



TEACHING PORTFOLIO

Janet van Niekerk
2025

Elaborate portfolio available at
<https://github.com/JanetVN1201/Documents>

I have been involved in higher education teaching since 2012 and have lectured foundational and applied statistics courses on undergraduate and postgraduate level. I have developed and presented short courses for academic development of staff at universities, and Public Health institutions.

Table of Contents

1.	Executive summary.....	2
2.	Teaching innovations.....	4
3.	Teaching experience	5
3.1.	Higher education teaching	5
3.2.	Short courses developed and presented	5
4.	Teaching feedback.....	8
4.1	Short courses feedback.....	8
4.2	Higher education student feedback	8
4.3	Focus group interviews.....	9
4.4.	Formal peer review.....	9
	Annexure A.....	10
	Annexure B.....	11
	Annexure C	13
	Annexure D	15

1. Executive summary

Aristotle said “Educating the mind without educating the heart is no education at all.” This is especially true in South Africa where we learn in a diverse setting, with diverse styles and diverse prior knowledge. Through my latest international teaching experience in Saudi Arabia, United States of America, Portugal, France and other countries, this quote became all the more palpable and has influenced my teaching profoundly. I used to think that teaching was conveying information, but now I know that teaching is to touch lives, forever. The core of my teaching methods are the students and their learning. With this in mind, I have embarked on a journey to develop systems that are used to better current teaching methods, while aiming to never be disadvantageous to any student. My aim is to meet them where they are, and walk next to them to where they need to be.

My teaching experience can be summarized largely into two realms: firstly, undergraduate and graduate courses development and teaching in a traditional university setting, and secondly, short course development and delivery to Statistics departments at various international and national universities, public health institutes and research centers.

During my tenure as a senior lecturer at the University of Pretoria (UP, until 2018), I have developed and restructured various undergraduate and postgraduate courses. In first- and second-year Mathematical Statistics courses I innovated assessment-free tutorials for the aim of learning instead of the traditional assessment usage, as well as introducing industry-based projects in the first-year courses to align with the University of Pretoria’s vision of work-readiness. During my tenure at King Abdullah University of Science and Technology (KAUST), I was contracted as a lecturer for the second year Mathematical Statistics courses at UP during the COVID pandemic (2020) where I developed an industry-based project to aid work-readiness as described in the National Development Plan for 2030 (see Chapter 9)¹. This innovation displayed a far reach and I was invited by Prof. Paulette Bloomer to present a seminar on this endeavor at the annual Teaching Indaba. Also, during my tenure at KAUST, I developed and taught lecturing blocks of two postgraduate modules in the Department of Statistics at UP during 2021 and 2022. Prior to 2018, I developed and taught the Biostatistics for Biological Sciences (BME780) course at UP and taught it again in 2022, while tenured at KAUST. From 2019 until now I was an extraordinary lecturer at the University of Pretoria. In 2024, I was a contracted lecturer for a self-developed lecturing block of a postgraduate Bayesian statistics course at the University of Stellenbosch.

The disruptions of late 2016 at the University of Pretoria served as a catalyst for me to consider the fragility of teaching in person, in extreme circumstances, and as such I developed a framework (including sourcing of open-source software, roll-out on ClickUp and flipped classroom style pre-quizzes) for efficient and non-burdensome (in terms of data usage for students and filming the lecture for lecturers) online lecturing that formed part of the movement to hybrid learning². We implemented this system to replace one

¹ National Planning Commission, 2012. National Development Plan 2030: Our future—make it work. *Pretoria: National Planning Commission*. Available at http://www.gov.za/sites/www.gov.za/files/devplan_2.pdf, accessed on 28 November 2017.

² Available at <https://www1.up.ac.za/cs/groups/staffandstudent/@contrib/documents/document/chby/nde0/~edisp/uppr414591.pdf>. Final access on 25 November 2024.

contact lecture a week in 2017 for the first year Mathematical Statistics course and subsequently in 2018 for the second year Mathematical Statistics course.

I have been invited by the Deputy Dean: Teaching and Learning in the Faculty of Natural and Agricultural Sciences, as well as the Deputy Dean of the Faculty of Economic and Management Sciences at the University of Pretoria to present seminars about this system. I have presented a seminar about this system also at the Mamelodi campus on invitation, one such seminar is available at <https://www.youtube.com/watch?v=jyN974hdVig>. This development became essential when the COVID pandemic arose and various lecturers used this framework. Moreover, I used this system to implement Just-in-Time teaching (see Novak et. al. (1999)³) to ensure that that deep learning takes place in class, by conveying the factual content online.

These innovations were part of the reason that I won the Department of Statistics Teaching award in 2017 and was nominated by students from the NAS faculty for the best first-year lecturer award.

More recently, during my tenure at KAUST, I had no formal teaching responsibilities but was invited to teach short courses (which I developed) at the Centers for Disease Control and Prevention (USA), Flatiron Institute (USA), University of Lisbon (Portugal), Bordeaux Public Health department (France), University of South Africa (RSA), Universitas Airlangga (online available <https://www.youtube.com/watch?v=a-unDONKoRw>, Malaysia), KAUST (KSA) and some others. These opportunities helped me to evolve as a teacher, of not only students but also peers, peers with various backgrounds and domain expertise.

My continued involvement in teaching at South African universities (and abroad) since 2018, while at KAUST, is a testament to my love of teaching. My passion to teach led me to complete the Higher Education teaching certificate from Harvard University in 2022 (Annexure A).

Since I started as a lecturer in the Department of Statistics, UP, in 2013 (previously junior lecturer since 2012), I have gained invaluable teaching experience and I keep reforming myself into the teacher I need to be for the audience in front of me, in that particular setting and circumstances. This dynamic view of teaching is what drives me to constantly develop new innovative approaches while being rooted in experience-driven tried and trusted methods.

³ Novak, G, Patterson, E.T., Gavrin, A.D., and Christian, W. 1999. *Just-In-Time Teaching: Blending Active Learning with Web Technology*, Upper Saddle River, NJ: Prentice Hall.

2. Teaching innovations

While at UP, until 2018, I developed and implemented mainly three innovations namely online lectures, assessment-free tutorials and an industry-based project.

The online lecturing system was first implemented in 2017 and gained popularity at an exponential rate. The popularity is largely due to the possibilities and ease of use of the system. It lends itself naturally to lecturing as well as feedback. This innovation makes a hybrid learning model attainable for most (if not all) disciplines. I have been invited by the Deputy Dean: Teaching and Learning in the Faculty of Natural and Agricultural Sciences, as well as the Deputy Dean of the Faculty of Economic and Management Sciences to present seminars about this system.

Tutorials have been part of curriculums for a long time. My belief is that they should be used for learning and not only for assessment. Through the lens of Vygotsky's zone of proximal development (1980)⁴, I developed a system where a safe space for learning is created without the threat of assessment. A tutorial like this provides the opportunity for students to actively engage with the content in a peer-instructive environment.

Research-based learning is vital for work-readiness (in line with the graduate attributes contained in Addendum D of UP Policy on Curriculum Design and Development Addendum D: S4458/12⁵ as amended at the Senate meeting of Aug 2017 and the National Development Plan for 2030 (see Chapter 9)⁶). To employ research-based learning I incorporated an industry-based project into the first and second year Mathematical Statistics courses. This type of engagement with the content, facing a real-life problem, produces higher level learning as described by Bloom's taxonomy (see Anderson et.al. (2001)⁷) which was the main rationale for this innovation.

Each of the innovations has been evaluated and data-driven refinement was applied to the initial approaches. This refinement is based on feedback received from the students through various instruments and is presented in this portfolio.

I lectured Mathematical Statistics, Biostatistics and Research methodology courses from 2011 to 2018 at the University of Pretoria, a Bayesian inference course in 2024 and 2025 at Stellenbosch University and occasionally a Computational Statistics course at KAUST. During this time I have evolved into a teacher that I am proud of with excellent knowledge of my field but more importantly, humility and empathy. I was promoted to senior lecturer in 2018 and won the departmental teaching award in 2017. In 2017 I was nominated by the first-year students in the Faculty of Natural and Agricultural Sciences at the University of Pretoria as the best first-year lecturer.

⁴ Vygotsky, L.S., 1980. *Mind in society: The development of higher psychological processes*. Harvard university press.

⁵ University of Pretoria, available at <https://www1.up.ac.za/webcenter/portal/staffintranet/topic?contentID=UPPR009185>, accessed on 25 September 2017.

⁶ National Planning Commission, 2012. National Development Plan 2030: Our future—make it work. *Pretoria: National Planning Commission*. Available at http://www.gov.za/sites/www.gov.za/files/devplan_2.pdf, accessed on 28 November 2017.

⁷ Anderson, L.W., Krathwohl, D.R., Airasian, P., Cruikshank, K., Mayer, R., Pintrich, P., Raths, J. and Wittrock, M., 2001. A taxonomy for learning, teaching and assessing: A revision of Bloom's taxonomy. *New York. Longman*

3. Teaching experience

3.1. *Higher education teaching*

I have been involved in higher education teaching as a lecturer since 2012. I have taught various courses of Mathematical and Applied Statistics at varying levels of study, from first year to postgraduate level. My experience as a lecturer at a higher education institute is summarized in Table 1. All courses taught were at the University of Pretoria except STAT 441/ STAT 711 which was at Stellenbosch University, South Africa and STAT 340 which was at King Abdullah University of Science and Technology, Saudi Arabia.

3.2. *Short courses developed and presented*

I have presented short courses and workshops on Bayesian Statistics and Applications to academic staff at higher education institutes as well as at governmental departments. A summary follows.

2019

Approximate Bayesian inference using INLA, University of South Africa, South Africa

<https://www.wits.ac.za/media/wits-university/faculties-and-schools/science/computer-science-and-applied-mathematics/Invitation%20INLA%20UNISA%2024-27%20June%202019.pdf>

2020

Introducing R-INLA and its Applications, Universitas Airlangga, Indonesia

<https://www.youtube.com/watch?v=a-unDONKoRw>, <https://stat.fst.unair.ac.id/the-r-inla-workshop-was-a-big-success/>

2022

Public Health using INLA, Bordeaux population health center of INSERM, University of Bordeaux, France

https://github.com/JanetVN1201/Bordeaux_course_2022

Efficient Bayesian inference, University of Lisbon, Portugal

https://github.com/JanetVN1201/Lisbon_course_2022

2024

Data science for Public Health using R-INLA, Centers for Disease Control and Prevention, USA

https://github.com/JanetVN1201/INLA-CDC_2023

Bayesian modeling for environmental sciences, University of Pretoria, South Africa

https://github.com/JanetVN1201/INLA_UP_2024

Spatial modeling with INLA, International Symposium on Modern Statistics and Biostatistics, University of Pretoria, South Africa

<https://www.up.ac.za/cf-symposium2024/article/3232129/workshop-presenters>

Table 1. Students teaching involvement

Year	Module	No of student s	% pass	Hours lectured	Hours tutorials	Weeks involved	Student evaluation	Total involvement
2011	BME120	1400	88%	3 pw	2 pw	14	4.1	I was responsible for the Afrikaans content and setting up half of the assessments.
2012 ⁸	WST111	380	70%	8 pw	6 pw	7 weeks	4.6	I was the coordinator in 2014, 2015 and 2017. I set half of all the learning activities and assessments. I am also responsible for the mentoring of the tutors of the course.
2012 ¹⁰	WST121	520	74%	8 pw	6 pw	7 weeks	4.6	I was the coordinator in 2014, 2015 and 2017. I set half of all the learning activities and assessments. I am also responsible for the mentoring of the tutors of the course.
2018 ⁹	WST 211	280	70%	8pw	6pw	7 weeks	4.8	I developed my block of the course (half) and set half of all the learning activities and assessment. In 2021, I developed an industry-based project as the practical component.
2018 ¹⁰	WST 221	250	72%	8pw	6pw	7 weeks	4.2	I developed my block of the course (half) and set half of all the learning activities and assessment. In 2020, I lectured remotely from Saudi Arabia. In 2021, I developed an industry-based project as the practical component.
2016 ¹¹	STK 353	50	89%	1 pw	-	1 week	NA	I presented an expert lecture in this course and did not conduct student feedback.
2015 ¹²	NME702	30	NA	2 pw	-	1 week	4.7	I present the quantitative research methodologies part of this course.

⁸ For six years (2012 - 2017).

⁹ For two years (2018, 2021).

¹⁰ For three years (2018, 2020, 2021).

¹¹ For three years (2016 - 2018).

¹² For three years (2015-2017).

2021 ¹³	STC 720	30	NA	1.5 pw	-	4 weeks	NA	I developed the content and exam for my block of teaching.
2024	STAT 441 STAT 711	18	100%	3 pw	-	7 weeks	NA	I developed the content and exam for my block of teaching. This course is presented at Stellenbosch University.
2016 ¹⁴	BME780	50	94%	9 pw	10.5pw	3	4.6	I was the coordinator of this course. In 2016 I was solely responsible for the lecturing part of the course. In 2017 and 2018, I was responsible for 50% of the course (lecturing and setting of assessments). In 2022 I was involved as the coordinator (remotely).
2018 ¹⁵	STAT 340	15	100%	2 hrs	-	1	NA	I was a replacement lecturer in this course when the lecturer would travel for work. It is presented as a PhD level course at KAUST.

¹³ For two years (2021-2022).

¹⁴ For four years (2016-2018, 2022).

¹⁵ For seven years (2018-2025)

4. Teaching feedback

4.1 Short courses feedback

“Thank you again for the excellent training in the use of INLA at the CDC in Atlanta. The comments I have received from the trainees were universally positive and appreciative of your expertise, presentation skills and generosity. The demonstrations of the range of models which can be fitted using INLA and the advantage of computational speed impressed all, and several participants indicated to me their intent to use INLA in future work. We cannot thank you enough.” -

Steve Gutreuter, PhD (Statistics, Estimation and Modeling Team, Division of Global HIV & TB, Global Health Center, Centers for Disease Control & Prevention), USA

“Janet just visited us here at Flatiron and caught us up on the variational inference improvements you two added to INLA. Very cool! And a really great presentation of the original INLA.” - *Prof. Bob Carpenter, Flatiron Institute, USA*

“Hi Janet, My colleagues have already informed me that the short course was really good today. Well done!” - *Prof. Giovanni Silva, University of Lisbon*

4.2 Higher education student feedback

I have consistently received good feedback scores and I use the student feedback to guide my approach to the next year that I lecture the course. I believe that student opinion is very important since it is my job to teach them and if they feel like that is not happening, it should be taken seriously.

Some student comments (up to 2018) are:

“Thank you for all your help last year. The foundation you laid helped me cope with 211 and 221. You are the best lecturer I ever had” – 2015 WST211 student

“You invite personal growth through your lecture style”, “You have excellent teaching, social and communication skills” and “You help me see the bigger picture”– 2016 WST111 students

I have implemented various innovations based on student feedback such as a change in the tutorial session which was largely driven by student feedback from 2013 and the industry-based projects for first and second-year Mathematical Statistics students in 2017 and 2021, respectively.

The most recent formal student feedback is available in Annexure B.

4.3 *Focus group interviews*

In 2016, focus group interviews were done for BME780 by the educational consultant, Dr. Ina Louw. Some comments about me as a lecturer are: “She made it less intimidating”, “She did very well and is very approachable”, “I appreciate that she did not explain to us as if she is smarter than us” and “Great and excellent presenter”.

Excerpts of the focus group interview responses are available in Annexure C.

4.4. *Formal peer review*

In 2017, I was peer reviewed by my colleague, Dr. Nina Strydom, and NAS’s educational consultant Dr. Ina Louw. I used their feedback to improve my teaching and appreciated the constructive criticisms. The full reports are available in Annexure D.

Annexure A



HARVARD

THE DEREK BOK CENTER FOR
TEACHING AND LEARNING

Certifies that

Janet Van Niekerk

successfully completed all requirements for the

Higher Education Teaching Certificate

*Through Harvard's Derek Bok Center for Teaching and Learning
in association with*

HarvardX

June - August 2022
Issued on: 5 October 2022

Bharat N. Anand
Vice Provost for Advances in Learning

Annexure B

Dosent/Lecturer	Ms Janet van Niekerk
Module	NME 702
Datum/Date	2016/05/17
Aantal vorms/Number of forms	16
Gemiddelde/Average	4.7

Nota: Waar studente nie alle antwoorde voltooi het nie, tel die kolomme nie op na die aantal vorms nie.
Note: Where students did not answer all questions, columns did not add up to the number of forms.

	1	2	3	4	5	6	7	8	9	10	11	G/A	12	13	14	15	16	G/A
0	5	14	14	5	11	12	14	14	8	10	13	8	72%	0	0	0	0	0%
5	4	2	1	8	4	4	2	2	8	6	1	7	26%	0	0	0	0	0%
	3	0	0	2	1	0	0	0	0	0	0	0	2%	0	0	0	0	0%
	2	0	0	1	0	0	0	0	0	0	0	0	1%	0	0	0	0	0%
	1	0	0	0	0	0	0	0	0	0	0	0	0%	0	0	0	0	0%
	0	0	0	0	0	0	0	0	0	0	0	0	0%	0	0	0	0	0%
GEM/	4.9	4.9	4.1	4.6	4.8	4.9	4.9	4.5	4.8	4.9	4.5	4.7	0.0	0.0	0.0	0.0	0.0	0.0
AVG	4.9	4.9	4.1	4.6	4.8	4.9	4.9	4.5	4.8	4.9	4.5	4.7	0.0	0.0	0.0	0.0	0.0	0.0
TOT	16	15	16	16	16	16	16	16	16	14	15		0	0	0	0	0	0

Onderrig en assessering/Teaching and assessment

Add.Items

Vraag / Question
1. Die dosent het studente met respek behandel / The lecturer treated students with respect.
2. Die dosent was toeganklik / The lecturer was approachable.
3. Die onderrigaktiwiteite het my gehelp om voor te berei vir assesserings / Teaching activities helped me to prepare for assessment.
4. Die onderrigaktiwiteite het ooreengestem met die genoemde uitkomst / Teaching activities were in line with the stated outcomes.
5. Die dosent het die leerinhoud verstaanbaar verduidelik / The lecturer explained the subject matter in a way that I can understand.
6. Ek het die dosent as 'n kundige op sy/haar gebied ervaar / I experienced the lecturer as knowledgeable in his/her subject.
7. Die dosent was goed voorberei / The lecturer was well prepared.
8. Die dosent het intellektuele uitdagings gestel / The lecturer challenged me intellectually.
9. Die onderrigbenadering het geleentheid gebied vir interaksie in die klas / The teaching approach provided opportunity for interaction in class.
10. Die dosent was entoesiasties / The lecturer was enthusiastic.
11. Die dosent het geleentheid vir onafhanklike studie geskep / The lecturer created opportunities for independent study.

Dosent/Lecturer	Dr Janet van Niekerk
Module	WST 111
Datum/Date	2017/05/24
Aantal vorms/Number of forms	185
Gemiddelde/Average	4.5

Nota: Waar studente nie alle antwoorde voltooi het nie, tel die kolomme nie op na die aantal vorms nie.
Note: Where students did not answer all questions, columns did not add up to the number of forms.

	1	2	3	4	5	6	7	8	9	10	11	G/A	12	13	14	15	16	G/A
0	5	148	126	103	121	106	141	139	110	91	103	108	64%	93	0	0	0	54%
4	4	32	49	61	50	58	34	39	57	60	57	58	27%	52	0	0	0	30%
	3	4	8	15	10	16	7	3	12	28	17	12	6%	23	0	0	0	13%
	2	0	1	4	2	3	2	2	5	4	4	5	2%	1	0	0	0	1%
	1	1	1	2	2	2	1	2	1	1	3	1	1%	4	0	0	0	2%
GEM/	4.8	4.6	4.4	4.5	4.4	4.7	4.7	4.5	4.3	4.4	4.5	4.5	4.5	4.3	0.0	0.0	0.0	4.3
AVG	4.8	4.6	4.4	4.5	4.4	4.7	4.7	4.5	4.3	4.4	4.5	4.5	4.5	4.3	0.0	0.0	0.0	4.3
TOT	185	185	185	185	185	185	185	185	184	184	184	184	185	0	0	0	0	

Onderrig en assessering/Teaching and assessment

Add.Items

Dosent/Lecturer	Dr Jane van Niekerk
Module	WST 111
Datum/Date	2017/05/24
Aantal vorms/Number of forms	31
Gemiddelde/Average	4.6

Nota: Waar studente nie alle antwoorde voltooi het nie, tel die kolomme nie op na die aantal vorms nie.
Note: Where students did not answer all questions, columns did not add up to the number of forms.

	1	2	3	4	5	6	7	8	9	10	11	G/A	12	13	14	15	16	G/A
0	5	26	20	15	21	21	26	25	18	11	19	14	63%	7	0	0	0	25%
4	4	5	9	15	9	8	3	6	10	18	10	14	31%	14	0	0	0	50%
	3	0	2	0	1	2	2	0	3	2	2	3	5%	5	0	0	0	18%
	2	0	0	1	0	0	0	0	0	0	0	0	0%	1	0	0	0	4%
	1	0	0	0	0	0	0	0	0	0	0	0	0%	1	0	0	0	4%
GEM/	4.8	4.6	4.4	4.6	4.6	4.8	4.8	4.5	4.3	4.5	4.4	4.6	3.9	0.0	0.0	0.0	0.0	3.9
AVG	4.8	4.6	4.4	4.6	4.6	4.8	4.8	4.5	4.3	4.5	4.4	4.6	3.9	0.0	0.0	0.0	0.0	3.9
TOT	31	31	31	31	31	31	31	31	31	31	31	31	28	0	0	0	0	

Onderrig en assessering/Teaching and assessment

Add.Items

Dosent/Lecturer	Dr Janet van Niekerk
Module	WST 121 (B)
Datum/Date	2017/10/13
Aantal vorms/Number of forms	197
Gemiddelde/Average	4.5

Nota: Waar studente nie alle antwoorde voltooi het nie, tel die kolomme nie op na die aantal vorms nie.

Note: Where students did not answer all questions, columns did not add up to the number of forms.

		1	2	3	4	5	6	7	8	9	10	11	G/A	12	13	14	15	16	G/A
0	5	150	129	107	102	99	140	132	111	97	103	114	60%	3	1	0	0	0	33%
3	4	40	53	57	69	66	45	52	59	58	60	60	29%	0	0	0	0	0	0%
	3	3	9	28	21	24	8	8	20	37	26	16	9%	1	0	0	0	0	8%
	2	0	2	2	2	3	1	2	2	2	5	2	1%	0	0	0	0	0	0%
	1	2	1	1	1	3	1	1	2	1	1	2	1%	4	3	0	0	0	58%
	GEM/AVG	4.7	4.6	4.4	4.4	4.3	4.7	4.6	4.4	4.3	4.3	4.5	4.5	2.8	2.0	0.0	0.0	0.0	2.4
	TOT	195	194	195	195	195	195	195	194	195	195	194		8	4	0	0	0	
	Onderrig en assessering/Teaching and assessment													Add.Items					

Dosent/Lecturer	Dr Janet van Niekerk
Module	WST 121 (A)
Datum/Date	2017/10/13
Aantal vorms/Number of forms	41
Gemiddelde/Average	4.6

Nota: Waar studente nie alle antwoorde voltooi het nie, tel die kolomme nie op na die aantal vorms nie.

Note: Where students did not answer all questions, columns did not add up to the number of forms.

		1	2	3	4	5	6	7	8	9	10	11	G/A	12	13	14	15	16	G/A
0	5	32	30	21	24	23	34	34	28	22	22	24	65%	1	0	0	0	0	50%
4	4	8	9	17	14	12	6	5	12	12	14	13	27%	0	0	0	0	0	0%
	3	1	2	2	3	4	1	2	1	6	4	1	6%	0	0	0	0	0	0%
	2	0	0	1	0	2	0	0	0	1	1	1	1%	0	0	0	0	0	0%
	1	0	0	0	0	0	0	0	0	0	0	2	0%	1	0	0	0	0	50%
	GEM/AVG	4.8	4.7	4.4	4.5	4.4	4.8	4.8	4.7	4.3	4.4	4.4	4.6	3.0	0.0	0.0	0.0	0.0	3.0
	TOT	41	41	41	41	41	41	41	41	41	41	41		2	0	0	0	0	
	Onderrig en assessering/Teaching and assessment													Add.Items					

ies/lvs

Vraag / Question
1. Die dosent het studente met respek behandel / The lecturer treated students with respect.
2. Die dosent was toeganklik / The lecturer was approachable.
3. Die onderrigaktiwiteite het my gehelp om voor te berei vir assesserings / Teaching activities helped me to prepare for assessment.
4. Die onderrigaktiwiteite het ooreengestem met die genoemde uitkomst / Teaching activities were in line with the stated outcomes.
5. Die dosent het die leëinhoud verstaanbaar verduidelik / The lecturer explained the subject matter in a way that I can understand.
6. Ek het die dosent as 'n kundige op sy/haar gebied ervaar / I experienced the lecturer as knowledgeable in his/her subject.
7. Die dosent was goed voorberei / The lecturer was well prepared.
8. Die dosent het intellektuele uitdagings gestel / The lecturer challenged me intellectually.
9. Die onderrigbenadering het geleentheid gebied vir interaksie in die klas / The teaching approach provided opportunity for interaction in class.
10. Die dosent was entoesiasies / The lecturer was enthusiastic.
11. Die dosent het geleenthede vir onafhanklike studie geskep / The lecturer created opportunities for independent study.

Annexure C

Abbreviated transcription of the two FGI for BME780

I: How did you experience BME as a "bootcamp"?

R: It was quite intense the 2 weeks – expected it to be more difficult than it really was. Liked the biological examples. It was more relevant than just numbers, more in context. It was challenging to keep your brain active for an entire day. The pracs gave great experience, very helpful

WL: It was stats on steroids. Not a common feeling, but true for some.

I: What about you No 21?

WL2: What's the question again? (I asked if he is still traumatized after the test and he just laughed. I repeated the question)

Ja, it was all right. I had stats before, but it was a while ago, so it was rusted.

I: If you can change 1 thing, what would it be?

R: The actual schedule from 8-16:00. The prac was ok, but to pay attention in lectures was tough. Maybe 10 min breaks more frequently.

Introduce a prior knowledge test. I was lucky, as I had previous experience with R, but some had none, not even another programme. Assess prior knowledge and offer a catch-up course.

I: Did you feel you lacked prior knowledge here and there?

R: Yes, for knowing which test to run, but not for the typing. In Zoology we used R but they told us do this test or that one, but not why.

Some of us didn't use stats in a couple of years, so we are unprepared after 4 years.

I: How should this catch-up course be structured?

R: A lecturer to explain the why is always best. It's the basics like what a statement means, how to interpret a statement into logical terms, communicating to a pc that was lacking. It would be difficult to do online.

21 Make the course longer, start with a refresher.

9 My knowledge was fresh so I was OK. I didn't need a refresher course.

11 We did revision as we went along. The work was better explained than in the 1st year. I also have no need for a refresher course.

7 My problem was that I only had stats in Y1 and now again in HON. We should have more years of stats as Zoology is all about stats.

16 I felt that it was the maths part of the stats that I struggled with. It was as if she went into too much detail with the math and then you say "what", but then you get it and you realise its actually not that difficult. That was confusing and not the main idea of the course.

5 In Y1 all tests were MCQs. Now you have to analyse and interpret and write it down, and you realise that you can't put it into words. In Y1 you could also guess and still pass. I think that is how most people passed.

9 More examples in class time can help. Not only at the pracs. Pracs would have been easier if there was a set way of doing things.

I: What about short video clips explaining basic concept?

R: Yes, that can work well. Things like how to set a working directory in the program. So you can have the basics: importing data (I have forgotten how).

I: When should this catch-up be done?

R: Just before the bootcamp as we don't know long in advance that we are accepted for Hons.

I: Did the course and value and how?

R: Yes, it made me think about my own data and how I would analyse it and sample for it. How to plan the whole project and how the sampling provides stats. The timing is perfect - must be before the fieldwork.

I: Who else can assist with stats?

Supervisor, Dr Grieve and Mark

I: What about the textbook?

R: It was very confusing as the screenshots are in minitab and not R. The textbook explains the stats and analysis well, but you need a very solid understanding to transform the minitab info into R.

One student admit that he never laid eyes on the text book.

11: Read it. She took some examples and explained it better than the book.

19: Self confession: I don't get much in a lecture. I must have a text book. It helped a lot.

I: Notes?

R: Lecture slides were brilliant and helpful. Screenshots were that of R and the lecturer used it well. BUT all the coding was not on the slides so you see the output but don't know how to get there. Some tutorials also had very simplified slides. Helped a lot.

I: What do you need before the exam?

R: Passed papers, but that doesn't exist, so sample questions. The exam is now set by stats and not plant science, so it will be a different format, also not open book or with a PC to run the analysis. We don't know what to expect. We need more exercises like the tutorials with analysis.

18 A break down of all the tests to use. A summary of how to use it and how to interpret it. A cheat sheet with explanations. I was sick and missed a lot.

11 She gave us a mind map. Just sit down and study it. (Someone gave him a copy).

13 A revision session to go through one example of each type of analysis. Some examples could only be done partially as all the theory were not covered and then 2 days later we would return to complete that problem. It was kind of confusing. If we now can do them in one go to get a holistic picture.

I: What if this is done by video clips?

R Yes, that can work.

I: What do you need before the exam? (cont)

20 I like to have exam type questions/exercises.

9: The use of comprehensive examples – she can supply some and it will help a lot.

9: We've got theoretical component and pracs but they didn't give us any memos to see if our coding is ok. So we are never sure. We really need confirmation of the coding.

16: Some of us study better by doing examples and self-study and not lectures. During the test this morning I realised what I did wrong last time. Small tests with feedback can work well because you can see that you understand and move on.

11: We actually need a memo. In 1 prac I asked one tutor and he said my coding was all wrong. Then I asked my supervisor and he said: "yes that is exactly what you should do". So that is why we need memos.

13: To get an idea what an exam could look like, how long etc.

I: Message to lecturer

Annexure D

Reviewee name	Janet van Niekerk	Reviewer name	Ina Louw
Date:	17/3/2017	Relationship between reviewer and reviewee	EC
Time/duration	11:30-12:20	Module	WTW111
Venue	Cent 6	Level of study	1 st year
Approx. no of students	300	Composition of the group	Normal
Topic of session	CDF	Type of session (Lecture, practical, seminar, other)	Lecture

Outcomes of the session:

1) Not given on slides, but shared verbally

Criteria	Scoring			Comments
1 = Not yet competent 2 = Competent 3 = Exceeds competency expectations	1	2	3	
Elements of the lecture:				
A: Introduction				
Mood/ Motivate/Role clarification (Captured attention)			x	You asked them if you should ask about the thing of last night (test). You spend some moments asking and joking with them.
Activated prior knowledge			x	You referred them back to the previous lecture and explained where you will continue and your slide was open at that spot in their textbook. I agree that this style works well in the numerical subjects.
Placed topic in context of bigger picture			x	You explained how everything fits and what is still to come and motivate them by saying the most difficult chapter is now behind them.
Flipped classroom activities	Yes		No	You mentioned the JITT and referred to it.
Integration of pre-class activities (if applicable)				
B: Body				
B1: Pace, presentation, class management & communication				

Voice: quality, volume, language usage			x	You use the microphone well. You have good tone and fluctuation in your voice for the size of the venue. You are enthusiastic.
Eye contact (Yes or No?)	Yes		No	You even walked and assisted them at their desk when the entire class was calculating an answer.
Self-confidence, attitude, use of space			X	You are very confident, you fill the room with positive energy and knowledge and one student told me you climb into the content.
Use of equipment/media			x	You are very familiar with your equipment and move smoothly from the tablet to the PPT that is the notes in their books. It is important that you use the book, since then in looks exactly like their version and in year 1 they confuse too easily.
Engaging students			x	Excellently so. I was impressed that you allow time for them to solve a problem in class and could there and then solve misconceptions.
Relevance: Application/purpose			x	Due to your linking of topics in the beginning, the relevance was clear to them.
Differentiation with respect to learning styles			x	You included the auditory and visual learners by drawing number lines and graphs wherever possible to assist their understanding.
Sensitive handling of cultures, genders & races				N/a You were respectful to all.
4. Adapts to learning environment (Responsiveness to student needs, venue limitations, use of teaching technologies, etc.)			x	You use the tablet so well for that large venue.
Content reflect diversity of perspectives and contexts				N/a it is Stats.
Relevant to study year and NQF level			x	Your pace and approach was perfect.
Content was well prepared, organised and presented			x	Your tablet work is a good size and the book works well. The work is as structured as needed for the subject.
Questions & Answers constructively done			x	You asked and received questions and they were handled well. You keep them engaged by pausing for questions.
Clear explanations			x	I explain very well and the students shared that with me.

Students remained engaged			x	Because they have to calculate answers with you and copy, they stay engaged. You didn't once have to call them to silence.
Was opportunity for student feedback created			x	You asked after the activity who needs help and one asked a question, then you asked again if there were more questions with "All OK?"
Was learning monitored?			x	You asked throughout the lecture if they follow, if they are satisfied with the answer etc.
C: Conclusion				
Wrap up/Summarise			x	You didn't wrap up the session. I would have loved a concluding explanation (asked from the students) about the difference between x and y. (you know what I mean).
Move on (preview of next lecture)			x	You moved on in a bit of a rush, yet there was still time. I think the time on your tablet was incorrect. You gave them homework and that was great, you also reminded them about no pracs and tuts for next week. Then you invited them to write a muddiest point at the back of their attendance slip, but they have already passed it to the isle, so that should have been planned better. It is a great strategy!
Documentation				
Study guide (appropriateness & clarity)	The study guide is very well-structured and detailed. The only missing components are the new information about FLY and the information about student support. I have attached it.			
Assessment plan (fairness and transparency)	The plan is given in the study guide and is fair.			
Assessment tasks (fair, valid, reliable)	The assessment is constructively aligned and well-structured and presented.			
ClickUP presence (nature)	You use clickUP in a planned and constructive way with multiple activities such as JITT,			
5. Candidate's strengths	You are young, approachable, explains well and is patient (according to the students). All these qualities combined with your obvious love for stats and maths makes you a champion in the class.			
6. Candidate's areas for improvement	Only your conclusion section needs better planning. Announce that slips should be retained for a question that will follow, when the students hand			
	out the attendance slips. Then announce the muddiest point when the lecture is over.			

Reviewee name	Janet van Niekerk	Reviewer name	Nina Strydom
Date:	2017-03-22	Relationship between reviewer and reviewee	Colleagues presenting the same course
Time/duration	50 minutes	Module	WST111
Venue	Large Chemistry	Level of study	First year
Approx. no of students	340	Composition of the group	Very heterogeneous
Topic of session	The cumulative distribution function and expected value of a random variable	Type of session (Lecture, practical, seminar, other)	Lecture

Outcomes of the session:

- 1) obtain $P(a \leq X \leq b)$ from the distribution function $F(x)$
- 2) define the expected value of a discrete random variable
- 3) observe that the expected value is a weighted average of all possible values of the discrete random variable where the weights are the probabilities of those values

Criteria	Scoring			Comments
1 = Not yet competent 2 = Competent 3 = Exceeds competency expectations	1	2	3	
Elements of the lecture:				
A: Introduction				
Mood/ Motivate/Role clarification (Captured attention)			3	The candidate has a friendly, energetic, engaging, but relaxed approach to students. Her youth inspires students to follow her example.
Activated prior knowledge			3	A verbal summary of previous work and homework assignments are used to activate prior knowledge.
Placed topic in context of bigger picture			3	The candidate gives the bigger picture of the relevant material within the context of the course, but also in terms of practical application.
Flipped classroom activities	Yes	No		Students have to do Just In Time learning assignments prior to the lecture. The prior knowledge is invoked in discussion of new concepts.
Integration of pre-class activities (if applicable)			3	
B: Body				
B1: Pace, presentation, class management & communication				
Voice: quality, volume, language usage			3	The candidate communicates clearly in a language the students relate to.
Eye contact (Yes or No?)	Yes	No		
Self-confidence, attitude, use of space			3	The candidate shows the necessary self-confidence, reflects an openness

				to students and interacts with students (also by walking around in class) as part of the learning session.
Use of equipment/media			3	The candidate combines old and new technology very effectively: from text book referrals to interactive emphasis and explanation with colour and sketches.
Engaging students			3	Students participate by attempting exercises based on new concepts throughout the contact session.
Relevance: Application/purpose			3	The candidate is very good at focusing on the essence of a topic.
Differentiation with respect to learning styles			3	The candidate is in touch with the way that students approach problems and give them clues how to remember key aspects and rules of the topic being considered. She takes cognisance of students' different learning styles by inviting them for consultation if they have need for a different explanation of concepts covered.
Sensitive handling of cultures, genders & races			3	Questions from students are treated with patience and careful consideration. Students are accommodated (amongst others) when they have problems with obtaining the text book, late registrations and referral to student advisors in case of personal problems. (I have seen her walk the extra mile with students disabled in one sense or another).
4. Adapts to learning environment (Responsiveness to student needs, venue limitations, use of teaching technologies, etc.)			3	Interaction with students motivate them to engage with learning material.
B2: Content				
Content reflect diversity of perspectives and contexts			3	Examples relevant to students' frame of reference are employed as far as possible.
Relevant to study year and NQF level			3	The course serves partly as exemption from certain Actuarial exams. As such the content is evaluated regularly in terms of relevance and level.
Content was well prepared, organised and presented			3	The candidate is very able, well-prepared, and logical in her presentation of content.
B3: Methods, activities and student engagement				
Questions & Answers constructively done			3	Students participate in applying newly acquired concepts.

Clear explanations			3	Explanations are clear and well annotated with colour and graphics.
Students remained engaged			3	Students have to participate in doing exercises and remain engaged due to the way content is presented.
B4: Monitoring of student learning/understanding				
Was opportunity for student feedback created			3	Opportunity for questions in class are given, but also via email, practical and tutorial sessions and ample consultation time.
Was learning monitored?			3	Learning is monitored continuously using different methods: questions in class, homework, quizzes, tests on ClickUp.
C: Conclusion				
Wrap up/Summarise			3	The lecture starts and ends with a wrap-up of concepts: existing and newly acquired.
Move on (preview of next lecture)			3	Clear exposition of what is expected for and from the next lecture is given.
Documentation				
Study guide (appropriateness & clarity)	Study guide contains all information needed by a student for successful completion of the course. In each lecture, students are referred to the relevant section and goals in the study guide. A detailed calendar with content, assignments and assessment for each week is provided.			
Assessment plan (fairness and transparency)	The assessment plan is set out clearly in the study guide with the weight of each assessment activity. Continuous assessment (not for marks) takes place in class through homework and small class tests and quizzes on ClickUp. The purpose of each assessment activity is clearly communicated to students. Students have many opportunities to consult with lecturers/assistant lecturers/tutors to discuss any problems. Students can direct specific queries to specific e-mail addresses.			
Assessment tasks (fair, valid, reliable)	Students do a project in descriptive statistics with the purpose of engaging them in practical problems. Just In Time Learning activities are evaluated with ClickUp tests. Tutorials present an opportunity where students learn to apply the theory and prepare for semester tests. Two class tests are written. Practicals are integrated with theory and a weekly assignment is submitted on ClickUp. Memos to tests and additional exercises are provided on clickUp. Online quizzes serve as self-evaluation tool.			
ClickUP presence (nature)	Lecture, tutorials and practicals are integrated: JIIs as preparation, quizzes for self-evaluation, videos for better understanding and added value, selected			

	online lectures are available on ClickUp. Also some assessment activities as indicated above.
Overall comments	
5. Candidate's strengths	I have witnessed how the candidate has grown since her first year as junior lecturer. She is incredibly effective and hard-working. She really is an exceptional individual who fully comprehends her responsibilities and faces any task head-on. She is not afraid to tackle new challenges. She is innovative in her teaching practices. Her approach and hard work are appreciated by students and colleagues alike.
6. Candidate's areas for improvement	To engage students in a very large group, remains a work in progress. With limited resources, it represents a continuing challenge for any lecturer.