

FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

Centre for Applied Risk Management (UARM)

Annual Report 2022

Report number: UARM23d0008

Date: 31 May 2023

Prepared by: Neels Erasmus & Fred Goede

Approval Sheet

Title: Centre for Applied Risk Management Annual Report 2022

Synopsis: The report provides a retrospective view of the activities undertaken and outputs delivered by UARM during 2022, as well as a view of the road ahead.

Client: NWU Internal

Document nr: UARM23d0008

Date: 31 May 2023

Classification: None

Prepared by: Neels Erasmus & Fred Goede

Approved by: 
Mr Fred Goede
Programme Leader: Centre for Applied Risk Management

Note on report coverage:

This report covers all the activities of the centre that took place during 2022. The date of the report is 31 May 2023, being the cut-off date for new postgraduate registrations. The graphs in the report provide a rolling 8-year window from 2015 to 2022 (The Centre had its first student intake in 2014).

Distribution Sheet

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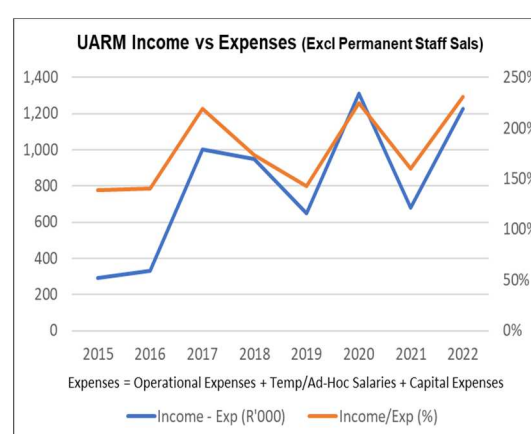
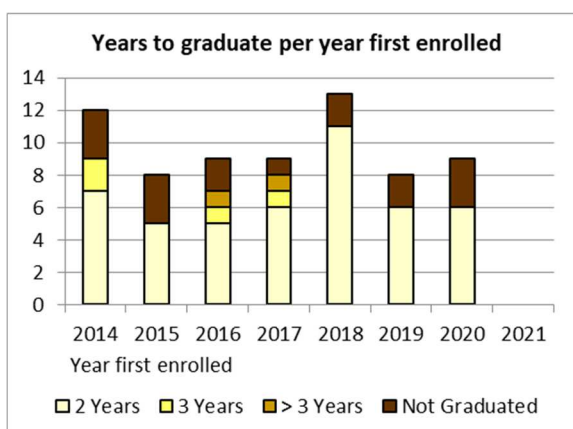
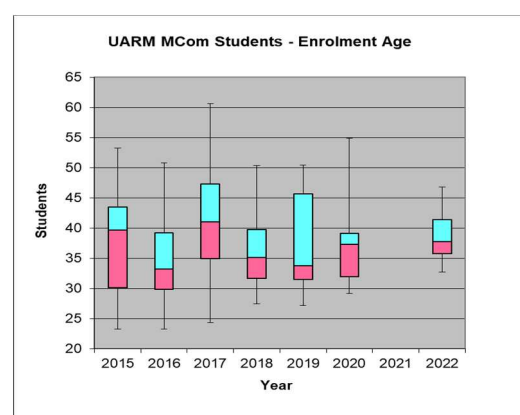
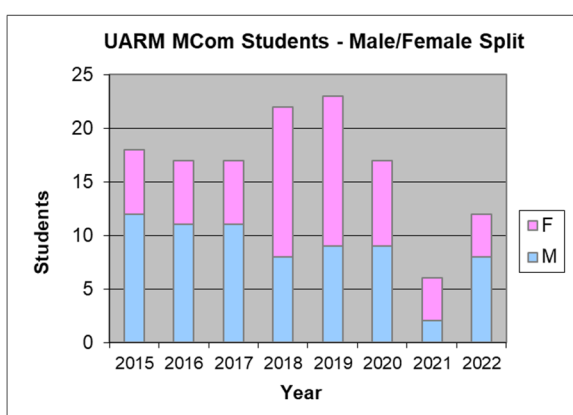
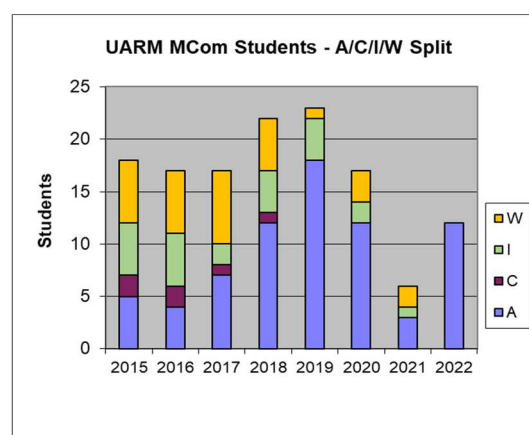
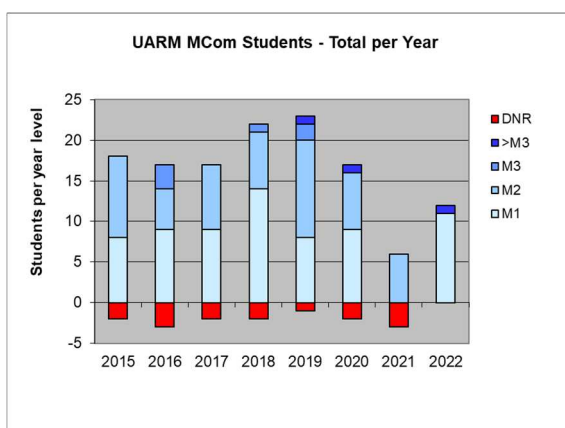
A: External Collaborative Networks

B: Previous Student Comments

C: MARM Academic Calendar

D: Photo Gallery

Overview Dashboard¹



UARM MCom Mini-Dissertation Business Value-Add

Business Value out of 5 as assessed by Line Manager

	2015	2016	2017	2018	2019	2020	2021	2022
#Dissertations	7	7	5	7	13	7	6	0
#Assessed	0	0	1	2	5	1	1	0
Mean:	-	-	3.8	4.8	4.3	4.0	4.0	-
Minimum:	-	-	3.8	4.5	3.5	4.0	4.0	-
Maximum:	-	-	3.8	5.0	5.0	4.0	4.0	-

¹ A/C/I/W = African/Coloured/Indian/White; DNR = Did not Register; M1, M2, M3 = historical 1st, 2nd, 3rd year

Executive Summary

The Centre for Applied Risk Management (UARM) was established in June 2012 at the Vanderbijlpark Campus of the North-West University. UARM's main aims are:

- Postgraduate teaching in qualitative risk management at master's and PhD levels;
- Ground-breaking applied behavioural risk management research;
- Developing behavioural risk tools that can be used in practice.

Staff Profile

In 2022 the Centre had three full-time permanent, three part-time contracted academic and operational management staff members, and one shared administrative assistant. The team also included four extra-ordinary professors as part of the Optentia Research Unit, two from the Vrije Universiteit, Amsterdam, one from the Erasmus University Rotterdam, and one from Wageningen University and Research.

Teaching Profile (Students)

The total number of registered UARM MCom degree in Applied Risk Management students in 2022 was twelve.

- Split per academic year: All twelve students enrolled for the first academic year, of whom eleven were in their first historic year and one in his fourth historic year.

The following is a summary of the total student body of twelve in 2022 compared to six in 2021.

- The ACIW (African/Coloured/Indian/White) breakdown of the 12 students was 12/0/0/0 in 2022 (3/0/1/2 in 2021).
- Gender: 4 out of 12 = 33% of the students were female (4 out of 6 = 67% in 2021).
- The average enrolment age for master's students was 39 years, varying between 33 and 47 years.
- We had no graduates in 2022 due to no intake during Covid pandemic (6 graduates in 2021, with 5 distinctions).

Teaching throughput

The total minimum duration throughput rate for the programme (% of candidates completing the qualification in two years), cannot be measured for 2022 (67% in 2021). The total throughput rate for the programme (overall % of all possible graduates, based on initial enrolment in the programme, that have graduated) also cannot be measured for 2022 (75% in 2021). The average time taken to graduate in this two-year programme is 2.2 years (measured in 2021).

As an applied programme, an important measure of the business relevance of the training is provided by the student's line managers, which is in the form of a Business Value-Add assessment on a 5-point scale. Again, no value is available for 2022. (For 2021 the average score for this assessment was 4, with a minimum of 4).

Research Profile

The behavioural UARM risk research was defined in 2016 to primarily focus on Risk Culture.

Our Optentia research programme successfully published one article in an external accredited journal (1 in 2021).

UARM Staff and Alumni participated in the FEMS SSIRC 2022 conference and published 6 papers in the conference proceedings.

Centre Income

UARM's total teaching, research and consultation income generated in 2022 was R2.177m (R1.808m in 2021). The income generated by the Centre exceeded its operational, temp & ad-hoc expenses² by R1.239m in 2022 (R681k in 2021).

Centre Highlights and Challenges

We are proud of the quality of our graduates that we deliver. We have achieved a 75% (n=52) throughput rate for the students that have enrolled for the programme since its inception in 2014, with an average study duration of 2.2 years. Delivering such a high throughput rate with quality graduates requires significant input from our teaching staff members and we appreciate the support from the Faculty of Economic and Management Sciences (FEMS) and Optentia Research Focus Area.

Following the absence of graduates in 2022, a strategic decision was taken to in future standardize on a new intake of 12 students per year, as well as building out the PhD programme for the Centre. This places a heavy load on the three fulltime academics, which will be addressed via the contracting of temporary staff as supervisors.

However, building the master's degree programme has also meant that some of our permanent staff members have not managed to build their research careers as expected by the Faculty.

The Road Ahead

With the master's degree well established, the main focus for the Centre will now be to build its applied research initiatives, including a PhD research group, to deliver greater numbers of research-

² These expenses exclude permanent staff salaries, i.e., it is calculated as Operational Expenses + Temp/Ad-Hoc Salaries + Capital Expenses.

based academic publications from its research programme. A secondary research priority is the further development of the UARM behavioural approach to risk management with the view to generate research-based consulting income. We look forward to working with FEMS and Optentia on this, while still delivering quality master's degree students.

1. Introduction

The Centre Applied Risk Management (UARM) was established in June 2012 at the Vanderbijlpark Campus of the North-West University and had its first student intake in 2014. The Centre's aim was doing postgraduate teaching in, and research on, risk management as an applied discipline. This applied approach includes qualitative risk education and training at masters and PhD levels and behavioural-risk-related research projects, and up to now, more specifically, risk culture. UARM's two-year part-time MCom in Applied Risk Management (MARM) is a taught programme with main aim to satisfy the need of full-time senior employees in the public and private sectors. The Centre's qualitative approach to risk management was intended to fill the gap created by the dominance of quantitative risk management academic programmes at the tertiary level.

The remainder of this report is structured as follows: The next section provides a summary of the personnel (full-time and part-time/contract) involved in UARM in 2022. This is followed by Section 3 which contains graphs and tables summarising the UARM student profiles over the last 8 years, followed by Section 4 with a list of master's dissertations and PhD theses produced. Section 5 provides an overview of the research profile of the Centre including published research and research in progress. This is followed in Section 6 by the international profile of the Centre. Section 7 summarises teaching income generated from study fees and subsidies, compared to the total income generated by the Centre (Teaching, Research and Consultation).

Appendix A contains a summary of the external industry and academic collaborative networks that the Centre has formed in support of its mission. In the absence of graduates following the Covid-19 outbreak 2021, we do not provide feedback from the graduate students regarding their experience in doing the mini-dissertation, nor feedback from their companies on the business value that their studies added to their organisations. This is followed by Appendices B with some comments from previous students. Appendix C provide a copy of the academic calendar for the MARM programme and Appendix D some photos of notable events that took place during the year.

2. Staff Profile

The Centre has a small team of full-time staff members, complemented by part-time contributors and contractors to the programme. Table 1 provides a summary of the status as at the end of 2022.

Table 1: UARM Staff Overview

Name	Roles/Responsibilities	Comments
Prof Hermien Zaaiman	<ul style="list-style-type: none"> Full-time Associate Professor. MARM teaching (Responsible for UARM821 module and coordination of the MARM873 module). Behavioural Risk Work Research project lead. <u>Publications:</u> <ul style="list-style-type: none"> "A literature- and senior stakeholder-informed model of southern African program risk management challenges" (with Dr E Mulambya), in African Journal of Science, Technology, Innovation and Development, Vol 14:5, p.1274-1287. 	
Mr Fred Goede	<ul style="list-style-type: none"> Full-time Senior Lecturer and Programme leader: UARM. Teaching – Present UARM814 and UARM822 and co-present other modules; SLP co-presenter on SU10. Research - conducted community surveys, submitted research paper and published two conference research papers. Workshop facilitator, ethics committee (EMSREC) reviewer, IRMSA chair of Professionalisation committee and Board member. <u>Publications:</u> <ul style="list-style-type: none"> "A sociotechnical approach to improve long-term success of air quality offsets" (with Prof GJ Hofstede, in SSIRC 2022 Conference Proceedings. "Safety culture at a coal logistics company: how to do better?" (with Mrs Z Mthiyane and Prof GJ Hofstede), in SSIRC 2022 Conference Proceedings. 	Registered PhD student, supervisor prof. dr.ir. Gert Jan Hofstede, Wageningen University and Research
Dr Sonja Gilliland	<ul style="list-style-type: none"> Part-time Senior Lecturer MARM teaching (UARM811 module in 2022) Researcher (co-authored a conference article for UARM). Retired at the end of 2022 and workload shared by other lecturers. <u>Publications:</u> <ul style="list-style-type: none"> "Guidelines to mitigate automated process-related risk in a South African financial technology organisation" (with Mr K Mokgatle), in SSIRC 2022 Conference Proceedings. 	Part-time teaching and supervision role in UARM PhD co-promoter in CS & IT
Dr Emmanuel Mulambya	<ul style="list-style-type: none"> Full-time Senior Lecturer. MARM teaching (taught UARM823 module and assisted with teaching in UARM811). Supervisor two mini-dissertations. Researcher. <u>Publications:</u> <ul style="list-style-type: none"> "A literature- and senior stakeholder-informed model of southern African program risk management challenges" (with Prof H Zaaiman), in 	Expected two publications in accredited journals, and two publications in conference proceedings

	African Journal of Science, Technology, Innovation and Development, Vol 14:5, p.1274-1287. • “Risk leadership in a South African provincial government department” (with Mrs M Keevey), in SSIRC 2022 Conference Proceedings. • “Risk understanding in the South African payments industry: A comparative analysis” (with Mrs M Smit), in SSIRC 2022 Conference Proceedings.	
Mr Eddie Lindeque	• Full-time PhD student, acting as a MCom supervisor (supervised one MARM mini-dissertation in both 2020 and 2021). Supervising one mini-dissertation in 2022. • Part-time MARM teaching (one module in 2020, 2022) • Researcher <u>Publications:</u> • “Risk consideration during digital innovation at a commercial bank” (with Mrs Z Kammeyer), in SSIRC 2022 Conference Proceedings.	Part-time role in UARM MARM graduate programme PhD student at UARM, promotor Prof Hermien Zaaian (from May 2023)
Dr Neels Erasmus	• Part-time Consultant: UARM Ops Manager • Networking with industry and research institutions • Contribute to teaching in the UARM modules – Statistics workshops for M1 students. • Back-up examiner of mini-dissertation projects.	Also consults for Centre for BMI (NWU Potchefstroom Campus Faculty of Natural and Agricultural Sciences)
Ms Helei Jooste	• Administrative Staff • Part-time UARM Administrative Assistant	
Prof Theo Kocken (Vrije Universiteit)	• Teaches in the 821 (Behavioural Risk Management) module. • Risk culture research contact.	UARM/Optentia Extra-ordinary professor
Prof Marise Born (Erasmus University)	• Part of UARM research team.	UARM/Optentia Extra-ordinary professor
Prof Henk van der Flier (Vrije Universiteit)	• Part of UARM research team.	UARM/Optentia Extra-ordinary professor
Prof Gert Jan Hofstede (Wageningen University and Research)	• Part of UARM research team and supervisor PhD research JF Goede at WUR.	UARM/Optentia Extra-ordinary professor

3. Teaching Profile (Students)

Figure 1.1 shows the profile of the registered master’s students since 2015, from 18 in 2015 until 12 in 2020, 6 in 2021³ and then 12 in 2022. The red bars in the graph (abbreviated by DNR), indicate the number of students who did not register again, i.e., students that were on the programme in the previous year but chose to not register again in the current year, e.g., three of the registered students in 2020 did not register again in 2021. The graph is further subdivided in the table to show the students per historical year, e.g., M3 = 2 in 2019 means that two of the registered students in 2019 took three years to complete this part-time degree.

³ The drop from 2020 to 2021 was as a result of the decision to only have a new intake every second year due to staff capacity constraints and the Covid pandemic. This decision has been reversed, and starting from 2022, we have been targeting a yearly new intake of 12 students.

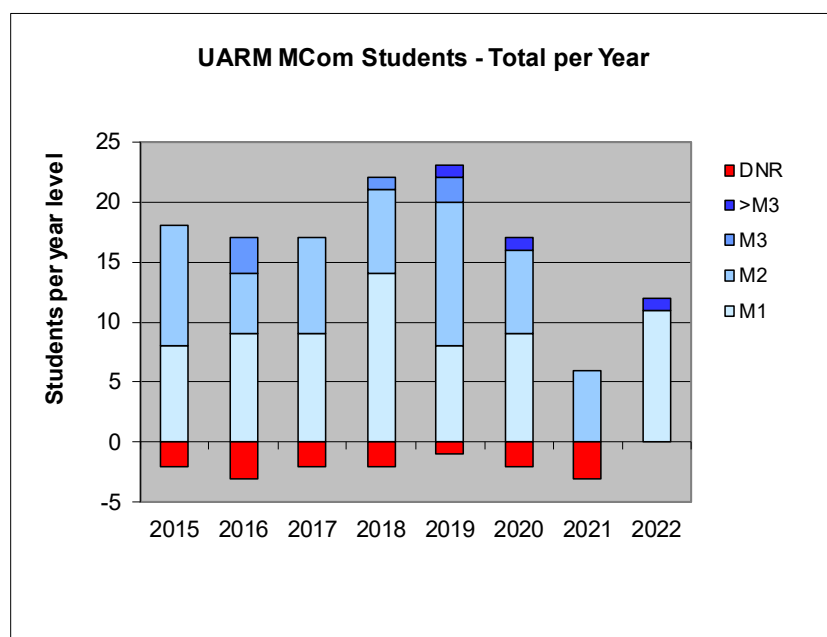


Figure 1.1

MCom		Total per Calendar & Historic Year				Total
DNR		M1	M2	M3	>M3	
-2	2015	8	10	0	0	18
-3	2016	9	5	3	0	17
-2	2017	9	8	0	0	17
-2	2018	14	7	1	0	22
-1	2019	8	12	2	1	23
-2	2020	9	7	0	1	17
-3	2021	0	6	0	0	6
0	2022	11	0	0	1	12

DNR = Student from prev year did not re-register in following year.

Figure 1.2 provides a breakdown of the twelve students registered in 2022 into historical and academic years, showing that all of them were enrolled for the first academic year.

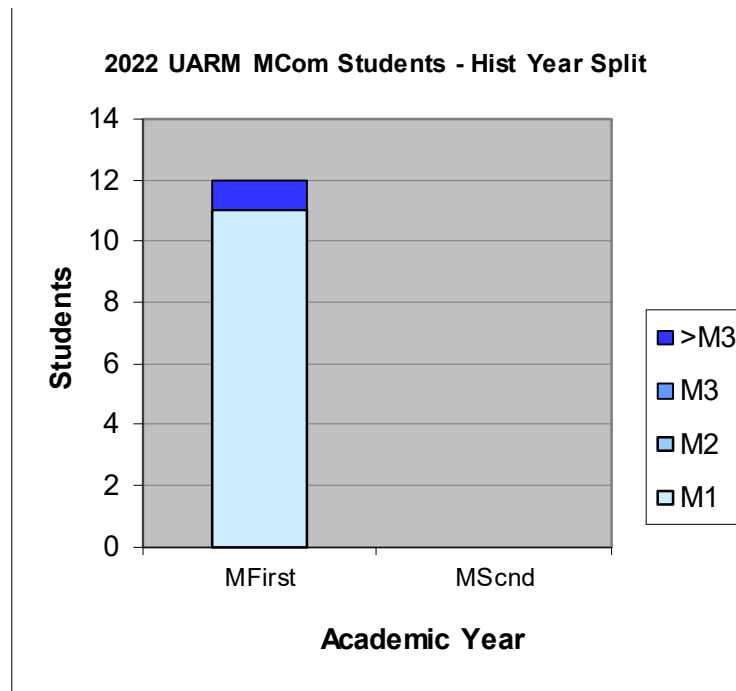


Figure 1.2

Acad Year					Tot
	M1	M2	M3	>M3	
MFirst	11	0	0	1	12
MScnd	0	0	0	0	0
Total:	11	0	0	1	12

Not shown here is that there was one PhD student in Risk Management that was registered from 2012 to 2015 at UARM, but then changed to a different area in the School of Economic Sciences in 2016 to complete her⁴ qualification. Emmanuel Mulambya registered for his PhD in 2018 and graduated in 2020.

Figure 2 shows the throughput rate profile of the master's graduates over time, measured with respect to their first year of enrolment. Of the 12 that enrolled in 2014, 7 (58%) graduated within the prescribed two years and a further two (17%) took three years to graduate. The remaining three (25%) have not graduated and we have no knowledge of their intentions whether to reregister or not. The entries in the table for 2015 to 2020 are interpreted in a similar fashion. Of the 9 students that enrolled in 2020, 6 (67%) graduated in the prescribed two years, i.e., in 2021, with none graduating in three years. The remaining 3 (33%) are classified as "Not graduated". Some of the students, who have not registered, may re-join the programme in future, which means that the split between the "> 3 Years" and "Not graduated" categories may still change in future.

⁴ Dr Hermie le Roux

Taken over the duration of the programme, an average of 68% of students have graduated within the two-year minimum so far. In addition, the “TOTAL” line in the table shows that 76% of the enrolled students have graduated from the programme to date, with an average study duration 2.2 years.

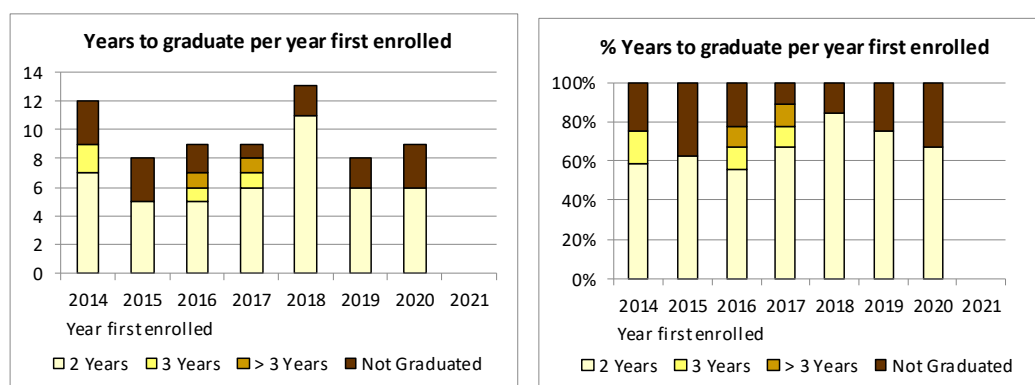


Figure 2

Year first Enrolled	Number Enrolled	Nr graduated per time span			Total Graduated	Total not Graduated	% Graduated per time span			Total % Graduated	Total % not Graduated
		2 Years	3 Years	> 3 Years			2 Years	3 Years	> 3 Years		
2014	12	7	2		9	3	58%	17%		75%	25%
2015	8	5	0	0	5	3	63%	0%	0%	63%	38%
2016	9	5	1	1	7	2	56%	11%	11%	78%	22%
2017	9	6	1	1	8	1	67%	11%	11%	89%	11%
2018	13	11	0	0	11	2	85%	0%	0%	85%	15%
2019	8	6	0	0	6	2	75%	0%	0%	75%	25%
2020	9	6	0	n/a	6	3	67%	0%	n/a	67%	33%
2021	0	0	n/a	n/a	0	0	n/a	n/a	n/a	0%	n/a
TOTAL:	68	46	4	2	52	16	68%			76%	24%
Average time (in years) to graduate =					2.2						

Figures 3.1 and 3.2 show the race profile (broken down into African/Coloured/Indian/White) of the registered students over time. Figure 3.1 is for the last eight years and Figure 3.2 for 2022 only, with the latter broken down per academic year. Figure 3.3 shows the A/C/I/W split for all graduates up to and including 2022.

Data Table

	A	C	I	W	Tot
2015	5	2	5	6	18
2016	4	2	5	6	17
2017	7	1	2	7	17
2018	12	1	4	5	22
2019	18	0	4	1	23
2020	12	0	2	3	17
2021	3	0	1	2	6
2022	12	0	0	0	12

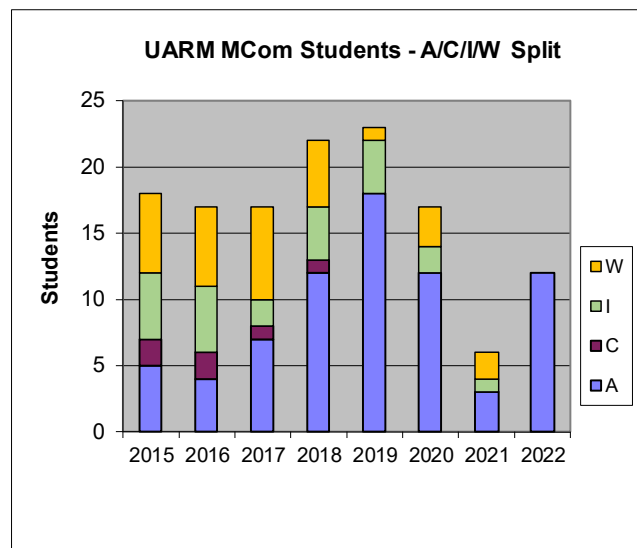


Figure 3.1

Data Table

Acad Year	A	C	I	W	Tot
MFirst	12	0	0	0	12
MScnd	0	0	0	0	0
Total:	12	0	0	0	12

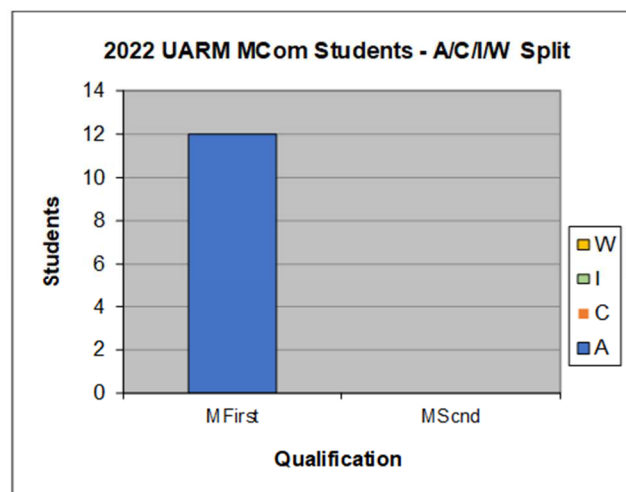


Figure 3.2

Data Table

	A	C	I	W	Tot
Total:	24	3	11	14	52
Percent:	46%	6%	21%	27%	100%

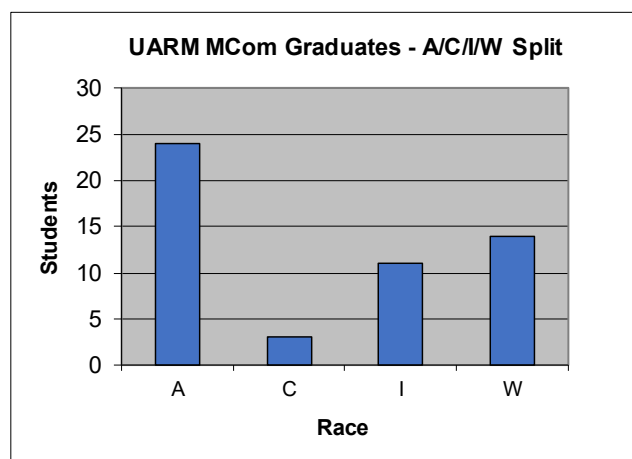


Figure 3.3

Figures 4.1 and 4.2 show the Male/Female profile of the active students over time. Figure 4.1 is for the last eight years and Figure 4.2 for 2022 only, with the latter broken down per academic year. Figure 4.3 shows the Male/Female split for all the UARM graduates up to and including 2022.

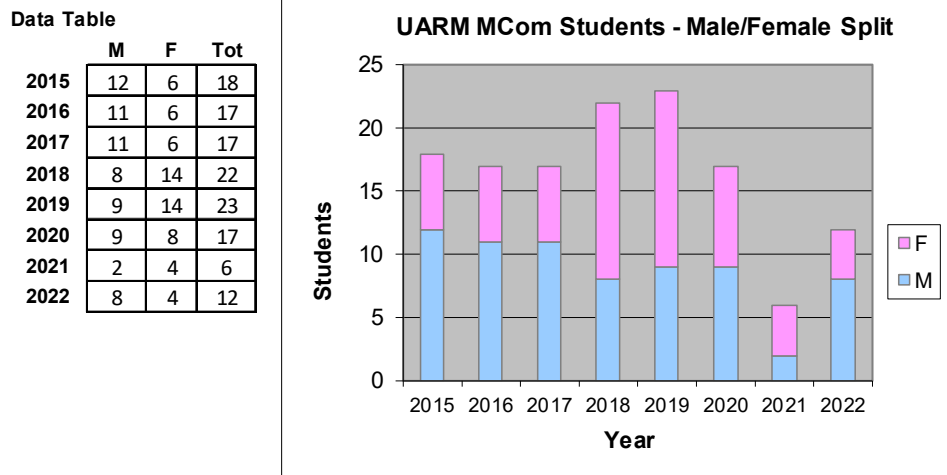


Figure 4.1

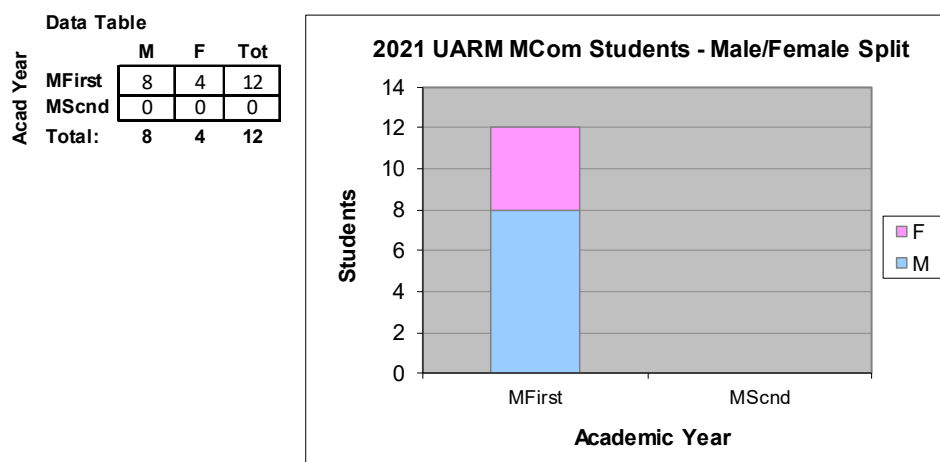


Figure 4.2

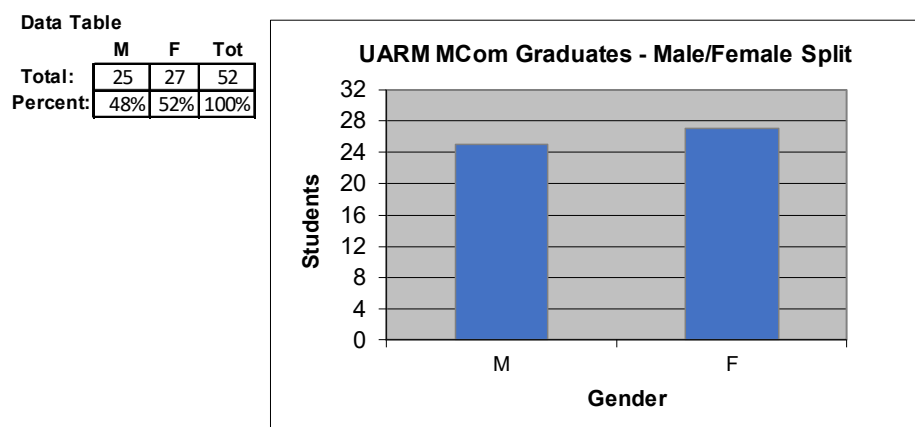


Figure 4.3

Figure 5.1 shows the age profile of the registered new intake master's students over time, with the age taken as the candidate's age at the start of the year when he/she first enrolled for the master's degree. The graph is a "box and whiskers plot", which summarises the underlying distribution by using the minimum, first quartile, median, third quartile and maximum values.

It appears that there was a significant downward shift in the 2016 age distribution compared to the previous years, with 2017 (and 2020 again), providing a bit of an outlier in terms of the maximum age. The age range for 2022 is significantly less than before. Note that there is no data for 2021 because of the previously-mentioned decision not to have a new intake in 2021.

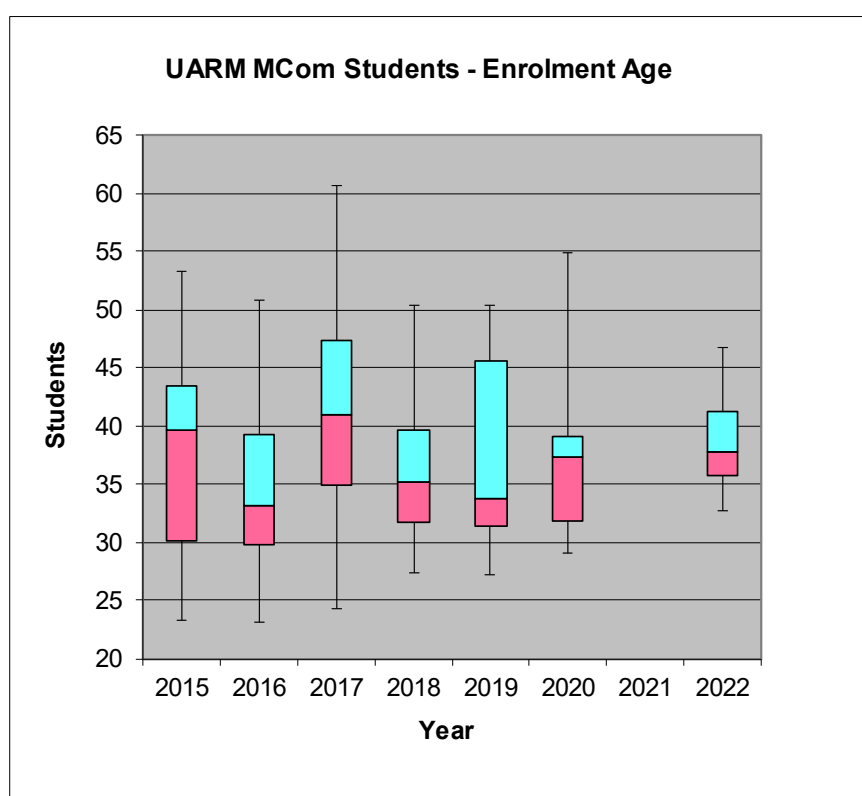


Figure 5.1

		Age of new intake at start of first year of enrolment							
		2015	2016	2017	2018	2019	2020	2021	2022
#Students:		8	9	9	14	8	9	0	11
Mean:		38.0	34.7	41.0	36.8	37.4	38.0	-	38.7
Minimum:		23.3	23.2	24.3	27.4	27.2	29.1	-	32.7
Q1:		30.1	29.9	34.9	31.7	31.5	31.9	-	35.8
Median:		39.7	33.2	41.0	35.1	33.8	37.3	-	37.8
Q3:		43.4	39.2	47.3	39.7	45.7	39.1	-	41.4
Maximum:		53.3	50.8	60.7	50.4	50.4	54.9	-	46.8

Figure 5.2 similarly uses a box and whiskers plot to show the enrolment age profile of all the masters graduates up to and including 2022. This graph shows that 50% of our 52 master's graduates were between 32 and 41 years of age when they first enrolled, with a median age of 35.

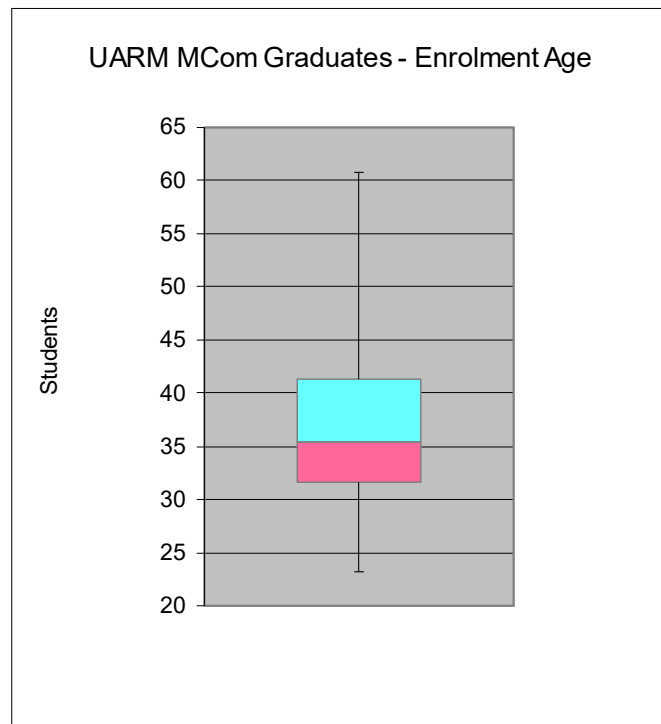


Figure 5.2

Age of graduates at start of first year of enrolment

#Students:	52
Mean:	37.3
Minimum:	23.2
Q1:	31.6
Median:	35.4
Q3:	41.4
Maximum:	60.7

Figure 6.1 shows the number of master's graduates over time, Figure 6.2 the profile of the type of study⁵ that they conducted, Figure 6.3 the module marks profile for the 2021 graduates and Figure 6.4 the average marks for the modules over the last eight years.

The high level and relative consistency of the marks (in Figure 6.4) for the UARM873 externally examined mini-dissertation (two independent examiners per dissertation), against that of the first-year module marks reflects the preparation of the students to do a research project during the modules, plus the effort of the students and UARM supervisors during the students' research project.

⁵ Students can either do a quantitative study, based on the UARM Risk Culture Scale (RCS), or a qualitative study, based on the UARM Risk Culture Indicator Model. Figure 6.2 shows a clear preference for the qualitative studies over time.

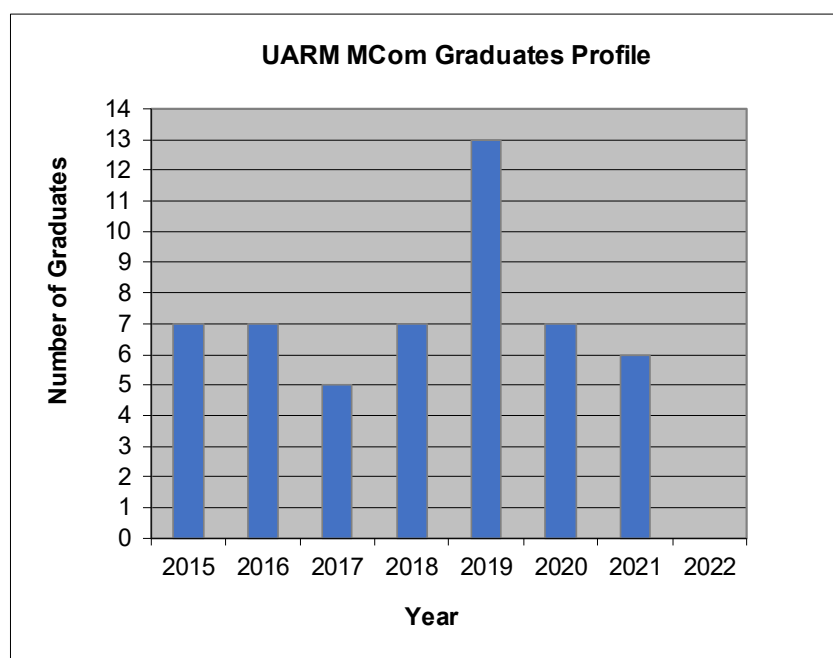


Figure 6.1

UARM MCom Graduates

	2015	2016	2017	2018	2019	2020	2021	2022
# MCom Grads	7	7	5	7	13	7	6	0

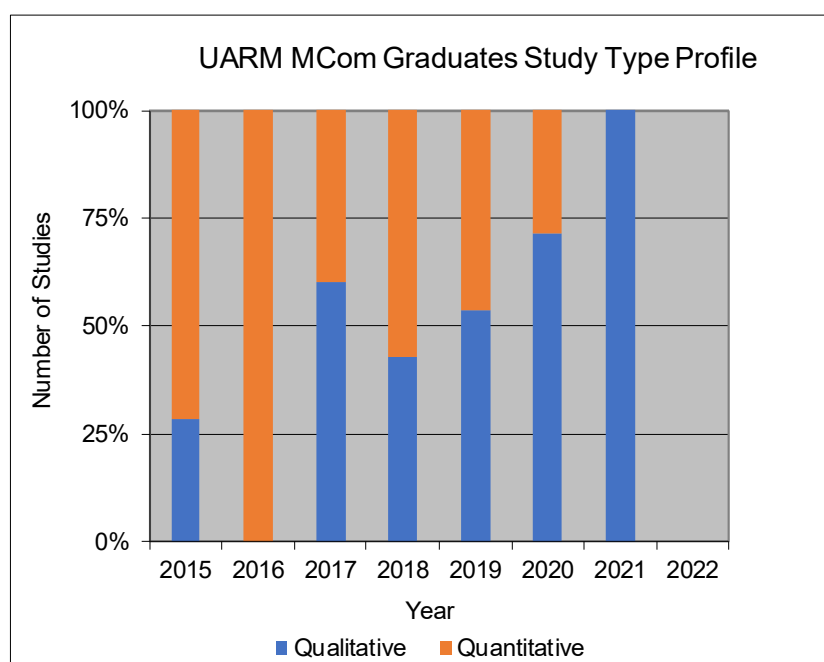


Figure 6.2

UARM MCom Graduate Studies, by Study Type

	2015	2016	2017	2018	2019	2020	2021	2022
# Qualitative	2	0	3	3	7	5	6	0
# Quantitative	5	7	2	4	6	2	0	0

4. Training Profile (Dissertations)

No dissertations were completed in 2022, but we decided to retain the heading to keep the structure intact.

One of the academic staff members is studying towards his PhDs at Wageningen University in the Netherlands.

5. Research Profile

We focus on topics related to risk culture in our research. More detail on the rationale underlying this research focus can be found on our website <http://commerce.nwu.ac.za/uarm/research>.

The masters mini-dissertations were all chosen to focus on assessing aspects related to the risk culture within the candidate's organisation. The mini-dissertations were delivered in article format. Experience has shown that the dissertations must be reworked for submission for publication in accredited journals. This has resulted in a decision to focus on only the best master's articles to be reworked and submitted for publication in future.

Table 4 provides a summary of the 2022 staff articles, conference papers and management reports in the Centre.

Table 2: UARM Research Projects in 2022

SeqNr	DocNr	Category	Title/ Description	Collaborators
10791		Article	A literature- and senior stakeholder-informed model of southern African program risk management challenges	Mulambya, E (Emmanuel); Zaaïman, H (Hermien)
	African Journal of Science, Technology, Innovation and Development Vol 14:5, p.1274-1287			
11031	SSIRC 2022-083	ConfPaper	Risk leadership in a South African provincial government department	Majola, K (Katlego); Mulambya, E (Emmanuel)
	FEMS SSIRC 2022 Conference Proceedings https://commerce.nwu.ac.za/SSIRC			
11041	SSIRC 2022-089	ConfPaper	Risk consideration during digital innovation at a commercial bank	Kammeyer, Z (Zanel); Lindeque, E (Eddie)
	FEMS SSIRC 2022 Conference Proceedings https://commerce.nwu.ac.za/SSIRC			
11051	SSIRC 2022-115	ConfPaper	Risk understanding in the South African payments industry: A comparative analysis	Smit, M (Marie); Mulambya, E (Emmanuel)
	FEMS SSIRC 2022 Conference Proceedings https://commerce.nwu.ac.za/SSIRC			
11061	SSIRC 2022-175	ConfPaper	A sociotechnical approach to improve long-term success of air quality offsets	Goede, JF (Fred); Hofstede, GJ (Gert Jan)
	FEMS SSIRC 2022 Conference Proceedings https://commerce.nwu.ac.za/SSIRC			

11071	SSIRC 2022-176	ConfPaper	Safety culture at a coal logistics company: how to do better?	Goede, JF; Mthiyane, Z; Hofstede, GJ; Pretorius, H
	FEMS SSIRC 2022 Conference Proceedings https://commerce.nwu.ac.za/SSIRC			
11081	SSIRC 2022-181	ConfPaper	Guidelines to mitigate automated process-related risk in a South African financial technology organisation	Mokgatlhe, K (Khumo); Gilliland, S (Sonja)
	FEMS SSIRC 2022 Conference Proceedings https://commerce.nwu.ac.za/SSIRC			
11090	UARM22d0007	Mgmt	Centre for Applied Risk Management Annual Report 2021	Erasmus CM (Neels); Zaaïman, H (Hermien)
	https://commerce.nwu.ac.za/uarm/publications			

6. International Profile

As mentioned above, one of the academic staff members (Fred Goede) is studying towards his PhDs at Wageningen University in the Netherlands.

Staff studying internationally, as well as appointment of international academics as extraordinary professors in the programme⁶, support internationalisation as propagated by the DRAFT POLICY FRAMEWORK FOR THE INTERNATIONALISATION OF HIGHER EDUCATION IN SOUTH AFRICA (2017)

Other notable UARM international contacts are:

- Prof Gert Jan Hofstede from The Wageningen Univ and Research (via Fred Goede PhD), extraordinary professor since 2018.
- Prof Theo Kocken (Cardano and Vrije Univ Amsterdam), extraordinary professor since 2013.
- Prof Marise Born (Erasmus Univ Rotterdam), extraordinary professor since 2018.
- Prof Henk van der Flier (Vrije Univ Amsterdam), extraordinary professor since 2018;
- Prof Jochen Runde (Judge Business School, University of Cambridge), acting as examiner;
- Dr Simon Ashby, Associate Professor of Financial Services at Vlerick Business School, Belgium.

⁶ Prof Theo Kocken from the Vrije Universiteit in the Netherlands is our current extra-ordinary professor that teaches in the UARM Behavioural Risk module (he has had a long-standing relationship with UARM)

7. Income

Figure 7 below shows the income generated by the Centre for masters and PhD students, broken down into registration fees, study fees, input subsidy and output subsidy. The total for 2022 amounted to R2.1m, with the cumulative amount since 2015 equal to R14m. Note that the input and output subsidies apply with a two-year lag, i.e., we will receive the input subsidies for the 2021 intake in 2023.

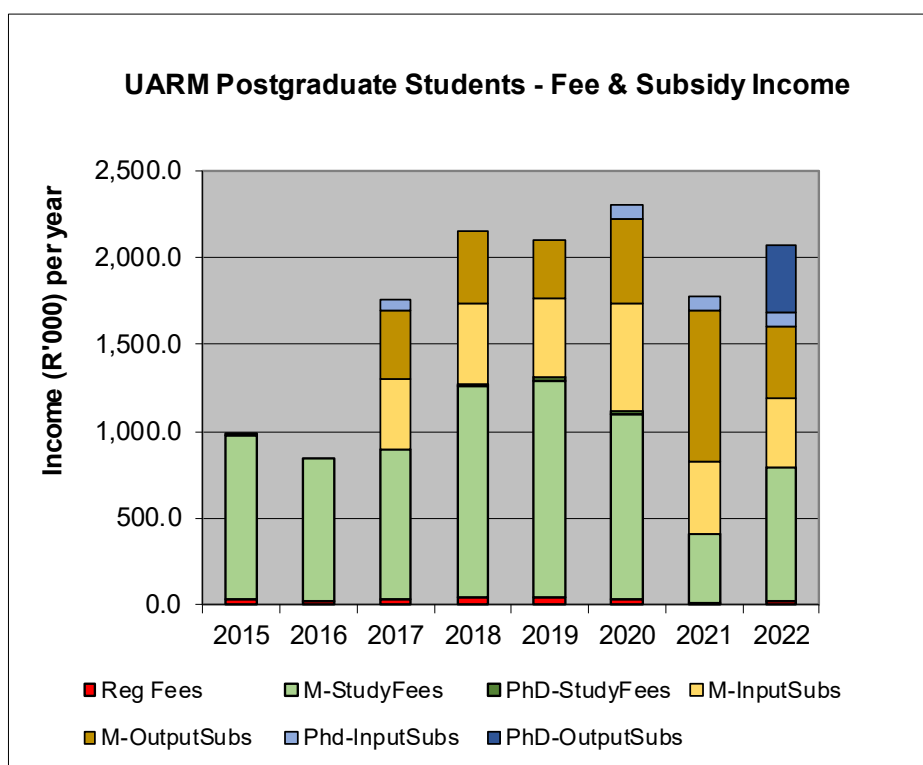


Figure 7

UARM Postgraduate Students Income (Rk)

	Reg Fees	MCom Study Fees	PhD Study Fees	MCom Input Subs	MCom Output Subs	PhD Input Subs	PhD Output Subs	Total
2015	28.3	941.8	14.0	0.0	0.0	0.0	0.0	984.1
2016	25.3	819.3	0.0	0.0	0.0	0.0	0.0	844.7
2017	27.3	862.1	0.0	414.4	395.7	61.3	0.0	1,760.8
2018	39.5	1,219.1	15.4	465.4	408.5	0.0	0.0	2,147.9
2019	42.1	1,248.9	17.2	462.6	324.8	0.0	0.0	2,095.5
2020	34.7	1,065.8	18.1	615.7	485.0	83.5	0.0	2,302.8
2021	12.1	390.5	0.0	424.5	868.9	78.9	0.0	1,774.9
2022	23.2	768.9	0.0	391.2	417.3	81.6	383.9	2,066.0
Total:	232.6	7,316.3	64.7	2,773.7	2,900.2	305.3	383.9	13,976.6

Notes: 1) Input subsidy is only received 2 years after the year of enrolment
 2) Output subsidy is only received 2 years after the year of graduation
 3) Output subsidy consists of Teaching and Research - the total is reported above

Table 5 shows the registration and study fees applicable to the masters and PhD programme since 2015. Note that the MCom total column is calculated as the total paid for the qualification by a student who completed the degree in that year⁷.

Table 5: Student Registration and Study Fees

	MCom			MCom Total	PhD		PhD Total
	Reg Fees	Study Fees M1	Study Fees M2		Reg Fees	Study Fees	
2015	1,490	54,620	54,625	107,475	1,490	13,990	15,480
2016	1,490	54,620	54,625	112,225	1,490	13,990	15,480
2017	1,610	55,530	48,585	106,305	1,610	15,110	16,720
2018	1,740	59,970	52,465	111,345	1,740	15,395	17,135
2019	1,830	63,360	55,450	118,990	1,830	17,185	19,015
2020	1,930	66,780	58,445	125,565	1,930	18,115	20,045
2021	2,020	69,930	61,190	131,920	2,020	18,965	20,985
2022	2,110	73,230	64,070	138,130	2,110	19,855	21,965

Finally, Figure 8 shows the total income generated by the Centre in contrast to its operating expenses since 2015⁸. The teaching income is the same as in Table 5, and the consultation income has been subjected to the standard NWU profit-sharing model, where 20% of the invoiced amount is allocated to the university.

⁷ For example, the total study fee for a student who registered for the first time in 2015 and graduated in 2016 is calculated as 2015 Reg Fees + 2015 M1 Study Fees + 2016 Reg Fees + 2016 M2 Study Fees.

⁸ Note that this is not a true Income Statement in the sense that capital expenditure is excluded, consultation income excludes interest, and it is accounted for in the year that it occurred.

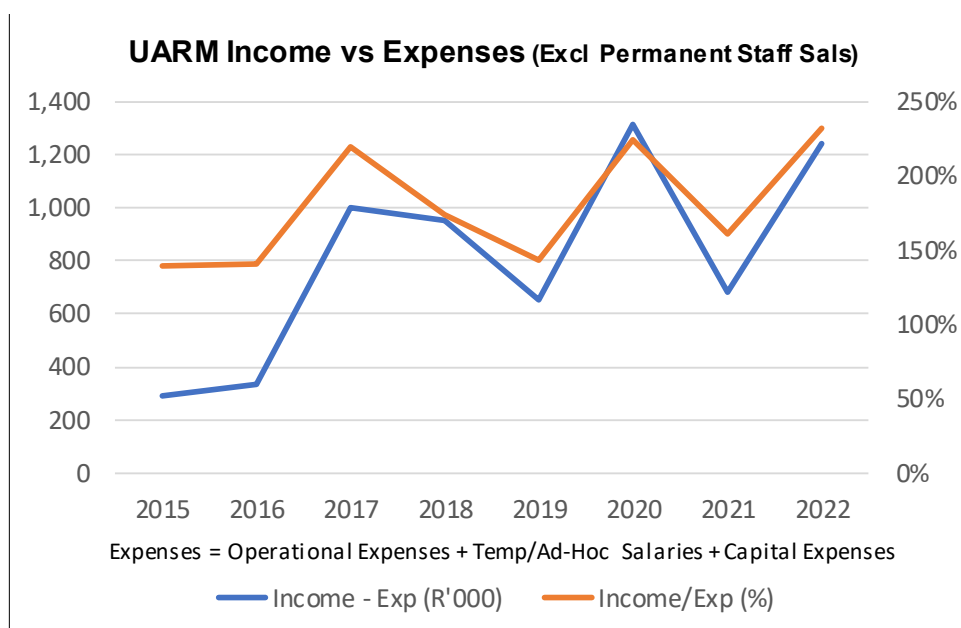


Figure 8

UARM Income (R'000)

	2015	2016	2017	2018	2019	2020	2021	2022
INCOME								
- Teaching	1,034.3	1,071.1	1,760.8	2,147.9	2,095.5	2,302.8	1,774.9	2,066.0
- Research (DST)	0.0	0.0	70.0	90.0	30.0	46.6	22.9	99.0
- Consultation	7.0	77.6	15.5	0.0	49.1	10.4	10.0	11.8
Total Income	1,041.3	1,148.7	1,846.2	2,237.9	2,174.6	2,359.8	1,807.8	2,176.8
EXPENSES								
- Operational Expenses	692.2	605.4	746.3	1,235.4	1,367.6	968.6	965.2	744.7
- Temp/Ad-Hoc Salaries	43.2	213.5	68.3	53.2	113.3	58.0	162.1	193.6
- Capital Expenses	14.5	0.0	28.9	0.0	42.9	23.5	0.0	0.0
Total Expenses	749.9	819.0	843.5	1,288.6	1,523.7	1,050.1	1,127.3	938.3
Income - Exp (R'000)	291.4	329.8	1,002.7	949.2	650.8	1,309.7	680.5	1,238.5
Income/Exp (%)	138.9%	140.3%	219%	174%	143%	225%	160%	232%

APPENDICES

A: External Collaborative Networks

Because of the discipline-independent nature of the UARM training and research we have had students with different academic backgrounds but with an established interest and experience in risk management attracted to the programme. The profile of guest lecturers is similarly varied.

Table A1 below gives a breakdown of the MARM graduates and guest lecturers per economic sector up to 2021⁹. This is followed by Tables A2 depicting the role profiles of the graduates and similarly for the guest lecturers in Table A3.

Table A1: MARM Graduates and Guest Lecturers per Economic Sector

Sector	MARM Graduate	MARM Graduate & Guest Lecturer	MARM Guest Lecturer	Grand Total
Communications	4	2	1	7
Education	1		1	2
Energy	1		1	2
Fin and Bus Services	21		9	30
Information Technology	1			1
Logistics		1		1
Manufacturing	1			1
Mining	2			2
Other	3		1	4
Public Sector	7	1	1	9
State Owned Company	3			3
Tourism	1			1
Wholesale & Retail Trade	3			3
Grand Total	48	4	14	66

Table A2: MARM Graduates Organisational Roles¹⁰

Role in Organisation	MARM Graduate	MARM Guest Lecturer	Grand Total
Accountant	1		1
Asst Mgr: Group Risk & Regulatory	1		1
Asst Mgr: Insurance Risk	1		1
Asst Mgr: Risk Management	1		1
Auditor		1	1
CEO: Compliance Institute		1	1

⁹ The table also shows that some of the UARM graduates have maintained their relationship with UARM as guest lecturers

¹⁰ The MARM graduates that have become guest lecturers are counted in both Tables A1 and A2.

Chief Risk Advisor		1	1
Consultant: Project Risk Analysis & Planning		1	1
COO: Risk Management		1	1
CRA: IRMSA		1	1
Credit Risk Analyst	3		3
CRO: MMI Holdings		1	1
CRO: Vodacom		1	1
Director: Risk Management	2		2
Director: Risk, Compliance & Relationship Mgmt	1		1
Enterprise Risk Manager: Sasol		1	1
Exec Head: Business Risk Management	1		1
GM: HSE & Risk Compliance	1		1
GM: Risk, Compliance & Assurance	1		1
Head of IA: Models, Credit & FCC		1	1
Head: Compliance Monitoring & Reporting	1		1
Head: Model Risk Management, Retail Credit		1	1
Head: Operational Risk Management	2		2
Head: Risk & Reputation Management	1		1
Head: Risk, Compliance, Governance & Ethics	1		1
Independent		1	1
IRMSA President		1	1
Mgr: Branch Operations	1		1
Mgr: Compliance & Membership	1		1
Mgr: Compliance and Risk	1		1
Mgr: Credit Risk	1		1
Mgr: Operational Risk	1		1
Principal Specialist: Governance	1		1
Principal Specialist: New Bus Risk Mgmt	1		1
Project Manager: Business Improvement	1		1
Real Estate Finance Transactor	1		1
Research Coordinator		1	1
Retired	1		1
Risk Analyst	1		1
Risk Consultant	2		2
Risk Coordinator: ERM	1		1
Risk Executive	1		1
Risk Integration Manager	1		1
Senior Advisor: Quantitative Risk Management	1		1
Senior Risk Advisor	1		1
Snr Administrator	1		1
Snr Mgr: Operational Risk	3		3
Snr Mngr: Quality Management	1		1
Snr Specialist: ERM	1		1
Specialist: Continuous Improvement	1		1
Risk Manager	5		5
Grand Total	48	14	62

Table A3: MARM Guest Lecturer Organisational Roles

<i>Role in Organisation</i>	MARM Guest Lecturer
Auditor	1
CEO: Compliance Institute	1
Chief Risk Advisor	1
Consultant: Project Risk Analysis & Planning	1
COO: Risk Management	1
CRA: IRMSA	1
CRO: MMI Holdings	1
CRO: Vodacom	1
Enterprise Risk Manager: Sasol	1
Head of IA: Models, Credit & FCC	1
Head: Model Risk Management, Retail Credit	1
Independent	1
IRMSA President	1
Research Coordinator	1
Grand Total	14

B: Previous Student Comments

Ane-a Harding, Senior Specialist: ERM, Vodacom (Class of 2016 and SSIRC 2021 presenter)

'I always wanted to have a master's degree but did not want to go through all the effort if I would only have a piece of paper to show at the end of it. The M.Com in Applied Risk Management caught my attention specifically due the "applied" part. The different modules also covered aspects of risk management that I knew existed but have not had the opportunity to apply myself yet at that stage of my career. I really enjoyed the practical application through assignments to cover the course work

The dissertation was daunting at first, but the guidance we received throughout the process really made it much easier. It was a proud moment to hold the bound dissertation for the first time. But that is not where it ended for me. The research I conducted informed the changes I had to make in my daily work as an enterprise risk manager to improve the risk culture at the organisation. Since the changes were informed by actual feedback received from the staff I surveyed, the level of buy-in was so much higher. They did not feel like it was just another "flavour of the month" being forced on them, because I now took the time to address the shortcomings they highlighted. I was also equipped to be able to do a follow-up survey a year later to see if what I did made any difference and could use the feedback again to make further adjustments. All of this would never have happened if I hadn't decided that the M. Com in Applied Risk Management was the right degree.

Over and above the very real impact it had on the way I did my job and the risk management culture where I worked, through the whole process I also grew as a person and gained more confidence in myself and as a risk manager. I really do believe that this degree, the many things I could implement and the additional knowledge and experience I gained, played a huge role in me being appointed in my dream job.'

Alan Waller, CEO: Richards Bay Coal Terminal - Line manager of Zanele Mthiyane (Class of 2019)

'I would like to commend the process. I was saying o Zanele, one often looks at qualifications of this nature and you wonder what the person will bring back to the company. In this instance the value proposition to RBCT other than the study has been immense with the new initiatives that Zanele has taken on and the manner she and her team are driving Risk. Another incredible outcome is the report writing skills. Zanele's report writing not only in terms of risk but all her other areas of responsibility is now of an exceptional quality.'

Fedile Kekana, Assistant Manager: Insurance Risk, Absa (Class of 2018)

'After a rigorous application process, I have been selected to participate on the first phase of a Compliance Rotation Programme. I must say what really made me stand out (this was a comment from the recruiting team) was the survey study I conducted in the organisation. The qualification is really opening doors for me in the organisation. I appreciate the effort the UARM team has been putting into the programme, it is indeed yielding fruits for us. I just wanted to share this great news. I believe I will learn a lot from this programme. Once again, a BIG THANK YOU for all of your efforts!!'

Jaco van Wyk, Former Chief Risk Officer: Fraser Alexander (Class of 2018)

'Well done to all. A very good outcome considering the overseas marking of some of the dissertations. Thanks to the UARM team for challenging our thinking, giving us new insight, and teaching us to write up our dissertations. Thanks to all my classmates for sharing your risk worlds, these learnings have truly shaped my risk thinking'.

Other student responses received to the question: "What did you like about the course?"

- *"I liked the course because it is applied, and research based. It allows me to conduct research on current issues and that I am to apply those in my working environment"*
- *"The content; The invited speakers on specialised areas; The environmental scanning project was extremely useful"*
- *"Case studies that are dealt with during the lectures, gives us an opportunity to have meaningful discussions of real-life examples"*
- *"I enjoyed the course content, for most parts it was practical and refreshing and not just textbook styled and theoretical. The international angle with the colleagues from Holland was the standout learning points to date"*
- *"The practical nature of it. I had to opportunity to perform various exercises that I would never have been able to do at work. I also like that the presenters also have "practical work" experience and that they are not pure academics. There is a big difference between theory and practice. I also like the small class and the very personal feedback after each assignment"*
- *"The networking and sharing of information. Especially where we can see and experience how other people implemented the theory. That I could make the case studies practical and add value to my current work"*
- *"The networking and sharing of information. Especially where we can see and experience how other people implemented the theory. That I could make the case studies practical and add value to my current work"*

C: MARM Academic Calendar 2022

2022 UARM Masters Calendar

To change the calendar year, enter a new date in cell C1


[illegible]

MARCH							APRIL						
M	T	W	T	F	S	S	M	T	W	T	F	S	S
	1	2	3	4	5	6					1	2	3
7	8	9	10	11	12	13	4	5	6	7	8	9	10
14	15	16	17	18	19	20	11	12	13	14	15	16	17
21	22	23	24	25	26	27	18	19	20	21	22	23	24
28	29	30	31				25	26	27	28	29	30	

[illegible]

JULY							AUGUST						
M	T	W	T	F	S	S	M	T	W	T	F	S	S
				1	2	3	1	2	3	4	5	6	7
4	5	6	7	8	9	10	8	9	10	11	12	13	14
11	12	13	14	15	16	17	15	16	17	18	19	20	21
18	19	20	21	22	23	24	22	23	24	25	26	27	28
25	26	27	28	29	30	31	29	30	31				

SEPTEMBER							OCTOBER						
M	T	W	T	F	S	S	M	T	W	T	F	S	S
			1	2	3	4						1	2
5	6	7	8	9	10	11	3	4	5	6	7	8	9
12	13	14	15	16	17	18	10	11	12	13	14	15	16
19	20	21	22	23	24	25	17	18	19	20	21	22	23
26	27	28	29	30			24	25	26	27	28	29	30

NOVEMBER								DECEMBER							
M	T	W	T	F	S	S		M	T	W	T	F	S	S	
		2	3	4	5	6					1	2	3	4	
7	8	9	10	11	12	13		5	6	7	8	9	10	11	
14	15	16	17	18	19	20		12	13	14	15	16	17	18	
21	22	23	24	25	26	27		19	20	21	22	23	24	25	
28	29	30						26	27	28	29	30	31		

IMPORTANT DATES

Public holidays 2022

New Year's Day	01-Jan	Youth Day	16-Jun
Human Rights Day	21-Mar	National Women's Day	09-Aug
Good Friday	15-Apr	Heritage Day	24-Sep
Family Day	18-Apr	Day of Reconciliation	16-Dec
Freedom Day	27-Apr	Christmas Day	25-Dec
Workers' Day	01-May	Day of Goodwill	26-Dec
Public Holiday	02-May		

Date/Information to be confirmed

Contact sessions (First session at Vaal Campus, others usually at the IRMSA offices in Sandton)

First years (Yellow blocks)	Coordinator	2022	
UARM811 Applied Analysis and Research in RM	Hermien Zaaïman & Sonja Gilliland	3-5 Feb	3 Feb Vaal Campus
UARM812 Fundamentals of Risk Management	Hermien Zaaïman & Eddie Lindeque	24-26 Mar	
UARM814 Descriptive Statistics Workshop	Neels Erasmus	11-May	8h30-13h00
UARM814 Risk Data and Reporting	Fred Goede	12-14 May	
UARM822 Governance, Risk and Compliance	Fred Goede	23-25 Jun	
UARM823 Risk Assessment Tools	Emmanuel Mulambaya	28-30 Jul	
UARM821 Behavioural Risk Management Day 1+2	Hermien Zaaïman	08-09 Sep	
UARM821 Behavioural Risk Management ct'd	Hermien Zaaïman	20-21 Oct	
UARM821 Assignment due	Hermien Zaaïman	01-Nov	★

Second years UARM 873 Timeline (Cyan: Activity/Session; Pink: Admin; Blue: Kerlick session)

UARM 873 Mini-Dissertation Timeline

- 1) Intro into mini-dissertation topics for 2021, allocation of supervisors, research proposal
- 2) Optentia Short Learning Programme on Research
- 3) Research proposal colloquium presentations to UARM team
- 4) Submit research proposal for approval by TRADE UARM Scientific SubCommittee
- 5) TRADE UARM Scientific SubCommittee
- 6) Submit updated proposals (with edits req'd by TRADE UARM Subcomm), signed ethics clearance forms and signed company permission letters, and FEMS title reg and supervisor appointment forms to TRADE Risk Scientific SubCommittee
- 7) FEMS Scientific Committee Meeting

Note: Research Committee and Ethics approval are required to be allowed to continue with your study

Post approval of proposal at Optentia Res Comm and FEMS Ethics Comm:

- 8) Kerlick Workshop - Introduction to article writing, planning, and concept outline
- 9) Kerlick Workshop: Submit concept outline
Kerlick Workshop: How to structure and draft a research article
Kerlick Concept outline: Individual consultations with students (40 mins each)
- 10) Qualitative study students: Data gathering and coding workshop
- 11) Data collection to start after approval of research proposal by Opt Res and Ethics committees
Kerlick Writers' Retreat 1: Submit Introduction, Background & Method Sections
- 12) Kerlick Writers' Retreat 1 (Intro, Background, Method and plan rest of article)
(individual consultations Tuesday)
- 13) Submit notice of submission form to HDA and TRADE (3 months before submission for examination)
- 14) Quantitative study: Understanding your data results workshop (HZ and HP)
- 15) Kerlick Writers' retreat 2 Submit full dissertation
- 16) Kerlick Writers' retreat 2 (Individual consultations on Tuesday)
- 17) Submit final draft for language edit by Kerlick team
- 18) Submit mini-dissertation for examination

Note: Your supervisor has to give you permission to submit your mini-dissertation for examination

<http://commerce.nwu.ac.za/uarm>

D: Photo Gallery

2022 Nov: Marie Smit, graduate from the class of 2021, won the prestigious Research & Innovation award for the most outstanding Master's degree student in the Faculty of Economic and Management Sciences. Her study supervisor was Dr. Emmanuel Mulambya.



2022 Jun 3: UARM Graduation - Class of 2021. Celebrating five top students who received the degree with distinction. In read order: Pat Mlanduli, Siva Chetty, Zanel Steyn, Marie Smit and Katlego Majola.

