per Unit	Total
SAME AS FY1			
			FY1 + 4% Inflation

Budget Required For FY 3			
Budget Item	#Units	Cost per Unit	Total
SAME AS FY1			
(REPEAT AS IN YEAR 1Total			FY2 + 4% Inflation

7. Detailed schedule of project activities with their costs, time and responsible human resources (SEE ATTACHED)

Schedule of Activities – Year 1					
Activities	Outputs	Timeframe		Responsible Person	Budget
		Start	Finish		

PLEASE SEE ATTACHED

Schedule of Activities – Year 2					
Activities	Outputs	Timeframe		Responsible Person	Budget
		Start	Finish		

Schedule of Activities – Year 3					
Activities	Outputs	Timeframe		Responsible Person	Budget
		Start	Finish		

PLEASE SEE ATTACHED