

UMALUSI



Quality Council for General and Further
Education and Training

**Report on the
Quality Assurance
of the August 2023
NATED Report 190/191:
N2–N3 Engineering
Studies Examination**

REPORT ON THE QUALITY ASSURANCE OF
THE AUGUST 2023 TECHNICAL AND
VOCATIONAL EDUCATION AND TRAINING
EXAMINATIONS AND ASSESSMENTS

PUBLISHED BY:

UMALUSI



Quality Council for General and Further
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INTRODUCTION AND BACKGROUND

The Report 190/191: Engineering Studies N2–N3 examinations are routinely conducted, administered and managed by the Department of Higher Education and Training (DHET) on a trimester basis in April, August and November of each year. Programmes for these examinations are offered by public Technical and Vocational Education and Training (TVET) colleges, private Further Education and Training (FET) colleges, some correctional services centres and a few schools, as well as some centres outside the borders of the Republic of South Africa.

As a Quality Council for General and Further Education and Training, Umalusi is mandated by the National Qualifications Framework (NQF) Act 67 of 2008, as amended and General and Further Education and Training Qualifications Act (GENFETQA) Act 58 Of 2001, as amended to develop and implement policy and criteria for assessment of the qualifications on its sub-framework. The Report 191/190: Engineering Studies N1–N3 is registered by the South African Qualifications Authority (SAQA) as a programme on the Umalusi General and Further Education and Training Qualifications Sub-framework (GFETQSF).

As the Quality Council for General and Further Education and Training, Umalusi:

- a. Must perform the external moderation of assessment of the various assessment bodies and education institutions;
- b. May adjust raw marks during the standardisation process;
- c. Must, with the agreement of the Director-General and after consultation with the relevant assessment body or education institution, approve the publication of learners' results if the Council is satisfied that the assessment body or education institution has:
 - i. conducted the assessment free from any irregularity that could jeopardise the integrity of the assessment or its outcomes;
 - ii. complied with the requirements prescribed by the Council for conducting assessments;
 - iii. applied the standards prescribed by the Council, with which a learner is required to comply to obtain a certificate; and
 - iv. complied with every other condition determined by the Council.

The mandate of Umalusi is to ensure that the NATED Report 191/190: Engineering Studies N2–N3 examinations conducted each trimester are fair, valid and reliable. As such, Umalusi must ensure that the quality and standard of all the assessment practices associated with these examinations are in place and are sustained.

All 55 question papers for the August 2023 examinations were nationally set and internally moderated by the Department of Higher Education and Training (DHET); Umalusi conducted an external moderation of a sample of 50 question papers. The DHET distributed question papers via courier to nodal points. The surrounding colleges/campuses were

required to collect and return answer scripts within 60 minutes of the stipulated end time of the examination session. Drawing subjects were written during the first week of the examination period. All the August 2023 question papers were written in morning sessions, starting at 09:00.

No formal appointments of marking staff were made for this examination by the DHET; instead, management staff of the national and provincial marking centres were mandated to make use of individuals who had marked the November 2022 examinations.

The marking model was centralised (provincial) marking for all N2 and N3 subjects. Eight marking centres, situated in seven of the provinces, were used for the marking process.

As repeatedly reported in the past, the implementation of the NATED Report 190/191 Engineering Studies programmes and examinations presents several challenges, including but not limited to:

- a. Outdated syllabi;
- b. No requirement for a practical component to develop skills;
- c. Lack of capacity for effective tuition; and
- d. High percentages of candidates who do not write the examinations (high dropout rate).

The purpose of this report is to provide feedback on the processes followed by Umalusi in its quality assurance of the August 2023 NATED Report 190/191: Engineering Studies N2–N3 examination. The report includes findings on areas of compliance/improvement in the conduct, administration and management of these examinations, areas of non-compliance and directives for compliance and improvement. These findings are based on information obtained from Umalusi's moderation, monitoring, verification and standardisation processes, as well as from reports received from the DHET.

This report covers the following quality assurance processes implemented by Umalusi:

- a. Moderation of question papers from a sample of N2 and N3 subjects;
- b. Moderation of the conduct of internal assessment;
- c. Monitoring of the writing of examinations;
- d. Standardisation of marking guidelines;
- e. Verification of marking;
- f. Monitoring of the marking of examinations; and
- g. Standardisation and resulting.

ABBREVIATIONS AND ACRONYMS

CM	Chief Marker
DHET	Department of Higher Education and Training
DMCMA	Deputy Marking Centre Manager Academic
EA	Examination Assistant
FET	Further Education and Training
FS	Free State
GP	Gauteng Province
GFETQSF	General and Further Education and Training Qualifications Sub-framework
GENFETQA	General and Further Education and Training Quality Assurance
ICASS	Internal Continuous Assessment
IM	Internal Moderator
IRR	Irregularity
KZN	KwaZulu-Natal
LP	Limpopo
MP	Mpumalanga
NQF	National Qualifications Framework
NIMT	Namibian Institute of Mining and Technology
NW	North West
OHS	Occupational Health and Safety
PoE	Portfolio of Evidence (learner portfolio)
SAQA	South African Qualifications Authority
TVET	Technical and Vocational Education and Training

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CHAPTER 1: MODERATION OF QUESTION PAPERS

1.1 Introduction

Umalusi conducts external moderation of question papers that are set and internally moderated by the Department of Higher Education and Training (DHET) for the NATED Report 190/191: Engineering Studies N2–N3 examination. The purpose of external moderation is to ensure that question papers are of an acceptable standard and are comparable across examination cycles.

The moderation of question papers is fundamental to the quality assurance of assessment processes. External moderation seeks to confirm that question papers have been developed with due diligence and comply with Umalusi's criteria and with the curriculum and assessment policy documents of the assessment body.

Furthermore, question papers should be seen as conforming to the principles of good assessment by being:

- a. Fair;
- b. Valid;
- c. Reliable;
- d. Representative of an adequate sample of the curriculum;
- e. Representative of relevant conceptual domains; and
- f. Representative of relevant levels of cognitive demand.

1.2 Scope and Approach

Umalusi moderated and approved a total of 50 question papers and marking guidelines for 50 instructional offerings for the August 2023 NATED Report 190/191: Engineering Studies N2–N3 examination. This has been the practice since the April 2019 examination. Moderation was done off-site, where the question papers, marking guidelines, assessment frameworks and internal moderators' reports were forwarded electronically to external moderators. Upon receipt of the documents, the external moderators prepared assessment frameworks, against which to assess the cognitive demand and weighting of syllabus topics and evaluated the question papers and marking guidelines according to specific criteria as set out in the Umalusi monitoring instrument.

Table 1A indicates the instructional offerings moderated per level:

Table 1A: Instructional offerings included in the moderated sample of question papers

Instructional offerings	Level
Aircraft Maintenance Theory	N3
Building and Civil Technology	N3
Building Drawing	N2 and N3
Bricklaying and Plastering Theory	N2
Building Science	N2 and N3
Carpentry and Roofing Theory	N2
Diesel Trade Theory	N2 and N3
Electrical Trade Theory	N2 and N3
Electrotechnology	N3
Engineering Drawing	N2 and N3
Engineering Science	N2 and N3
Fitting and Machining Theory	N2
Industrial Electronics	N2 and N3
Industrial Organisation and Planning	N3
Industrial Orientation	N2 and N3
Instrument Trade Theory	N2 and N3
Logic Systems	N2 and N3
Mathematics	N2 and N3
Mechanotechnology	N3
Motor Electrical Theory	N2
Motor Trade Theory	N2 and N3
Plant Operation Theory	N2 and N3
Platers' Theory	N2
Plating and Structural Steel Drawing	N2 and N3
Plumbing Theory	N2
Radio Theory	N2 and N3
Radio and Television Theory	N2 and N3
Refrigeration Trade Theory	N2 and N3
Supervision in Industry	N3
Waste-water Treatment Practice	N3
Water and Waste-water Treatment Practice	N2
Water Treatment Practice	N3
Welders' Theory	N2

The DHET administered a total of 55 instructional offerings for the N2 and N3 August 2023 examination, 50 of which Umalusi sampled for moderation. The table below indicates the number and percentage of instructional offerings per level moderated by Umalusi.

Table 1B: Instructional offerings included in the sample of question papers

Level	Number of Instructional Offerings	Number of Instructional Offerings Moderated	Percentage of Instructional Offerings Moderated
N2	30*	25	83%
N3	25*	25	100%
Total	55*	50	91%

*according to DHET 2023 examination timetable

The question papers and marking guidelines were moderated according to ten criteria set by Umalusi, each criterion having detailed quality indicators. These are outlined below:

- Technical aspects related to the presentation of question papers and marking guidelines;
- Effectiveness of internal moderation in improving the quality of question papers;
- Adherence to the syllabus with respect to content coverage;
- Types of questions, their formulation and clarity to achieve the desired response;
- Distribution of marks across cognitive levels;
- Consistency and appropriateness of mark allocation;
- Relevance and correctness of the marking guidelines;
- Appropriateness of language register, correct use of grammar in question papers and marking guidelines, and content that is free from bias;
- Degree of predictability and innovation in question papers; and
- An overall evaluation of question papers in terms of their suitability for the level assessed.

1.3 Summary of Findings

The preliminary moderation of the 50 sampled question papers resulted in the following findings:

Table 1C: Approval status of question papers and marking guidelines after preliminary moderation

August 2023 Examinations								
Report 190/191: Engineering Studies N2–N3	Question Papers Moderated by Umalusi		Question Papers Approved		Question Papers Conditionally Approved		Question Papers Rejected	
	No.	%	No.	%	No.	%	No.	%
N2	25	100%	8	32%	16	64%	1	4%
N3	25	100%	9	36%	16	64%	0	0%

The graph below (Figure 1A) provides a summary of the findings after first moderation of the question papers and marking guidelines as indicated in external moderators' reports.

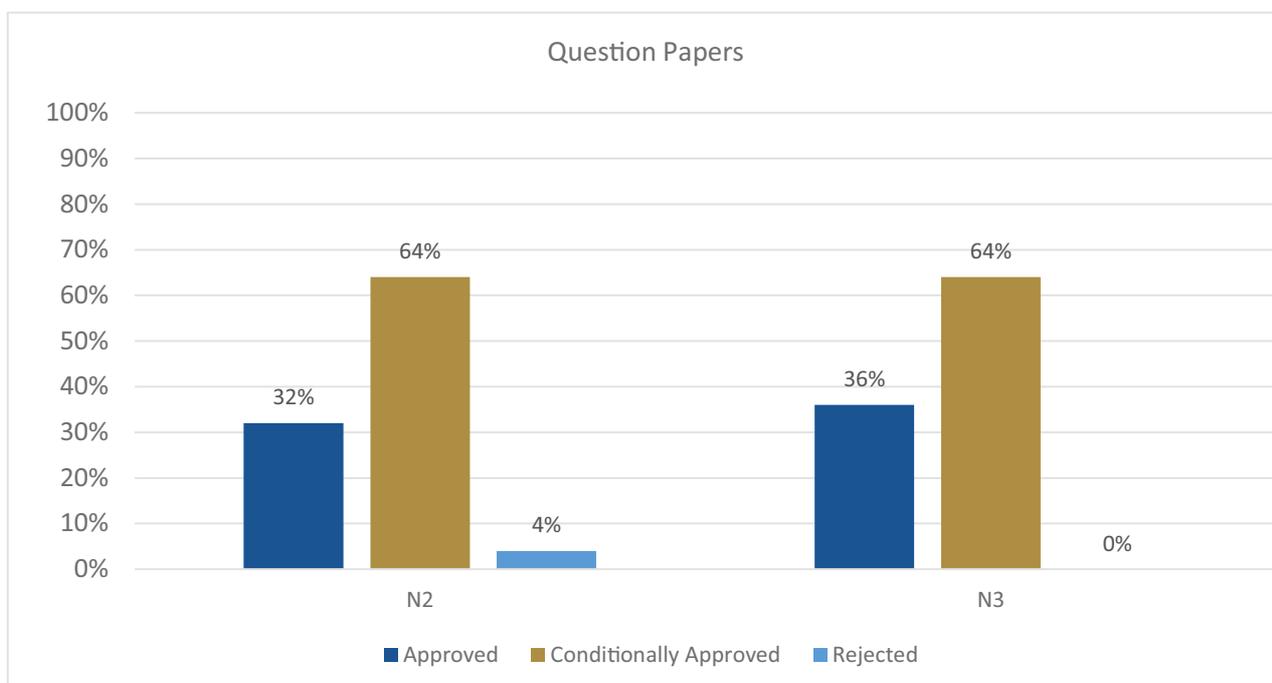


Figure 1A: Approval status of the NATED Report 190/191: Engineering Studies question papers and marking guidelines after first moderation

Table 1D provides a summary of the most significant findings of the moderation of the August 2023 examination question papers and marking guidelines. All findings are discussed in terms of the sample of 50 instructional offerings that were moderated.

Table 1D: Summary of findings of the first moderation of question papers

Criteria	Challenges	Instructional offerings concerned
Technical criteria		
Submission of supporting documents to external moderator	The internal moderation report for 16% of the question papers were not received by Umalusi, an increase of 4% compared to the August 2023 examination.	Electrical Trade Theory N2 and N3 Fitting and Machining Theory N2 Industrial Organisation and Planning N3 Motor Trade Theory N2 and N3 Waste-water Treatment Practice N3 Water Treatment Practice N3
	The internal moderation report arrived sometime after the receipt of the question paper and marking guideline by Umalusi. (One question paper)	Logic Systems N2
Layout of the question paper	The cover pages for 6% of the question papers did not contain all the relevant details such date of examination or duration of examination. This is 2% less than the 8% in the August 2022 examination.	Building Drawing N2 Motor Electrical Theory N2 Radio Theory N2

Criteria	Challenges	Instructional offerings concerned
Instructions to candidates	In 6% of the question papers, the instructions to candidates were not clearly specified as required by the DHET. This concurs with the August 2022 examination.	Building Drawing N2 Carpentry and Roofing Theory N2 Plating and Structural Steel Drawing N3
Numbering of questions	In 4% of the question papers, questions were not correctly numbered. This is double the number of the August 2022 examination.	Radio and Television Theory N2 Radio Theory N3
Numbering of pages	Some pages in the question paper were not correctly numbered. (One question paper)	Supervision in Industry N3
Header and footer	Footers were not set out as specified in the DHET guide in 2% of the question papers, similarly in the August 2022 examination.	Supervision in Industry N3
Font type and size	Inappropriate use of fonts in the question paper. (One paper)	Plating and Structural Steel Drawing N2
Mark and time allocation	Mark allocations in 8% of the question papers were not clearly indicated, a decrease from 12% in the August 2022 examination.	Plating and Structural Steel Drawing N2 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3
	In 2% of the question papers, the papers could not be completed in the time allocated. This concurs with the August 2022 examination.	Engineering Drawing N2
	In 4% of the question papers the mark allocation on the papers did not correspond with the allocation in the marking guidelines, this was double the number of the August 2022 examination.	Industrial Orientation N2 Motor Trade Theory N3
Quality of graphics and illustrations	In 12% of question papers, drawings, illustrations, graphs and tables were of poor quality and not print-ready, noting a decrease of 15% as compared to 27% from the August 2022 examination.	Engineering Drawing N2 and N3 Fitting and Machining Theory N2 Industrial Electronics N2 Mathematics N3 Plating and Structural Steel Drawing N2

Criteria	Challenges	Instructional offerings concerned
Format requirements to the syllabus	Four percent of the question papers did not adhere to the format requirements of the syllabus a drop of 1% compared to the August 2022 examination.	Fitting and Machining Theory N2 Industrial Organisation and Planning N3
Internal Moderation		
Internal moderator reports	The internal moderators' reports for 10% of the question papers did not match the question papers, a decrease of 11% from the 21% in the August 2022 examination.	Diesel Trade Theory N3 Electrotechnology N3 Engineering Drawing N3 Engineering Science N2 Mathematics N3
Quality and standard of internal moderation report	The internal moderator's report for 8% of question papers was incomplete (did not include contact details of the examiner or internal moderator, the analysis grid, an evaluation of the question paper in terms of specified criteria or the approval status of the question paper and marking guideline). This was a decrease of 22% from the 30% of the August 2022 examination.	Building Drawing N2 Plating and Structural Steel Drawing N2 and N3 Radio and Television Theory N3
	The internal moderation reports for 14% of the question papers were not of acceptable standard. This was 22% less than the 36% of the August 2022 examination.	Bricklaying and Plastering Theory N2 Carpentry and Roofing Theory N2 Electrotechnology N3 Engineering Drawing N2 and N3 Logic Systems N2 Mathematics N3
	The internal moderation reports for 12% of the question papers were not relevant, a decrease of 23% from 35% in the August 2022 examination.	Diesel Trade Theory N3 Electrotechnology N3 Engineering Drawing N3 Industrial Electronics N3 Industrial Orientation N2 Mathematics N3
Content Coverage		
Coverage of the syllabus	In 8% of the question papers, the syllabus was not covered adequately; this was the same proportion as in the August 2022 examination.	Fitting and Machining Theory N2 Industrial Organisation and Planning N3 Industrial Orientation N2 Mathematics N3

Criteria	Challenges	Instructional offerings concerned
	In 6% of the question papers, the questions were not set according to the prescribed weightings of topics, a decrease of 4% from the August 2022 examination.	Engineering Drawing N2 Fitting and Machining Theory N2 Industrial Orientation N2
	In 6% of question papers, some of the questions were not within the broad scope of the syllabus.	Carpentry and Roofing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2
	In 6% of the question papers the topics were not evenly distributed throughout the question paper, a decrease of 1% from the August 2022 examination.	Industrial Organisation and Planning N3 Industrial Orientation N2 Mathematics N3
Types and Quality of Question Papers		
Types of questions	Six percent of the question papers did not have a range of types of questions, for example multiple-choice, paragraph, data/source-based response, essay, real-life scenario and real-life problem-solving questions. This was 1% less than the August 2022 examination.	Carpentry and Roofing Theory N2 Logic Systems N2 Industrial Organisation and Planning N3
	There was no correspondence between mark allocation, and level of difficulty and time allocation in 12% of the question papers, compared to 16% in the August 2022 examination.	Electrotechnology N3 Engineering Drawing N2 Fitting and Machining Theory N2 Mathematics N3 Motor Trade Theory N2 Radio and Television Theory N2
Quality of questions	In 4% of the question papers, the questions did not reflect what was pertinent in the instructional offerings. This was double than August 2022 examination.	Industrial Orientation N2 Motor Trade Theory N2

Criteria	Challenges	Instructional offerings concerned
	In 12% of the question papers, the questions contained vaguely defined problems, ambiguous wording, extraneous or irrelevant information, trivia or unintentional clues to the correct answers, compared to 14% in the August 2022 examination.	Fitting and Machining Theory N2 Logic Systems N3 Radio and Television Theory N2 and N3 Waste-water Treatment Practice N3 Water Treatment Practice N3
	In 4% of the question papers, the questions did not include clear instructional key words/verbs, 6% less than the 10% in the August 2022 examination.	Fitting and Machining Theory N2 Water Treatment Practice N3
	In 4% of the question papers, the questions did not contain sufficient information to elicit appropriate responses; compared to 14% in the August 2022 examination.	Industrial Orientation N2 Plumbing Theory N2
	In 6% of the question papers, the questions contained factual errors or misleading information. This was half the number of the August 2022 examination.	Logic Systems N3 Radio and Television Theory N2 and N3
Cognitive Skills		
Analysis grid	The analysis grid for 4% of the question papers did not show the cognitive level of each question/sub-question, a decrease of 9% from the 13% in the August 2022 examination.	Carpentry and Roofing Theory N2 Electrical Trade Theory N2
	In 14% of the question papers, cognitive levels were not appropriately distributed according to Bloom's taxonomy or any other taxonomy that may have been used. This was a decrease of 27% from 41% in the August 2022 examination.	Carpentry and Roofing Theory N2 Engineering Drawing N2 Industrial Organisation and Planning N3 Industrial Orientation N2 Logic Systems N3 Mathematics N3 Motor Trade Theory N2

Criteria	Challenges	Instructional offerings concerned
	In 4% of the question papers, choice questions were not equivalent in level of difficulty/standard to compulsory questions, 1% less compared to the August 2022 examination.	Carpentry and Roofing Theory N2 Motor Trade Theory N2
	In 10% of question papers, the questions did not match the cognitive level instruction e.g., if it says analyse, the answer in fact shows analysis.	Logic Systems N3 Radio and Television Theory N2 and N3 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3
Assessment of latest developments	Questions in 14% of question papers were not representative of the latest developments in the teaching of the knowledge field. This was an increase of 5% compared to the August 2022 examination.	Aircraft Maintenance Theory N3 Building Drawing N2 and N3 Carpentry and Roofing Theory N2 Industrial Organisation and Planning N3 Motor Electrical Theory N2 Motor Trade Theory N2
Marking Guidelines		
Accuracy of marking guidelines	Six percent of the marking guidelines did not correspond to the questions in the question papers, compared to 8% percent in the August 2022 examination.	Engineering Drawing N2 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3
	Some of the answers in 28% of the marking guidelines were incorrect. This was 2% less than the August 2022 examination.	Bricklaying and Plastering Theory N2 Carpentry and Roofing Theory N2 Electrical Trade Theory N2 and N3 Electrotechnology N3 Engineering Drawing N2 and N3 Fitting and Machining Theory N2 Industrial Electronics N3 Logic Systems N3 Mathematics N3 Radio and Television Theory N2 and N3 Water Treatment Practice N3
	Twelve percent of the marking guidelines did not allow for alternative responses, where applicable, a decrease of 19% compared to 31% in the August 2022 examination.	Building and Civil Technology N3 Building Science N3 Industrial Electronics N2 Logic Systems N2 Mathematics N3 Motor Electrical Theory N2

Criteria	Challenges	Instructional offerings concerned
Mark allocation	The mark allocations in the marking guidelines did not correspond with the mark allocations in the question papers in 6% of papers. This was on par with the August 2022 examination.	Engineering Drawing N2 Industrial Orientation N2 Radio and Television Theory N2
	Eight percent of the marking guidelines were incomplete regarding mark allocation and mark distribution within questions. This was 10% less than the August 2022 examination.	Building Science N3 Fitting and Machining Theory N2 Radio Theory N2 Water Treatment Practice N3
Prescribed macros	The marking guidelines for all question papers were laid out according to the prescribed macros, compared to 6% in the August 2022 examination.	
Language and bias		
Grammar	In 8% of the question papers, subject terminology/data were used incorrectly, this was 6% more than the August 2022 examination.	Bricklaying and Plastering Theory N2 Engineering Drawing N3 Fitting and Machining Theory N2 Water and Waste-water Treatment Practice N2
	The language register/level and complexity of vocabulary was appropriate for the level of candidates in all question papers, on par with the August 2022 examination.	
	In 12% of the question papers the language contained subtleties that could have confused candidates. This was 4% more than the August 2022 examination.	Bricklaying and Plastering Theory N2 Carpentry and Roofing Theory N2 Mathematics N3 Motor Trade Theory N3 Plumbing Theory N2 Water Treatment Practice N3
	In 14% of the question papers, there were some grammatical errors, an increase of 8% compared to 6% in the August 2022 examination.	Bricklaying and Plastering Theory N2 Industrial Electronics N2 and N3 Motor Trade Theory N3 Plumbing Theory N2 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3

Criteria	Challenges	Instructional offerings concerned
	There were some grammatical errors in 4% of the marking guidelines, a decrease of 2% from the 6% in the August 2022 examination.	Bricklaying and Plastering Theory N2 Water and Waste-water Treatment Practice N2
Predictability		
Use of questions from previous examinations	Fourteen percent of the question papers contained questions that could have been easily spotted or predicted. This was 6% more than the 8% in the August 2022 examination.	Engineering Drawing N2 Logic Systems N2 Mathematics N3 Motor Trade Theory N2 and N3 Plating and Structural Steel Drawing N3 Water and Waste-water Treatment Practice N2
	Four percent of the question papers contained questions from the past three years' examinations. This was proportionate to the 10% in the August 2022 examination.	Engineering Drawing N2 Plating and Structural Steel Drawing N3
Innovation	Two percent of the question papers lacked an appropriate degree of originality, compared to 12% in the August 2022 examination.	Motor Trade Theory N2
Quality of question papers		
Standard of question papers	Eight percent of the question papers were not aligned to the current syllabus, this was 4% less than the August 2022 examination.	Fitting and Machining Theory N2 Industrial Organisation and Planning N3 Industrial Orientation N2 Motor Trade Theory N2
	The outcomes of the curriculum/syllabus were not assessed as a whole in 12% of the question papers. This was an increase compared to 8% in the August 2022 examination.	Carpentry and Roofing Theory N2 Engineering Drawing N2 Industrial Organisation and Planning N3 Industrial Orientation N2 Motor Trade Theory N2 Radio and Television Theory N2
	Fourteen percent of the question papers were not of the appropriate standard, compared to 20% in the August 2022 examination.	Carpentry and Roofing Theory N2 Engineering Drawing N2 Fitting and Machining Theory N2 Industrial Organisation and Planning N3 Mathematics N3 Motor Trade Theory N2 Radio and Television Theory N2

Criteria	Challenges	Instructional offerings concerned
	Twelve percent of the question papers did not compare favourably with those of the previous year's examination. This was 4% less than the August 2022 examination.	Building Science N2 Carpentry and Roofing Theory N2 Fitting and Machining Theory N2 Industrial Organisation and Planning N3 Mathematics N3 Motor Trade Theory N2
	There was no balance in the assessment of skills, knowledge, attitudes, values and reasoning in 6% of the question papers, a decrease of 5% from the 11% in the August 2022 examination.	Logic Systems N2 Mathematics N3 Motor Trade Theory N2

1.4 Areas of Improvement

The following areas of improvement were observed during the first moderation of question papers from the sampled instructional offerings:

- a. The cover pages for 94% of the question papers contained all the relevant details, an improvement of 2% from the August 2022 examination;
- b. Mark allocations in 92% of the question papers were clearly indicated, citing an improvement of 4% from the August 2022 examination;
- c. In 88% of question papers, drawings, illustrations, graphs and tables were of print-ready quality, noting an improvement of 15% as compared to 73% in the August 2022 examination;
- d. Ninety-six percent of the question papers adhered to the format requirements of the syllabus, with 1% improvement from the August 2022 examination;
- e. The internal moderator reports for 90% of the question papers matched the paper, and 92% were completed in full. This was an improvement of 11% and 22%, respectively;
- f. Eighty-six percent of internal moderation reports were of acceptable standard and 88% were relevant to the question paper. This was a significant improvement of 22% and 23%, respectively when compared to the August 2022 examination;
- g. In 86% of the question papers, some questions were representative of the latest developments in the field, an improvement of 2% from the August 2022 examination;
- h. Ninety-four percent of the question papers had a broad range of question types, for example multiple-choice, paragraph, data/source-based response, essay, real-life scenario and real-life problem-solving questions. This was 1% more than the August 2022 examination;
- i. In 88% of question papers, the mark allocation, level of difficulty and time allocation per question was consistent, an improvement of 4% compared to the August 2022 examination;

- j. In 86% of the question papers, the questions were free of factual errors or misleading information, an improvement of 6% compared to the August 2022 examination;
- k. In 96% of the question papers, cognitive levels were appropriately distributed according to Bloom's taxonomy or any other taxonomy that may have been used; this was an improvement of 17% from the 69% in the August 2022 examination;
- l. Ninety-two percent of the marking guidelines were complete with mark allocation and mark distribution within questions. This was 11% more than the August 2022 examination;
- m. The language used in 96% of the marking guidelines was grammatically correct, an improvement of 2% from the August 2022 examination; and
- n. Ninety-six percent of the question papers were free of questions from the past three examinations, noting an improvement of 6% compared to the August 2022 examination.

1.5 Areas of Non-compliance

Umalusi moderators' reports revealed the areas of non-compliance listed below:

- a. The internal moderation report for 16% of the question papers were not received by Umalusi;
- b. In 12% of the question papers, the questions contained vaguely defined problems, ambiguous wording, extraneous or irrelevant information, trivia or unintentional clues to the correct answers;
- c. Questions in 14% of question papers were not representative of the latest developments in the teaching of the knowledge field;
- d. Some of the answers in 28% of the marking guidelines were incorrect and 12% of the marking guidelines did not allow for alternative responses, where applicable;
- e. In 12% of the question papers the language contained subtleties that could have confused candidates;
- f. In 14% of the question papers the language used in the question paper was grammatically incorrect; and
- g. Fourteen percent of the question papers contained questions that could have been easily spotted or predicted, likewise 14% of the question papers were not of the appropriate standard.

1.6 Directives for Compliance and Improvement

Based on findings in the external moderators' reports, the following directives for compliance and improvement are provided:

The DHET must ensure that:

- a. Question papers comply with all the quality indicators set out in the moderation instrument;
- b. Accompanying documents are provided with question papers, for Umalusi moderation;

- c. Marking guidelines are comprehensive and error free;
- d. Question papers cover the latest developments in the instructional offering and reflect new teaching techniques in the instructional offering; and
- e. All question papers compare favourably with previous examination cycles' question papers.

1.7 Conclusion

The DHET administered a total of 55 instructional offerings for the N2 and N3 August 2023 examination, 50 of which were sampled by Umalusi for moderation, 25 on each level. Across both levels, 64% of question papers were conditionally approved on first moderation, with 34% approved and 2% (1 question paper) requiring resetting.

CHAPTER 2: MODERATION OF THE CONDUCT OF INTERNAL CONTINUOUS ASSESSMENT

2.1 Introduction

Since 2012, Umalusi has been moderating and monitoring the internal assessments of selected NATED Report 190/191: Engineering Studies N2–N3 instructional offerings.

The main objectives of moderating the internal continuous assessment (ICASS) are to:

- a. Verify that lecturers' portfolios of assessment (PoA) adhere to the ICASS guidelines;
- b. Ensure that evidence is competently collected and documented;
- c. Ascertain the appropriateness and standard of the assessment tasks;
- d. Ensure that assessments are consistently delivered across different sites and that standards are maintained; and
- e. Ensure that the quality assurance of the internal assessment component of NATED Report 190/191: Engineering Studies N2–N3 is effectively maintained.

The purpose of this section of the report is to:

- i. Outline the scope and approach followed in the moderation of ICASS;
- ii. Provide an indication of the size of the sample included in the quality assurance of the ICASS exercise;
- iii. Provide an overview of critical findings related to the quality and standard of the ICASS;
- iv. Highlight areas of improvement and those requiring improvement; and
- v. Make recommendations to enhance the quality of internal assessment.

2.2 Scope and Approach

Umalusi external moderators were deployed to five of the nine provinces on 7 to 14 August 2023 to moderate the ICASS of N2 and N3 students' and lecturers' portfolios from a sample of NATED Report 190/191 instructional offerings. The external moderators drafted reports on their findings at the sampled sites. Twenty instructional offerings, compared with 16 in August 2022, were moderated at twenty sites of 11 public TVET and nine private FET colleges (compared to two public TVET and 14 private FET colleges in August 2022). The Namibian Institute of Mining and Technology (NIMT) offers (NATED) Report 190/191: Engineering Studies N2–N3 instructional offerings. Umalusi visited the college on 10 August 2023 to verify the compliance of the ICASS component to DHET Guidelines. The background to and findings of the visit are captured in this chapter.

Table 2A provides information on the sampled instructional offerings, sites and provinces involved in the external moderation of the NATED Report 190/191: Engineering Studies N2–N3 ICASS during August 2023.

Table 2A: Moderation of the August 2023 Report 190/191 ICASS

No.	Instructional Offering	TVET/FET College	Site	Province
1.	Bricklaying and Plastering Theory N2	Southwest Gauteng	Molapo	GP
2.	Building Drawing N3	Thekwini TVET	Melbourne	KZN
3.	Carpentry and Roofing Theory N2	Northlink TVET	Belhar	WC
4.	Diesel Trade Theory N3	Ekurhuleni West TVET	Kempton	GP
5.	Electrical Trade Theory N3	Oaklands Institute of Technology	Pretoria	GP
6.	Engineering Science N2	Ikage SD College Northam Campus	Thabazimbi	LP
7.	Fitting and Machining Theory N2	Umbilo Private Technical College	Durban	KZN
8.	Industrial Electronics N3	Highbury College FET	Pretoria	GP
9.	Industrial Orientation N2	Central Technical College FET	Durban	KZN
10.	Logic Systems N2	Coastal KZN TVET	Durban	KZN
11.	Mathematics N2	Thasululo FET College: Lufule Campus FET	Thohoyandou	LP
12.	Mechanotechnology N3	African Institute of Technology	Pretoria	GP
13.	Motor Trade Theory N3	Central Johannesburg College	Alexandra	GP
14.	Plant Operation Theory N2	Elangeni TVET	Inanda	KZN
15.	Plating and Structural Steel Drawing N2	Majuba TVET	Newcastle	KZN
16.	Plating and Structural Steel Drawing N3	Nkangala TVET	Witbank	MP
17.	Plumbing Theory N2	College of Cape Town	Athlone	WC
18.	Supervision in Industry N3	Bohlokoa ba Thuto FET	Vanderbijlpark	GP
19.	Water Treatment Practice N3	Capricorn TVET	Seshego	LP
20.	Welders' Theory N2	Kent Technical College FET	Springs	GP

Umalusi's moderators were also requested to gather information on two/three additional instructional offerings. These additional offerings were selected from the enrolments received from DHET for each site. Further information is discussed under 2.3. The sites were not informed prior to the visits of this additional monitoring of specific instructional offerings. The purpose of the unannounced request for evidence of the additional instructional offerings was to prevent any suspected window-dressing of the tasks and all accompanying documents.

2.3 Findings

Criteria that were not relevant to the teaching and learning practices conducted at some institutions were not included in the statistical reflection of data. Table 2B indicates the findings as reported by the external moderators for the implementation of internal assessment of the Engineering Studies instructional offerings. Shortcomings could hamper the effective delivery of the NATED Report 190/191: N2 – N3 programmes.

Table 2B: Findings observed in the ICASS moderation of the August 2023 examination

Criterion	Findings	College/Site
Administration	The college provided support at 65% of the sites before enrolment e.g., competency test/aptitude test/placement test.	African Institute of Technology Alexandra Campus Athlone Campus Belhar Campus Durban Campus Highbury College Inanda Campus Kempton Campus Melbourne Campus Molapo Campus Oaklands Institute of Technology Technology Centre (Majuba) Witbank Campus
Physical resources	The available facilities at 95% (88% in August 2022) of the sites were sufficient for the number of enrolled students.	Alexandra Campus Athlone Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Durban Campus Highbury College Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	The textbooks / teaching material at 95% of the sites, were available when the classes commenced at the beginning of the trimester compared to 69% in August 2022.	African Institute of Technology Alexandra Campus Athlone Campus Belhar Campus Bohlokoa ba Thuto

Criterion	Findings	College/Site
		Central Technical College (Durban) Durban Campus Highbury College Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	The students at 50% of the sites were exposed to practical implementation of the theory component of the subject at the site of learning compared to 38% in August 2022.	Belhar Campus Highbury College Ikage SD College Kempton Campus Melbourne Campus Molapo Campus Seshego Campus Technology Centre (Majuba) Thasululo FET College Witbank Campus
	There were computers and printers for the students at 85% of the sites to complete assignments/case studies to do research. This was a 10% increase from 75% in August 2022.	African Institute of Technology Alexandra Campus Athlone Campus Belhar Campus Bohllokoa ba Thuto Central Technical College (Durban) Durban Campus Highbury College Inanda Campus Kent Technical College Melbourne Campus Molapo Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Witbank Campus
Human Resources	The college had a process in place for the identification of training needs of the staff members at 70% of the sites visited. This was a 14% increase from the 56% in August 2022.	Athlone Campus Belhar Campus Bohllokoa ba Thuto Central Technical College (Durban) Durban Campus Inanda Campus

Criterion	Findings	College/Site
		Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Oaklands Institute of Technology Seshego Campus Newcastle Technology Centre (Majuba) Witbank Campus
	The college had a plan for training of staff/staff development at 70% of the sites visited, an increase of 14% from 56% in August 2022.	African Institute of Technology Athlone Campus Belhar Campus Bohllokoa ba Thuto Central Technical College (Durban) Durban Campus Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Oaklands Institute of Technology Technology Centre (Majuba) Witbank Campus
	There was evidence that the training plan was implemented at 50% of the sites visited, an increase of 12% from the 38% in August 2022.	Athlone Campus Bohllokoa ba Thuto Central Technical College (Durban) Durban Campus Inanda Campus Kempton Campus Kent Technical College Oaklands Institute of Technology Technology Centre (Majuba) Witbank Campus
	There were areas where the lecturers felt that they needed further training at 75% of the sites, an increase of 2% from 73% in August 2022.	Alexandra Campus Athlone Campus Bohllokoa ba Thuto Durban Campus Highbury College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College

Criterion	Findings	College/Site
	The educators were exposed to the workplace environment/ relevant industry at 45% of the sites visited, a 5% decrease from 50% in August 2022.	Witbank Campus African Institute of Technology Belhar Campus Durban Campus Inanda Campus Kent Technical College Melbourne Campus Seshego Campus Technology Centre (Majuba) Thasululo FET College
Internal Assessment Policies and Systems	There was an up-to-date college assessment policy at 90% of the sites visited, an increase of 10% from the 80% in August 2022.	African Institute of Technology Alexandra Campus Athlone Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Highbury College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	There was evidence of a strategy/plan for the monitoring of assessment at the site of learning at 70% of the sites visited, 3% less than the 73% in August 2022.	Alexandra Campus Belhar Campus Bohlokoa ba Thuto Highbury College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	There was evidence of an instructional offering monitoring report per lecturer at 55% of the sites visited, a decrease of 8% from 63% in August 2022.	Alexandra Campus Belhar Campus Highbury College Inanda Campus Kent Technical College

Criterion	Findings	College/Site
		Melbourne Campus Molapo Campus Seshego Campus Technology Centre (Majuba) Thasululo FET College Witbank Campus
	There was a plan in place for the development of the assessment tasks at 85% of the sites, a 9% decrease from the 94% of August 2022.	African Institute of Technology Alexandra Campus Belhar Campus Bohllokoa ba Thuto Durban Campus Highbury College Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	The tasks were developed according to the plan/schedule of assessment at 75% of the sites, a decrease of 13% from the 88% in August 2022.	Alexandra Campus Belhar Campus Bohllokoa ba Thuto Highbury College Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	At 70% of the sites (75% in August 2022), there were systems in place to ensure that tasks were of an acceptable standard.	Alexandra Campus Belhar Campus Bohllokoa ba Thuto Highbury College Ikage SD College Inanda Campus Kempton Campus Melbourne Campus Molapo Campus

Criterion	Findings	College/Site
		Oaklands Institute of Technology Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	The college had an irregularity register at 55% of the sites visited, a decrease of 8% from the 63% in August 2022.	Alexandra Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Inanda Campus Kempton Campus Kent Technical College Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College
	There were internal assessment irregularities recorded in the register at 30% of the sites visited, a decrease of 8% from the 38% of August 2022.	Inanda Campus Kempton Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College
Lecturer files	Thirty-five percent of the sites visited had lecturer files that contained all the following documents: a. Name; b. Certified copies of qualifications; c. SACE registration; d. Teaching/lecturing experience; and e. Workplace experience. This was a decrease of 9% from the 44% in August 2022	Alexandra Campus Athlone Campus Melbourne Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	The lecturer file contained the instructional offering syllabus at 85% of the sites visited compared to 100% in August 2022.	Alexandra Campus Athlone Campus Belhar Campus Central Technical College (Durban) Durban Campus Highbury College Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus

Criterion	Findings	College/Site
		Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Witbank Campus
	The subject file contained lesson plans at 90% of the sites visited, a slight decrease of 4% compared to 94% in August 2022.	Alexandra Campus Athlone Campus Belhar Campus Bohlokoa ba Thuto Durban Campus Highbury College Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	The assessment file contained all relevant documents at 60% of the sites visited namely: a. Assessment schedules; b. Assessment instruments and tools; c. Evidence of pre-assessment moderation; d. Evidence of post-assessment moderation; and e. Mark sheets of all groups.	Belhar Campus Bohlokoa ba Thuto Inanda Campus Kempton Campus Melbourne Campus Molapo Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	Assessment scores were recorded accurately on the mark sheet at 90% of the sites visited, decrease of 4% compared to the 94% of August 2022.	Alexandra Campus Athlone Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Durban Campus Highbury College Ikage SD College Inanda Campus Kempton Campus Melbourne Campus Molapo Campus

Criterion	Findings	College/Site
		Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
Content coverage	Eighty-five percent of sites (81% in August 2022) ensured that a substantial amount of work had been covered in both tests.	Alexandra Campus Athlone Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Highbury College Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	The weighting and spread of content of the topic(s) in both tests was appropriate at 85% (88% in August 2022) of the sites.	Athlone Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Durban Campus Highbury College Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Oaklands Institute of Technology Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	The type of questions was in line with the stipulated content at 90% of the sites, an increase of 3% from the 87% in August 2022.	African Institute of Technology Athlone Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Durban Campus Highbury College

Criterion	Findings	College/Site
		Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
Cognitive demand and difficulty levels	The two tasks varied in the level of difficulty, were pitched at the right level, and assessed a variety of knowledge and skills at 70% of the sites, a significant decrease of 30% from the 100% of August 2022.	Alexandra Campus Athlone Campus Belhar Campus Bohllokoa ba Thuto Highbury College Ikage SD College Inanda Campus Kempton Campus Melbourne Campus Molapo Campus Oaklands Institute of Technology Technology Centre (Majuba) Thasululo FET College Witbank Campus
Internal moderation of task	Eighty-five percent of the sites, compared to 81% in August 2022, had evidence of moderation of marking in both tests of a minimum sample of 10% of the scripts.	Athlone Campus Belhar Campus Bohllokoa ba Thuto Central Technical College (Durban) Durban Campus Highbury College Ikage SD College Inanda Campus Kempton Campus Melbourne Campus Molapo Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus

Criterion	Findings	College/Site
	The sample of both tests that were internally moderated included the full range of performance i.e., high, average, and low scoring students at 70% of sites, compared to 88% of sites in August 2022.	Athlone Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Highbury College Ikage SD College Inanda Campus Kempton Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
Technical aspects	Forty-five percent of the sites compared to 69% of sites in August 2022 contained all relevant information like: <ul style="list-style-type: none"> a. The name of the subject; b. The level of subject; c. Time allocation; d. Content covered; e. Number of test; and f. Date. 	Alexandra Campus Athlone Campus Bohlokoa ba Thuto Highbury College Inanda Campus Kempton Campus Melbourne Campus Technology Centre (Majuba) Witbank Campus
	There were clear instructions to students on both tasks at 80% of sites visited, a 20% decrease than the 100% of August 2022 findings.	Alexandra Campus Athlone Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Highbury College Inanda Campus Kempton Campus Melbourne Campus Molapo Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	The language and terminology used was appropriate and relevant in both tests at 95% of the sites, compared to 100% in August 2022.	African Institute of Technology Alexandra Campus Athlone Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Durban Campus

Criterion	Findings	College/Site
		Highbury College Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	The mark allocation was clearly indicated for each question in both tests at 85% of the sites, compared to 100% in August 2022.	African Institute of Technology Alexandra Campus Athlone Campus Belhar Campus Bohllokoa ba Thuto Highbury College Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Oaklands Institute of Technology Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	The mark allocation on the test was the same as that on the marking guideline for both tests at 90% of the sites, 88% in August 2023.	African Institute of Technology Alexandra Campus Athlone Campus Belhar Campus Bohllokoa ba Thuto Central Technical College (Durban) Durban Campus Highbury College Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Oaklands Institute of Technology Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus

Criterion	Findings	College/Site
	The numbering on the test was incorrect at 15% of the sites, an increase of 2% to the 13% in August 2022.	Belhar Campus Durban Campus Seshego Campus
	The time allocation was realistic for the administration of the tests at 95% of the sites, a slight increase to the 94% in August 2022.	African Institute of Technology Alexandra Campus Athlone Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Durban Campus Highbury College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
Marking guidelines	The marking guidelines facilitated marking and were easy to use in both tests at 80% of sites, a decrease of 20% compared to 100% in August 2022.	African Institute of Technology Alexandra Campus Athlone Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Highbury College Ikage SD College Inanda Campus Kempton Campus Melbourne Campus Oaklands Institute of Technology Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
Student performance	The students interpreted questions correctly and were able to answer all or most of the questions in the tests at 100% of sites, an increase of 19% compared to 81% of the sites in August 2022.	African Institute of Technology Alexandra Campus Athlone Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Durban Campus Highbury College

Criterion	Findings	College/Site
		Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
Quality of marking	Marking was consistent with the marking guidelines at 80% of the sites, compared to the 81% of sites visited in August 2022.	Alexandra Campus Athlone Campus Belhar Campus Bohllokoa ba Thuto Central Technical College (Durban) Highbury College Ikage SD College Inanda Campus Kempton Campus Melbourne Campus Molapo Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Witbank Campus
	The mark allocated was a true reflection of the students' performance in both tests at 75% of the sites, the same as in August 2022.	Alexandra Campus Athlone Campus Belhar Campus Bohllokoa ba Thuto Central Technical College (Durban) Highbury College Ikage SD College Inanda Campus Kempton Campus Melbourne Campus Molapo Campus Seshego Campus Technology Centre (Majuba) Thasululo FET College Witbank Campus
	The totalling of marks and transfer of marks to the mark sheet was accurate at 85% of the sites, a	Alexandra Campus Athlone Campus Belhar Campus Bohllokoa ba Thuto

Criterion	Findings	College/Site
	decrease of 15% compared to the 100% of sites visited in August 2022.	Central Technical College (Durban) Durban Campus Highbury College Ikage SD College Inanda Campus Kempton Campus Melbourne Campus Molapo Campus Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus
	The quality and standard of marking was acceptable at 75% of the sites, a 6% decrease to the 81% of sites visited in August 2022.	Alexandra Campus Athlone Campus Belhar Campus Bohlokoa ba Thuto Central Technical College (Durban) Highbury College Ikage SD College Inanda Campus Kempton Campus Melbourne Campus Molapo Campus Seshego Campus Technology Centre (Majuba) Thasululo FET College Witbank Campus
Internal moderation of marking	There was evidence that the students' work had been moderated internally at 90% of the sites, compared to 81% in August 2022.	African Institute of Technology Athlone Campus Belhar Campus Bohlokoa ba Thuto Durban Campus Highbury College Ikage SD College Inanda Campus Kempton Campus Kent Technical College Melbourne Campus Molapo Campus Oaklands Institute of Technology Seshego Campus Technology Centre (Majuba) Thasululo FET College Umbilo Private Technical College Witbank Campus

Criterion	Findings	College/Site
	The quality and standard of internal moderation was acceptable at 55% of sites, compared to 44% in August 2022.	Athlone Campus Belhar Campus Bohlokoa ba Thuto Highbury College Ikage SD College Inanda Campus Kempton Campus Melbourne Campus Technology Centre (Majuba) Thasululo FET College Witbank Campus

2.4 Compliance check of additional instructional offerings

As indicated earlier in this report, section 2.2, the external moderators were also requested to do a compliance check on documents pertaining to other instructional offerings at the sites visited.

The sites were requested to provide evidence of the marked tests and mark sheets of the additional instructional offerings. The status of the sites on compliance to the ICASS requirements, as stated in the 2023 DHET ICASS Instructions, are listed in table 2C.

Table 2C: Evidence of one or both tests accompanied by the marksheet

No.	College	Campus / Site	Additional Instructional Offerings	Test 1	Test 2	Correct conversion
1.	African Institute of Technology	Pretoria	Engineering Science N2	X	X	X
			Mathematics N2	X	X	X
			Industrial Electronics N2	X	X	X
2.	Bohlokoa ba Thuto	Vanderbijlpark	Engineering Science N3	✓	✓	✓
			Mathematics N3	✓	✓	✓
			Industrial Electronics N3	✓	✓	✓
3.	Capricorn TVET	Seshego	Engineering Science N2	✓	✓	✓
			Mathematics N2	✓	✓	✓
			Industrial Electronics N2	✓	✓	✓
4.	Central Johannesburg College	Alexandra	Engineering Science N2	✓	✓	✓
			Electrical Trade Theory N2	✓	✓	✓

No.	College	Campus / Site	Additional Instructional Offerings	Test 1	Test 2	Correct conversion
5.	Central Technical College	Durban	Engineering Science N2	✓	✓	✓
			Mathematics N2	✓	✓	✓
			Building Science N3	✓	✓	✓
6.	Coastal KZN TVET	Durban	Engineering Science N2	X	X	X
			Mathematics N2	✓	✓	✓
			Industrial Electronics N3	X	X	X
7.	College of Cape Town	Athlone	Engineering Science N2	✓	✓	✓
			Mathematics N2	X	X	X
			Industrial Electronics N2	✓	✓	✓
8.	Ekurhuleni West TVET	Kempton	Engineering Science N2	✓	✓	✓
			Mathematics N2	✓	✓	✓
			Industrial Electronics N3	✓	✓	✓
9.	Elangeni TVET	Inanda	Engineering Science N2	✓	✓	✓
			Mathematics N2	✓	✓	✓
10.	Highbury College	Pretoria	Engineering Science N2	✓	✓	✓
			Mathematics N2	✓	✓	✓
			Fitting and Machining Theory N2	✓	✓	✓
11.	Ikage SD College Northam Campus	Thabazimbi	Engineering Science N3	✓	✓	✓
			Mathematics N2	✓	✓	✓
			Industrial Electronics N2	✓	✓	✓
12.	Kent Technical College	Springs	Engineering Science N2	✓	✓	✓
			Mathematics N2	✓	✓	✓
			Fitting and Machining Theory N2	✓	✓	✓
13.	Majuba TVET	Technology Centre	Engineering Science N2	✓	✓	✓
			Mathematics N2	✓	✓	✓
			Diesel Trade Theory N3	✓	✓	✓
14.	Nkangala TVET	Witbank	Engineering Science N2	✓	✓	✓
			Mathematics N2	✓	✓	✓

No.	College	Campus / Site	Additional Instructional Offerings	Test 1	Test 2	Correct conversion
			Diesel Trade Theory N2	✓	✓	✓
15.	Northlink TVET	Belhar	Engineering Science N2	✓	✓	✓
			Mathematics N2	✓	✓	✓
			Building and Civil Technology N3	✓	✓	✓
16.	Oaklands Institute of Technology	Pretoria	Engineering Science N2	✓	✓	✓
			Mathematics N2	✓	✓	✓
			Electro-Technology N3	✓	✓	✓
17.	Southwest Gauteng	Molapo	Engineering Science N2	✓	✓	✓
			Mathematics N2	✓	✓	✓
			Mechanotechnology N3	✓	✓	✓
18.	Thasululo FET College: Lufule Campus	Thohoyandou	Industrial Electronics N2	✓	✓	✓
			Mathematics N3	✓	✓	✓
			Platers' Theory N2	✓	✓	✓
19.	Thekwini TVET	Melbourne	Engineering Science N2	✓	✓	✓
			Mathematics N2	✓	✓	✓
			Electrical Trade Theory N2	✓	✓	✓
20.	Umbilo Private Technical College	Durban	Engineering Science N2	✓	✓	✓
			Mathematics N2	✓	✓	✓
			Instrument Trade Theory N2	✓	✓	✓

With the sampled instructional offerings, four of the sites experienced challenges with no compliance in terms of marked tests and mark sheets. The sites that experienced challenges in terms of compliance to the ICASS requirements, as stated in the 2023 DHET ICASS Instructions, are listed in table 2D.

Table 2D: The sites that experienced challenges in terms of ICASS compliance

Evidence of additional Instructional Offerings	College and Campus	Instructional Offering
Ten percent or less of tests were submitted for verification. Marks were not calculated.	African Institute of Technology	Engineering Science N2
		Mathematics N2
		Industrial Electronics N2
Scripts and mark sheets were not available.	Coastal KZN TVET - Durban	Engineering Science N2
		Industrial Electronics N3
Scripts and mark sheets were not available.	College of Cape Town - Athlone	Mathematics N2

2.5 Areas of Improvement

The following improvements were observed:

- The available facilities at 95% (88% in August 2022) of the sites were sufficient for the number of enrolled students;
- The textbooks / teaching material at 95% of the sites, were available when the classes commenced at the beginning of the trimester compared to 69% in August 2022;
- The students at 50% of the sites were exposed to practical implementation of the theory component of the subject at the site of learning compared to 38% in August 2022;
- There were computers and printers for the students at 85% of the sites to complete assignments/case studies to do research. This was a 10% increase from 75% in August 2022;
- The college had a process in place for the identification of training needs of the staff members at 70% of the sites visited. This was a 14% increase from the 56% in August 2022;
- The college had a plan for training development of staff, an increase of 14% from 56% in August 2022;
- There was evidence that the training plan was implemented at 50% of the sites visited, an increase of 12% from the 38% in August 2022;
- There was an up-to-date college assessment policy at 90% of the sites visited, an increase of 10% from the 80% in August 2022; and
- The students interpreted questions correctly and were able to answer all or most of the questions in the tests at 100% of sites, an increase of 19% compared to 81% of the sites in August 2022.

2.6 Areas of Non-compliance

There were also a number of concerns that were noted, these include:

- The educators were exposed to the workplace environment/ relevant industry at 45% of the sites visited, a 5% decrease from 50% in August 2022;
- There was evidence of an instructional offering monitoring report per lecturer at 55% of the sites visited, a decrease of 8% from 63% in August 2022;

- c. There was a plan in place for the development of the assessment tasks at 85% of the sites, a 9% decrease from the 94% of August 2022. The tasks were developed according to the plan of assessment at 75% of the sites, a decrease of 13% from the 88% in August 2022;
- d. The lecturer file contained the instructional offering syllabus at 85% of the sites visited compared to 100% in August 2022;
- e. The two tasks varied in the level of difficulty, were pitched at the correct level, and assessed a variety of knowledge and skills at 70% of the sites, a significant decrease of 30% from the 100% of August 2022;
- f. The sample of both tests that were internally moderated included the full range of performance i.e., high, average, and low scoring students at 70% of sites, compared to 88% of sites in August 2022;
- g. There were clear instructions to students on both tasks at 80% of sites visited, a 20% decrease than the 100% of August 2022 findings;
- h. The mark allocation was clearly indicated for each question in both tests at 85% of the sites, compared to 100% in August 2022;
- i. The marking guidelines facilitated marking and were easy to use in both tests at 80% of sites, a decrease of 20% compared to 100% in August 2022;
- j. The totalling of marks and transfer of marks to the mark sheet was accurate at 85% of the sites, a decrease of 15% compared to the 100% of sites visited in August 2022; and
- k. The quality and standard of internal moderation was acceptable at 55% of sites, compared to 44% in August 2022.

2.7 Directives for Compliance and Improvement

The DHET must address the following directives for compliance and improvement to ensure effective teaching, learning and assessment of the Engineering Studies' instructional offerings at the colleges by ensuring that:

- a. Colleges partner with industry for workshop and work-integrated learning experience;
- b. Lecturer files are compiled according to the DHET ICASS Guidelines;
- c. Tasks are varied in the level of difficulty, are pitched at the right level, and assess a variety of knowledge and skills;
- d. Marking guidelines facilitate marking and are easy to use; and
- e. Totalling of marks and transfer of marks to the mark sheet is accurate.

2.8 Monitoring of ICASS at NIMT in Namibia

a. Background:

The internal assessments for NIMT, centre number 1099995065 was monitored on 10 August 2023. This centre is situated in the town of Arandis, in Namibia. However, all tests and ICASS marks are managed by a central point, the examination centre, at Head Office. The subject Mathematics N3 was sampled.

b. Findings:

- i. School results in Mathematics are taken into consideration when the students enter the college and decide on a trade.
- ii. Textbooks and stationery are available at the beginning of each semester for all enrolled students.
- iii. Teaching in Mathematics N3 is four hours per week, one hour per day. Subjects like Computer Literacy, English, Entrepreneurship and Health and Safety and Environment are taught on the fifth day.
- iv. The examination policy of DHET is followed and implemented. However, there is no college policy on the management of ICASS.
- v. Class tests are conducted and marked by the lecturer. These marks are not taken into consideration for the ICASS mark that is submitted to DHET. Two class tests were conducted for Mathematics N3. The Internal Examination, which is out of 100 marks, is taken as the ICASS mark and submitted to DHET.
- vi. A question paper bank is stocked with a number of tests. The principal: Examinations decides which test would be written as the Internal Examination.
- vii. The four campuses of NIMT write the same paper for the Internal Examination on the same day. This ensures equal standard across the campuses.

2.9 Conclusion

The NATED Report 190/191: Engineering Studies N2–N3 programme remains a popular choice amongst students at the private FET colleges. Although knowledge on the theory of instructional offerings is gained, the practical application of the theoretical components will prepare the students for the industry. The internal assessment serves as preparation of students for the final examination at the end of the trimester. The continuous internal assessments should therefore contribute to the holistic development of the student for the workplace/further studies.

CHAPTER 3: MONITORING OF THE WRITING OF EXAMINATIONS

3.1 Introduction

Umalusi monitors the writing of examinations with the purpose of determining whether the Department of Higher Education and Training (DHET) conducts, administers and manages the examinations in accordance with approved guidelines and policies. This is done to ensure the credibility of examinations for Technical and Vocational Education and Training (TVET) qualifications and programmes registered on the General and Further Education and Training Qualifications Sub-framework (GFETQSF).

This chapter reports on the findings from the monitoring of a sample of 20 examination centres. It acknowledges areas of improvement, areas of non-compliance and provides directives for improvement and compliance.

3.2 Scope and Approach

A sample of 20 examination centres were monitored for the writing of the August 2023 NATED Report 190/191 Engineering Studies N2–N3 examinations. These were selected from all nine provinces. Additionally, an examination centre in Namibia was monitored, this was the very first visit to an examination centre in that country, in 20 years.

Umalusi monitors and staff were deployed to the various examination centres where data was collected through verification, observation and interview methods. Reports were based on the data collected at these examination centres.

The details of monitored examination centres are provided in Table 3A.

Table 3A: Examination centres monitored by Umalusi monitors and staff

No.	Name of College and Type	Site/Campus	Province /Country	Subject	Date Visited
1.	King Sabata Dalindyebo TVET (Public College)	Mthatha Campus	Eastern Cape	Electrical Trade Theory N2	11/08/2023
2.	Buffalo City College (Public College)	St Marks Campus	Eastern Cape	Electrical Trade Theory N2	11/082023

No.	Name of College and Type	Site/Campus	Province /Country	Subject	Date Visited
3.	East Cape Midlands College	Park Avenue	Eastern Cape	Mathematics N2	31/07/2023
4.	East Cape Midlands College	Charles Good Year	Eastern Cape	Mathematics N2	31/07/2023
5.	ICALC Training Academy (Pty) LTD (Private College)	Welkom	Free State	Electrical Trade Theory N2	11/08/2023
6.	Bagvin College (Pty) LTD N4-N6 (Private College)	Germiston	Gauteng	Welders' Theory N2	10/08/2023
7.	Tshwane South TVET College (Public College)	Atteridgeville Campus	Gauteng	Building Drawing N3	10/08/2023
8.	Technicol SA College	Centurion	Gauteng	Mathematics N2	31/07/2023
9.	Vaal Skills Training Institute (Private College)	Durban	KwaZulu-Natal	Building Drawing N3	10/08/2023
10.	Berea Technical College N1-N6 (Private College)	Durban	KwaZulu-Natal	Industrial Electronics N3	01/08/2023
11.	The Excellence College of Engineering, Cosmetology and Technology (ECT) (Private College)	Durban	KwaZulu-Natal	Engineering Drawing N3	11/08/2023
12.	Better Best Education Projects (Private College)	Mokopane	Limpopo	Engineering Science N2	03/08/2023

No.	Name of College and Type	Site/Campus	Province /Country	Subject	Date Visited
13.	Northern Technical College	Polokwane	Limpopo	Platers' Theory N2	11/08/2023
14.	College on Hills (Private College)	Emalahleni	Mpumalanga	Mechanotechnology N3	07/08/2023
15.	Gert Sibande College (Public College)	Ermelo Campus	Mpumalanga	Engineering Science N3	01/08/2023
16.	Global Tech TIVET College	Vryburg Campus	North West	Mechanotechnology N3	07/08/2023
17.	Vuselela TVET College (Public College)	Taung Campus	North West	Electrical Trade Theory N2	11/08/2023
18.	Northern Cape Rural TVET College (Public College)	Upington Campus	Northern Cape	Electrical Trade Theory N2	11/08/2023
19.	Boland College (Public College)	Strand Campus	Western Cape	Mathematics N3	03/08/2023
20.	Namibian Institute of Mining and Technology (NIMT)	Arandis Campus	Namibia	Building Drawing N3	10/08/2023

3.3 Summary of Findings

The findings of the monitoring of the writing of examinations are indicated below, by criteria, as per Umalusi's Monitoring of the Writing of Examinations Instrument.

Table 3B lists the findings by Umalusi monitors and staff at monitored examination centres.

Table 3B: Detailed findings from monitored examination centres

Criteria	Findings	Examination Centres
Preparations for the examination	<p>It was evident that the DHET had verified the state of readiness for examinations at 16 of the monitored examination centres (80%), an increase of 2% compared to 78% in the August 2022 examinations.</p> <p>Four examination centres (20%) had not been verified by DHET.</p>	<p>Atteridgeville Campus Berea Technical College (Durban) Better Best Education Projects (Mokopane) NIMT (Arandis in Namibia)</p>
	<p>There was an official timetable for the current examinations at all examination centres (100%); an increase of 8% from 92% in the August 2022 examinations.</p>	<p>All examination centres monitored.</p>
	<p>All examination centres (100%) had enough examination rooms to accommodate all the registered candidates, an improvement of 5% from the 95% in the August 2022 examinations.</p>	<p>All examination centres monitored.</p>
	<p>At all examination centres (100%), all candidates were registered to write the examination; this was also the case in the August 2022 examinations.</p>	<p>All examination centres monitored.</p>
	<p>At 15 examination centres (75%), examination rooms had adequate space to accommodate all candidates seated one metre apart, a drop of 11% from the August 2022 examinations.</p> <p>At five examination centres (25%), candidates were seated less than one metre apart.</p>	<p>Berea Technical College (Durban) Charles Good Year Campus College on Hills (Emalahleni) Global Tech TIVET College (Vryburg) Strand Campus</p>
	<p>There was proper lighting in the examination rooms at 20 examination centres (100%), on par with the August 2022 examinations.</p>	<p>All examination centres monitored.</p>
	<p>All examination centres (100%) had adequate water and sanitation, as in the August 2022 examinations.</p>	<p>All examination centres monitored.</p>

Criteria	Findings	Examination Centres
	All examination centres (100%) had a safe/strong room where examination material was kept under lock and key; this was 3% more than the August 2022 examinations.	All examination centres monitored.
	<p>The environment was conducive to the writing of examinations at 19 examination centres (95%); this was 5% less than the August 2022 examinations.</p> <p>At one examination centre (5%), the environment was not conducive for the writing of examinations.</p> <p>a. Strand Campus – high noise levels from the nearby cafeteria and the sound of the siren at the end of each lecture period was distracting.</p>	Strand Campus
	<p>Chief invigilators at all examination centres within the borders of South Africa collected or received question papers from the nodal point.</p> <p>Only at one examination centre, in a neighbouring country, the chief invigilator received the question papers directly from the courier provider.</p>	NIMT (Arandis, Namibia)
	<p>Officials at 19 examination centres (95%) were in possession of dispatch documents. This was 5% less than the August 2022 examinations.</p> <p>The dispatch documents for one examination centre were available at the nodal point.</p>	Berea Technical College
	<p>An updated stock control register was kept at 19 examination centres (95%); same as the August 2022 examinations.</p> <p>One examination centre (5%) was not in possession of a stock control register.</p>	College on Hills ((Emalahleni))
	At 19 examination centres (95%), the chief invigilators verified that the correct question papers had been delivered or collected for the examinations being written; a decrease of 2% from 97% in the August 2022 examinations.	

Criteria	Findings	Examination Centres
	At one examination centre (5%) the verification was done by an invigilator.	College on Hills (Emalahleni)
Invigilators and their training	Campus managers/Principals were appointed as chief invigilators at 18 examination centres (90%), 4% more than the 86% of the August 2022 examinations.	
	There was no evidence that the campus manager/principal had been appointed as chief invigilator at two examination centres (10%).	The Excellence College ECT (Durban) Vaal Skills Training Institute (Durban)
	Chief invigilators at 15 examination centres (75%) had received training from the assessment body, a drop of 9% from 84% in the August 2022 examinations.	
	At five examination centres (25%) the chief invigilators had not been trained by the assessment body or did not have evidence that training had taken place. <ul style="list-style-type: none"> a. College on Hills (Emalahleni) – made use of the examination manual in the absence of training; b. NIMT (Arandis,Namibia) – the chief invigilator was trained by his/her predecessor; and c. Northern Technical College (Polokwane), The Excellence College ECT (Durban) and Vaal Skills Training Institute (Durban) had no evidence that training had taken place. 	College on Hills (Emalahleni) NIMT (Arandis) Northern Technical College (Polokwane) The Excellence College ECT (Durban) Vaal Skills Training Institute (Durban)
	Invigilators had been appointed in writing at 19 examination centres (95%), as in the August 2022 examinations.	
	At one (5%) examination centre, there was no evidence of the appointment of invigilators.	NIMT (Arandis,Namibia)
	Invigilators at 19 examination centres (95%) had received training for the current examination, an increase of 6% compared to 89% in the August 2022 examinations.	
	At one examination centre (5%), there was no evidence that invigilators had been trained.	NIMT (Arandis,Namibia)
Preparations for writing	At 16 examination centres (80%), candidates were seated 30 minutes before the examination commenced; a drop of 15%	

Criteria	Findings	Examination Centres
and examination rooms/venues	<p>from the 95% in the August 2022 examinations.</p> <p>At four examination centres (20%), candidates were not seated 30 minutes before the commencement of the examination.</p>	<p>Bagvin College (Pty) LTD College on Hills (Emalahleni) ICALC Training Academy (Pty) LTD (Welkom) Technicol SA College (Centurion)</p>
	<p>At 19 examination centres (95%), candidates' admission letters/identity documents were verified before they were allowed into the examination venue, a decrease of 2% from 97% in the August 2022 examinations.</p> <p>At one examination centre (5%), not all candidates' admission letters/identity documents were verified before they were allowed into the examination venue.</p> <p>a. Technicol SA College (Centurion) - some candidates had their admission letters on their cell phones and used these for verification. Some candidates did not have their identity document on person and one candidate used a birth certificate for identification purposes.</p>	<p>Technicol SA College (Centurion)</p>
	<p>There was an appropriate number of invigilators at 19 examination centres monitored (95%), a decrease of 2% from 97% in the August 2022 examinations.</p> <p>At one examination centre monitored (5%) there were not enough invigilators in the examination room.</p> <p>a. College on Hills (Emalahleni) - at the beginning of the examination session, there was only one invigilator to 55 candidates. He/She had to verify permits, ensure candidates were seated according to seating plan and handle all other administrative activities required for the examination.</p>	<p>College on Hills (Emalahleni)</p>
	<p>There was an invigilation timetable at 18 examination centres (90%), a decrease of 2% from 92% in the August 2022 examinations.</p>	

Criteria	Findings	Examination Centres
	At two examination centres (10%), there was no invigilation timetable.	College on Hills (Emalahleni) NIMT (Arandis, Namibia)
	Sixteen examination centres (80%) had relief timetables; this was 4% less than the 84% in the August 2022 examinations. There was no relief timetable at four examination centres (20%).	College on Hills (Emalahleni) NIMT (Arandis, Namibia) Northern Technical College (Polokwane) Technicol SA College (Centurion)
	At 19 examination centres (95%), attendance registers were kept, and these were duly signed by invigilators, an increase of 19% from 76% in the August 2022 examinations. Only one examination centre (5%), did not keep an attendance register for invigilators.	NIMT (Arandis, Namibia)
	Candidates at 18 examination centres (90%) were seated according to a seating plan. This was an increase of 1% from 89% in the August 2022 examinations. Two examination centres (10%) did not make use of seating plans. a. NIMT (Arandis) – did not have a seating plan and candidates were seated randomly. b. Mthatha Campus – had a seating plan but did not adhere to it and candidates were seated randomly.	NIMT (Arandis, Namibia) Mthatha Campus
	A clock or other device displaying the time was clearly visible in the examination venues at 19 examination centres (95%). This was 5% less than the 100% in the August 2022 examinations. Only one examination centre did not have a clock or any other device displaying the time.	Technicol SA College (Centurion)
	At 18 examination centres (90%), the notice board was visible to all candidates, a	

Criteria	Findings	Examination Centres
	<p>decrease of 7% from 97% in the August 2022 examinations.</p> <p>At two examination centres (10%), there were some issues regarding the notice board:</p> <ul style="list-style-type: none"> a. Charles Good Year Campus – the information on the notice board was not visible from the rear of the examination hall; and b. NIMT (Arandis, Namibia) - a notice board was available in the examination venue with no information on it. 	<p>Charles Good Year Campus NIMT (Arandis, Namibia)</p>
	<p>The examination venue/s at all monitored examination centres/sites were free of any material/writing/drawings that could aid candidates in writing the examinations. This was also the case in the August 2022 examinations.</p>	<p>All monitored examination centres.</p>
	<p>Invigilators at 19 examination centres (95%) ensured that candidates were not in possession of cell phones or any material/equipment that was not required for the examination. This concurs with the August 2022 examinations.</p> <p>At one examination centre (5%), invigilators did not check if candidates were in possession of cell phones, or any material/equipment not required for the examination.</p>	<p>College on Hills (Emalahleni)</p>
	<p>At 19 examination centres (95%), calculators were checked for compliance, where applicable, an increase of 6% from the 89% in the August 2023 examinations.</p> <p>At one examination centre (5%), calculators were not checked for compliance.</p>	<p>College on Hills (Emalahleni)</p>
	<p>At 19 examination centres (95%), an examination file was kept, and these were up to date, 2% less than the 97% of the August 2022 examinations.</p> <p>Only at one examination centre (5%), the examination file was not up to date.</p>	<p>College on Hills (Emalahleni)</p>
Time management	<p>Invigilators arrived on time at 18 examination centres (90%), a drop of 2% from 92% in the August 2022 examinations.</p>	

Criteria	Findings	Examination Centres
	<p>Invigilators did not arrive on time at two examination centres (10%):</p> <ul style="list-style-type: none"> a. Strand Campus - one invigilator arrived at 08:40 while the relief invigilator stood in for him/her; and b. College on Hills (Emalahleni) – the invigilators arrived at 08:26. 	<p>College on Hills (Emalahleni) Strand Campus</p>
	An attendance register was signed by candidates at all examination centres (100%), as in the August 2022 examinations.	All examination centres monitored.
	Candidates were issued with the official answer book at all examination centres (100%), as in the August 2022 examinations.	All examination centres monitored.
	<p>The invigilators at 18 examination centres (90%) verified that the information on the cover page of the answer books was correct; this was a decrease of 2% from 92% in the August 2022 examinations.</p> <p>Invigilators at two examination centres (10%) did not verify the information on the cover page of the answer books.</p> <ul style="list-style-type: none"> a. College on Hills (Emalahleni) – due to the late start, there was not enough time for verification. a. Strand Campus - the invigilator requested the candidates to fill in the cover page from the information board and did not go through every aspect of the cover page with the candidates. 	<p>College on Hills (Emalahleni) Strand Campus</p>
	At all examination centres (100%), the question papers were opened in the presence of candidates. This was 3% more than the 97% in the August 2022 examinations.	All examination centres monitored.
	<p>Question papers were distributed to candidates on time at 18 examination centres (90%), an increase of 9% from 81% in the August 2022 examinations.</p> <p>Question papers were not distributed to candidates on time at two examination centres (10%).</p>	<p>College on Hills (Emalahleni) 09:00 Mthatha Campus 08:48</p>
	Question papers were checked for technical accuracy at 19 examination centres (95%).	

Criteria	Findings	Examination Centres
	<p>This is 11% more than the 84% in the August 2022 examinations.</p> <p>Invigilators at one examination centre (5%) did not check question papers for technical accuracy.</p>	Vaal Skills Training Institute (Durban)
	<p>Candidates were given the required reading time at 15 examination centres (75%); an increase of 5% from 70% in the August 2022 examinations.</p> <p>Candidates were not given the required reading time at five examination centres (25%).</p>	<p>College on Hills (Emalahleni) 00 minutes</p> <p>ICALC Training Academy (Pty) LTD Mthatha 04 minutes</p> <p>Campus NIMT (Arandis, Namibia) 05 minutes</p> <p>Strand Campus 07 minutes</p>
	Examination rules were read out to candidates at all examination centres (100%), as was the case in the August 2022 examinations.	All examination centres monitored.
	<p>The examination started at the time indicated on the timetable at 18 examination centres (90%), a decrease of 2% from 92% in the August 2022 examinations.</p> <p>The examination did not start at the time indicated on the timetable at two examination centres (10%).</p>	<p>Technical SA College (Centurion) 09:04</p> <p>NIMT (Arandis, Namibia) 08:55</p>
	Candidates that arrived within the stipulated time limit were admitted to the examination venue, at all monitored examination centres. An improvement of 5% from the 95% in the August 2022 examinations.	All examination centres monitored.
	Answer books were stamped at all examination centres (100%), an increase of 8% from 92% in the August 2022 examinations.	All examination centres monitored.
	The examination ended at the stipulated time at 18 examination centres (90%), this was 10% less than the August 2022 examinations.	College on Hills (Emalahleni) Technical SA College (Centurion)

Criteria	Findings	Examination Centres
	At two examination centres (10%) the examination ended after the stipulated time due to a late start.	
Activities during writing	Invigilators were not asked to clarify any aspect of the question paper at any of the examination centres (100%), as in the August 2022 examinations.	All examination centres monitored.
	At all examination centres (100%), no candidates left the examination room temporarily without an escort. This was 14% more than the 86% in the August 2022 examinations.	All examination centres monitored.
	There were no unauthorised personnel in any of the examination rooms at any of the examination centres during the examination session. This was also the case in the August 2022 examinations.	All examination centres monitored.
	Officials at 19 examination centres (95%) did not allow any candidates to leave the examination venue during the last 15 minutes of the session, same as the August 2022 examinations.	
	At one examination centres (5%), candidates were allowed to leave the examination venue during the last 15 minutes of the session.	Bagvin College (Pty) LTD
	No irregularities were reported during the examination session at any of the examination centres (100%), 3% more than the 97% in the August 2022 examinations.	All examination centres monitored.
	Invigilators at all examination centres (100%) were vigilant and patrolled the room during the examination session, an increase of 5% from 95% in the August 2022 examinations.	All examination centres monitored.
	No official errata were found at any of the examination centres, as the August 2022 examinations.	All examination centres monitored.
Packaging and transport of answer scripts	Scripts were counted and packed in a secured area at 19 examination centres (95%). This is 5% less than the August 2022 examinations.	
	At one examination centre, the process was done in one of the examination rooms.	College on Hills (Emalahleni)

Criteria	Findings	Examination Centres
	Absentee forms were inserted into the batches at all examination centres (100%), on par with the August 2022 examinations.	All examination centres monitored.
	Only authorised personnel were present during the packing of scripts at 19 examination centres (95%). This was 5% less than the August 2022 examinations. At one examination centre, there were no designated personnel for the packing of scripts as the staff carried out duties as and when needed.	College on Hills (Emalahleni)
	The scripts were packaged in the sequence on the mark sheet at all examination centres (100%), as the August 2022 examinations.	All examination centres monitored.
	The number of scripts corresponded to the number on the wrapper at all examination centres (100%), same as the August 2022 examinations.	All examination centres monitored.
	Scripts were sealed in the satchel provided at all examination centres (100%), as was the case in the August 2022 examinations.	All examination centres monitored.
	The scripts were sealed in the presence of the monitor at 19 examination centres (95%), this was 5% less than the August 2022 examinations. At one examination centre (5%) the monitor was not present when the scripts were sealed.	NIMT (Arandis, Namibia)
	The chief invigilators at 16 examination centres (80%) completed a daily situational report, a decrease of 9% from 89% in the August 2022 examinations. At four examination centres (20%), there was no evidence that the chief invigilator had completed a daily situational report.	College on Hills (Emalahleni) NIMT (Arandis) The Excellence College ECT (Durban) Vaal Skills Training Institute (Durban)
	Scripts from all examination centres (100%) were transported to a nodal point (courier provider in the case of Arandis Campus in Namibia) by authorised personnel.	All examination centres monitored.
Monitoring by the DHET	There was evidence of monitoring by the assessment body at 12 examination centres	

Criteria	Findings	Examination Centres
	<p>(60%), a drop of 21% from 81% in the August 2022 examinations.</p> <p>At 8 examination centres (40%), there was no evidence that the assessment body had monitored the examination centres in the recent past.</p>	<p>Atteridgeville Campus Better Best Education Projects (Mokopane) Ermelo Campus Mthatha Campus NIMT (Arandis) Technical SA College (Centurion) The Excellence College ECT (Durban) Vaal Skills Training Institute (Durban)</p>

3.4. Irregularities and incidents identified by Umalusi monitors and staff

The Umalusi monitors and staff noted the following irregularities and incidents at examination centres:

Table 3C: Irregularities and incidents identified

Examination Centre	Irregularities and Incidents
Better Best College (Mokopane)	a. Four candidates were granted special concession by the DHET to write Mathematics and Engineering Science on the same day.
Charles Good Year Campus	<p>a. One candidate had a concession for the use of head gear; and</p> <p>b. One candidate who was not in possession of the identity document, obtained a copy from the administration office and was requested to present the original within 24 hours.</p>
College on Hills (Emalahleni)	<p>a. There were candidates who were writing more than one subject on the same day, and an application for concession was sent to the DHET in advance. However, no response was received on the matter; and</p> <p>b. The examination centre was inadequately prepared for the examination session:</p> <ol style="list-style-type: none"> i. The examination's office administrative staff and the invigilation team arrived late; ii. There was no evidence that training of invigilators had taken place; iii. The examination file was not up to date; iv. Minutes of meetings were the same on six different meeting dates;

Examination Centre	Irregularities and Incidents
	<ul style="list-style-type: none"> v. There was no acknowledgement by candidate/s that the question papers arrived in a sealed envelope to the examination room; vi. The seating plan was posted on the notice wall at 08:25 after candidates arrived and were already waiting to enter the examination venue; vii. The first candidate was admitted into the examination venue that sits 55 candidates at 08:26; and viii. Due to the late start of the examination, candidates were not afforded the required reading time of the question paper.
Global Tech TIVET College	<ul style="list-style-type: none"> a. The invigilator did not announce the start of the reading time to candidates; and b. No records were kept of candidates leaving the examination venue temporarily with an escort.
NIMT (Arandis)	<p>The examinations at the centre were well organised and conducted efficiently, however, some technical requirements were not met.</p> <ul style="list-style-type: none"> a. The following aspects were not formalised and documented: <ul style="list-style-type: none"> i. The training and appointment of invigilators; ii. Invigilation and relief timetables; iii. Attendance registers for invigilators; iv. Seating plan for candidates; and v. Daily situational report; b. No information was displayed on the notice board; c. Candidates were not given the required reading time of 10 minutes; d. One examination started 5 minutes earlier than the required start time; e. No examination related signage was posted; and f. Invigilators did not have name tags.
Northern Technical College	<ul style="list-style-type: none"> a. Eleven candidates were admitted into the examination venue with copies of their identity document and without completing Annexure V; b. One candidate was admitted to the examination venue without identification and did not complete Annexure V; c. One international candidate had a copy of his/her passport without proof of a study permit and did not complete Annexure V; d. The candidates who arrived after 08:30 were allowed into the examination room few minutes earlier and not strictly at 09:00; e. The candidates were allowed to leave the examination room in large numbers to visit the ablution facilities when it was time (08:45-08:50) to hand out the question

Examination Centre	Irregularities and Incidents
	<p>papers. Candidates who remained in the examination venue were handed out question papers, while others were still moving about between the examination venue and ablution facilities;</p> <p>f. Technical irregularities such as candidates without proper identity documents were not recorded in the irregularity register; and</p> <p>g. Correcting fluid was used to correct the marksheet for Plumbing and Platers' Theory N2 where the candidate was marked absent with the code 999.</p>
Strand Campus	<p>a. The examination venue was not conducive to the writing of examinations, due to the high noise levels from the nearby cafeteria and the sound of the siren at the end of each lecture period;</p> <p>b. One invigilator arrived late at the examination venue and the relief invigilator stood in for him/her;</p> <p>c. The invigilator requested the candidates to fill in the cover page from the information board and did not go through every aspect of the cover page with the candidates;</p> <p>d. Candidates were seated less than one metre apart;</p> <p>e. In Room 204 (observed by Umalusi monitor), candidates were given seven (7) minutes of reading time; and</p> <p>f. In Room 205 (observed by DHET monitor) no reading time was given. The reason being four subjects were written in the examination venue on the same day/time and the invigilator was unable to go through the technical accuracy of four question papers within the allotted time. This resulted in the candidates not having any reading time.</p>
Technical SA College (Centurion)	<p>a. The college has an examination concession for the use of alternate venue for the NATED Report 190/191 Engineering Studies August 2023 examinations;</p> <p>b. A hired venue located approximately 13 kilometres away from the college was used for the writing of the August 2023 examinations. During the weekends, the venue is used for community events such as weddings, etc. and the hall needs to be rearranged for examinations after the weekend. On the day of the Umalusi visit, which was a Monday, the examination venue was set up and ready for use only at 08:34, causing a delay in the start of the examination;</p> <p>c. The examination venue did not have a clock or any other device displaying the time;</p> <p>d. Some candidates had copies of their admission letters on their cell phones and used these for verification;</p> <p>e. Some candidates did not have their identity document and one candidate used a birth certificate for</p>

Examination Centre	Irregularities and Incidents
	<p>papers. Candidates who remained in the examination venue were handed out question papers, while others were still moving about between the examination venue and ablution facilities;</p> <p>f. Technical irregularities such as candidates without proper identity documents were not recorded in the irregularity register; and</p> <p>g. Correcting fluid was used to correct the marksheet for Plumbing and Platers' Theory N2 where the candidate was marked absent with the code 999.</p>
Strand Campus	<p>a. The examination venue was not conducive to the writing of examinations, due to the high noise levels from the nearby cafeteria and the sound of the siren at the end of each lecture period;</p> <p>b. One invigilator arrived late at the examination venue and the relief invigilator stood in for him/her;</p> <p>c. The invigilator requested the candidates to fill in the cover page from the information board and did not go through every aspect of the cover page with the candidates;</p> <p>d. Candidates were seated less than one metre apart;</p> <p>e. In Room 204 (observed by Umalusi monitor), candidates were given seven (7) minutes of reading time; and</p> <p>f. In Room 205 (observed by DHET monitor) no reading time was given. The reason being four subjects were written in the examination venue on the same day/time and the invigilator was unable to go through the technical accuracy of four question papers within the allotted time. This resulted in the candidates not having any reading time.</p>
Technical SA College (Centurion)	<p>a. The college has an examination concession for the use of alternate venue for the NATED Report 190/191 Engineering Studies August 2023 examinations;</p> <p>b. A hired venue located approximately 13 kilometres away from the college was used for the writing of the August 2023 examinations. During the weekends, the venue is used for community events such as weddings, etc. and the hall needs to be rearranged for examinations after the weekend. On the day of the Umalusi visit, which was a Monday, the examination venue was set up and ready for use only at 08:34, causing a delay in the start of the examination;</p> <p>c. The examination venue did not have a clock or any other device displaying the time;</p> <p>d. Some candidates had copies of their admission letters on their cell phones and used these for verification;</p> <p>e. Some candidates did not have their identity document and one candidate used a birth certificate for</p>

- i. The invigilators at two examination centres (10%) did not verify that the information on the cover page of the answer books was correct;
- j. At five examination centres (25%), candidates were not given the required reading time;
- k. At two examination centres (10%) the examination ended after the stipulated time due to a late start; and at one examination centre the candidates were allowed to start five minutes earlier;
- l. At one examination centre (5%), candidates were allowed to leave the examination venue during the last 15 minutes of the session;
- m. At one examination centre (5%), scripts were counted and packed in a non-secure venue and there were no designated personnel for the packing of scripts;
- n. The chief invigilators at four examination centres (20%) did not complete a daily situational report; and
- o. There was no evidence of monitoring by the assessment body at eight examination centres (40%), an increase of 21% from the 19% in the August 2022 examinations.

3.7 Directives for Compliance and Improvement

The DHET is required to ensure that:

- a. Examination centres comply with the policy pertaining to the conduct, administration and management of the examinations; and
- b. Examination centres improve invigilation processes by making sure that:
 - i. Invigilators arrive at the venues on time;
 - ii. Question papers are distributed on time;
 - iii. Candidates are given the stipulated reading time;
 - iv. Examinations start as per the time indicated on the timetable; and
 - v. Examination centres display seating plans, invigilation and relief timetables at all times.

3.8 Conclusion

The conduct, administration and management of the August 2023 NATED Report 190/191 Engineering Studies N2–N3 examinations were satisfactory and most of the monitored examination centres complied with regulations. Overall, the integrity and credibility of the examinations remained uncompromised, despite the lapses at some of the examination centres.

Centres where substantial non-compliance were identified, mainly at private colleges; should be carefully monitored by the DHET. In addition, the DHET should provide support and training to private college personnel to ensure that future examinations at these centres are conducted as per regulation.

CHAPTER 4: STANDARDISATION OF MARKING GUIDELINES

4.1 Introduction

The process of standardisation of marking guidelines creates a platform for the Department of Higher Education and Training (DHET) to facilitate discussion among markers, examiners, internal moderators, and external moderators from Umalusi. Through these discussions, a consensus is reached on responses per question before Umalusi approves the final marking guidelines.

The purpose of standardising the marking guidelines is to ensure that the personnel involved in the marking process share a common understanding and interpretation of the marking guidelines. Furthermore, this process aims to ensure that all possible alternative responses are included in the final marking guidelines before they are implemented. Umalusi participates in the finalisation of the marking guidelines to ensure that fairness prevails, and reports on the:

- a. Preparedness of markers, chief markers and internal moderators for the marking guideline discussions;
- b. Thoroughness of marking guideline discussions;
- c. Standard and quality of the marking guidelines; and
- d. Consistency in the application of the marking guidelines across the marking centres.

The standardisation of marking guidelines meetings were chaired by the respective examiners or the internal moderators responsible for setting the question paper. The chief markers, internal moderators, and markers appointed were required to take part in the marking guideline discussions. In the case of instructional offerings with large enrolments, only the chief markers and internal moderators from each marking centre were invited to join the marking guideline discussion meetings.

4.2 Scope and Approach

Umalusi deployed eight external moderators to attend the marking guideline discussion meetings for eight instructional offerings as listed in Tables 4A and 4B below. The meetings for seven instructional offerings were conducted on an online platform. The meeting for one instructional offering, Refrigeration Trade Theory N2 was face-to-face.

Umalusi officials attended the online marking guideline standardisation meetings hosted by the DHET on the Microsoft Teams platform between 04 -17 August 2023 and the face-to-face meeting on 19 August 2023.

Umalusi moderators used the instrument for the Standardisation of Marking Guidelines to record the findings. This instrument for NATED Report 190/191 Engineering Studies N2 -N3 required external moderators to report the findings based on the following criteria:

- a. Attendance by internal moderators, chief markers and markers;
- b. Punctuality of attendees;
- c. Duration of discussions;
- d. Appointment of marking staff;
- e. Chairperson of the meeting;
- f. Standardisation of the marking guideline;
- g. Participation of role players;
- h. Adjustments and justification;
- i. Umalusi's role;
- j. Challenges during the meeting; and
- k. Approval of the final marking guidelines.

During the standardisation of marking guideline meetings, Umalusi moderators provided guidance, monitored proceedings, endorsed final decisions, and approved marking guidelines for use during the marking processes.

Tables 4A and 4B provide a list of the N2 and N3 instructional offerings for which the standardisation of marking guideline meetings were attended by Umalusi and the dates.

Table 4A: N2 marking guideline discussion meetings conducted

No.	Subject	Date
1.	Platers' Theory N2	15 August 2023
2.	Refrigeration Trade Theory N2	19 August 2023

Table 4B: N3 marking guideline discussion meetings conducted

No.	Subject	Date
1.	Building Drawing N3	11 August 2023
2.	Diesel Trade Theory N3	16 August 2023
3.	Electrotechnology N3	17 August 2023
4.	Engineering Drawing N3	14 August 2023
5.	Engineering Science N3	04 August 2023
6.	Mechanotechnology N3	10 August 2023

4.3 Summary of Findings

According to Umalusi moderators, the participants were well-prepared for the meetings, which facilitated thorough discussions and the finalisation of marking guidelines. The participants reached a consensus on the changes made to the guidelines, as evidenced in Table 4C where the findings from the standardisation process are presented.

Table 4C: Findings from the standardisation of marking guidelines of NATED N2 and N3 instructional offerings

Evaluation criteria	Findings and challenges	Sampled instructional offerings involved
Attendance by marking staff	All chief markers, internal moderators and markers attended the marking guideline discussion for 88% of the instructional offerings.	Building Drawing N3 Diesel Trade Theory N3 Electrotechnology N3 Engineering Drawing N3 Engineering Science N3 Mechanotechnology N3 Platers' Theory N2
	In one instructional offering, only the chief marker and internal moderator standardised the marking guideline.	Refrigeration Trade Theory N2
Appointment of marking staff	The chief markers, internal moderators, and markers for all instructional offerings (100%) were appointed on 25 July 2023. Markers were informed of their appointments by email and short message service (SMS), and others received appointment letters from their respective colleges.	Building Drawing N3 Diesel Trade Theory N3 Electrotechnology N3 Engineering Drawing N3 Engineering Science N3 Mechanotechnology N3 Platers' Theory N2 Refrigeration Trade Theory N2
Chairperson of meeting	The chief markers/internal moderators of 50% of instructional offerings chaired the meetings, it was the same in the August 2022 examination.	Diesel Trade Theory N3 Engineering Drawing N3 Engineering Science N3 Refrigeration Trade Theory N2
	In 50% of the instructional offerings, the examiners chaired the meetings, compared to 25% in the August 2022 examination.	Building Drawing N3 Electrotechnology N3 Mechanotechnology N3 Platers' Theory N2
Umalusi's changes to question paper and marking guidelines during the moderation process	The changes recommended by the Umalusi moderators were implemented in all (100%) the question papers and marking guidelines.	Building Drawing N3 Diesel Trade Theory N3 Electrotechnology N3 Engineering Drawing N3 Engineering Science N3 Mechanotechnology N3 Platers' Theory N2 Refrigeration Trade Theory N2
Adjustments to the marking guidelines during the marking guideline discussions	Adjustments were made during the marking guideline discussions for 75% of the instructional offerings, compared to 88% in the August 2022 examinations.	Building Drawing N3 Diesel Trade Theory N3 Electrotechnology N3 Engineering Science N3 Mechanotechnology N3 Platers' Theory N2

Evaluation criteria	Findings and challenges	Sampled instructional offerings involved
Justification for changes to the marking guidelines	Umalusi deemed 75% of the changes to marking guidelines justified, as they would improve fairness and consistency in the marking process, compared to 88% in the August 2022 examination.	Building Drawing N3 Diesel Trade Theory N3 Electrotechnology N3 Engineering Science N3 Mechanotechnology N3 Platers' Theory N2
Effect of changes to marking guidelines on the cognitive level of the answers/ responses	In 63% of the marking guidelines for the sampled instructional offerings, the changes made did not affect the cognitive level of answers to the questions, compared to 88% of the August 2022 examination.	Building Drawing N3 Diesel Trade Theory N3 Engineering Science N3 Mechanotechnology N3 Platers' Theory N2
Role of Umalusi moderator in marking guideline discussion meetings	Umalusi assumed different roles depending on the size of the group of participants. In larger groups, the role was that of an observer, guide, mediator, and final decision-maker. In smaller groups, the role changed to an active participant and/or an advisor.	Building Drawing N3 Diesel Trade Theory N3 Electrotechnology N3 Engineering Drawing N3 Engineering Science N3 Mechanotechnology N3 Platers' Theory N2 Refrigeration Trade Theory N2
Signing off on the marking guidelines	Marking guidelines for all sampled instructional offerings (100%) were endorsed by all Umalusi moderators. Due to the nature of the online meeting, the signing-off procedure was a verbal agreement and not a physical signing of approval.	Building Drawing N3 Diesel Trade Theory N3 Electrotechnology N3 Engineering Drawing N3 Engineering Science N3 Mechanotechnology N3 Platers' Theory N2 Refrigeration Trade Theory N2
Comments and recommendations from Umalusi moderators	<ul style="list-style-type: none"> a. The team responsible for marking guidelines must mute microphones during meetings. During the Diesel Trade Theory N3 meeting, one marker spoke to others while the microphone was on. b. During the standardisation of marking guidelines, only one script had been received, which meant that a sample of scripts from various marking centres could not be reviewed. The question paper was written on 15 August 2023. The delays that some marking centres experienced in receiving scripts from the courier service had an impact on the flow of marking. 	

4.4 Areas of Improvement

The following area of improvement was noted:

- a. The marking guidelines for Engineering Drawing N3 and Refrigeration Trade Theory N2 were not adjusted as they were already comprehensive and required minimal explanation. This demonstrates that the setting team and the Umalusi moderator performed a meticulous job during the setting and moderation process.

4.5 Areas of Non-compliance

The following area of non-compliance was noted:

- a. During the standardisation of marking guidelines, unmuted markers disrupted meetings.

4.6 Directives for Compliance and Improvement

To improve the quality and standard of the marking guideline discussion meetings, the DHET must ensure that:

- a) Examiners and internal moderators should chair the standardisation of the marking guideline meetings, this will enhance innovations, and improve the standard and quality of question papers.
- b. The marking personnel have received proper training on how to conduct themselves during online meetings.

4.7 Conclusion

The standardisation marking guideline discussions for the August 2023 NATED Report 190/191: Engineering Studies N2-N3 examinations were successfully completed. However, the DHET must have systems in place to enforce discipline and order during the online meetings.

CHAPTER 5: VERIFICATION OF MARKING

5.1 Introduction

Umalusi quality assures the conduct of the marking process to confirm the consistency and accuracy of marking, and to establish whether both marking and internal moderation are executed according to agreed and established standards and practices. It is through this quality assurance process that the standard and quality of marking is verified.

This chapter reports on:

- The reliability and viability of the systems, processes and procedures that were planned and implemented during the marking of the August 2023 NATED Report 190/191: Engineering Studies N2–N3 examinations;
- The quality and standard of marking and internal moderation;
- The performance of candidates;
- Identification of areas of compliance and non-compliance; and
- Directives for compliance.

Umalusi quality assured the marking processes for the August 2023 NATED Report 190/191: Engineering Studies N2–N3 examinations, by verifying the marking of a sample of instructional offerings. This verification of marking evaluated the adherence of marking to the approved standardised marking guidelines.

5.2 Scope and Approach

Umalusi sampled 12 instructional offerings from six marking centres for on-site monitoring and verification. The sample consisted of six N2 and six N3 instructional offerings. Table 5A lists the distribution of verified instructional offerings across marking centres:

Table 5A Distribution of verified instructional offerings across marking centres

No.	Marking Centre	Number of Instructional offerings
1.	Centurion	1
2.	Pretoria West	6
3.	Mpondozankomo	1
4.	Seshego	3
5.	Hill side view	1
TOTAL		12

Umalusi deployed 12 external moderators to verify the standard and quality of marking as part of the verification process to ensure that the marking is fair, reliable and valid.

Table 5B below lists the six sampled N2 instructional offerings, the dates of verification and the marking centres at which on-site verification was conducted:

Table 5B: N2 instructional offerings sampled

No.	Instructional Offering	Date	Marking Centre
1.	Engineering Science N2	24 August 2022	Seshego
2.	Plant Operation Theory N2	24 August 2022	Pretoria West
3.	Platers' Theory N2	24 August 2023	Pretoria West
4.	Plumbing Theory N2	24 August 2023	Pretoria West
5.	Fitting and Machining Theory N2	23 August 2023	Pretoria West
6.	Radio and Television Theory N2	23 August 2023	Centurion

Table 5C lists the six sampled N3 instructional offerings, the dates of verification and the marking centres at which on-site verification was conducted:

Table 5C: N3 instructional offerings sampled

No.	Instructional Offering	Date	Marking Centre
1.	Building Science N3	23 August 2023	Pretoria West
2.	Engineering Science N3	21 August 2023	Pretoria West
3.	Instrument Trade Theory N3	24 August 2023	Pretoria West
4.	Mathematics N3	21 August 2023	Hill side view
5.	Waste-water Treatment Practice N3	22 August 2023	Seshego
6.	Diesel Trade Theory N3	24 August 2023	Seshego

During the August 2022 examination, Umalusi sampled 12 instructional offerings for the verification of the marking process. The sample for the August 2023 examination was the same size (12 instructional offerings). Although this is a small statistical sample it is within the norm when compared to the sampling of instructional offerings in previous verification of marking processes.

Table 5D and Table 5E indicate the number of instructional offerings verified, provinces and examination centres for N2 and N3 respectively:

Table 5D: Verification of marking N2: Instructional offerings, number of provinces and number of examination centres per province

Instructional Offering	Number of Provinces	Western Cape	Northern Cape	Free State	Eastern Cape	KwaZulu-Natal	Mpumalanga	Limpopo	Gauteng	North West	Province 10*
Engineering Science N2	1	0	0	0	0	0	0	20	0	0	0
Plant Operation Theory N2	6	1	0	0	4	0	5	0	7	2	1
Platers' Theory N2	7	2	0	0	0	3	2	4	5	2	2
Plumbing Theory N2	9	4	0	2	3	1	2	2	3	1	2
Fitting and Machining Theory N2	4	0	0	0	0	0	5	0	6	4	5
Radio and Television Theory N2	2	0	0	0	0	0	0	1	19	0	0

Province 10* represents examination centres from outside the borders of South Africa

Table 5E: Verification of marking N3: Instructional offerings, number of provinces and number of examination centres per province

Instructional Offering	Number of Provinces	Western Cape	Northern Cape	Free State	Eastern Cape	KwaZulu-Natal	Mpumalanga	Limpopo	Gauteng	North West	Province 10*
Building Science N3	8	0	1	3	3	3	0	3	4	1	2
Engineering Science N3	1	0	0	0	0	0	20	0	0	0	0
Instrument Trade Theory N3	5	1	0	0	0	7	0	3	5	0	4
Mathematics N3	2	0	6	14	0	0	0	0	0	0	0
Waste-water Treatment Practice N3	2	0	0	10	0	10	0	0	0	0	0
Diesel Trade Theory N3	4	0	1	2	0	0	7	10	0	0	0

Province 10* represents examination centres from outside the borders of South Africa

Each external moderator purposively sampled and verified a maximum of 20 marked scripts considering the performance of students ranging low, average and high. The sample of marked scripts included scripts from provinces and examination centres that were available at the particular marking centre.

5.3 Summary of findings

This section presents the most important results and discusses, interprets, and compares the findings of the verification of marking for the August 2023 N2–N3 examination to those of the August 2022 N2–N3 examination.

Table 5F summarises the findings of the verification of marking of the 12 N2–N3 instructional offerings:

Table 5F: Findings of the verification of marking of N2–N3 instructional offerings

Criteria	Findings	Instructional Offerings
Delivery of scripts	Fifty eight percent of scripts of the instructional offerings sampled had been received at the time of moderation. This represents an increase of 25% from the August 2022 examination.	Engineering Science N2 Fitting and Machining Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Mathematics N3 Diesel Trade Theory N3
Training for marking	Training for markers was conducted for ten of the sampled instructional offerings (83%), it was the same for the August 2022 examination.	Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2

Criteria	Findings	Instructional Offerings
		Building Science N3 Engineering Science N3 Mathematics N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
Sample marking	<p>After training for marking by 12 of the instructional offerings (100%), each marker marked a copy of the same script to determine in marking consistency. an increase of 8% from the August 2022 examination.</p>	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Mathematics N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
	<p>Seventy-five percentage instructional offerings received a sample of scripts to mark from a range of centres, a decline of 25% from August 2022 examination.</p>	Engineering Science N2 Plant Operation Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
	<p>During sample marking, markers for nine of the sampled instructional offerings (75%) adhered to the marking guidelines. This represented an improvement of 17% from the August 2022 examination.</p>	Engineering Science N2 Plant Operation Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
Marking: Adherence to the marking guideline	<p>Adherence to marking guidelines was considered good in ten instructional offerings (83%), as in the August 2022 examination.</p>	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3

Criteria	Findings	Instructional Offerings
		Waste-water Treatment Practice N3 Diesel Trade Theory N3
Standard of marking	The standard of marking was rated as good for ten instructional offerings (83%), as in the August 2022 examination.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
Administration: Recording of marks	The prescribed procedure for the recording of marks on the front page of the script was followed by all instructional offerings (100%), as in the August 2022 examination.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Mathematics N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
Administration : Mark indication per question	Marks were clearly indicated per question in all scripts from the sampled instructional offerings (100%), as in the August 2022 examination.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Mathematics N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
Administration: Indication of errors	Mistakes identified by moderators and/or examination assistants were clearly indicated in ten of the sampled instructional offerings (83%). This was an improvement of 8% from the August 2022 examination.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3

Criteria	Findings	Instructional Offerings
		Mathematics N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
Administration: Transfer of marks to cover page	Marks were transferred accurately to the cover page in ten of the sampled instructional offerings (83%). This was a decline of 17% from the August 2022 examination.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Mathematics N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
Administration: Correct completion of mark sheets	Mark sheets were completed correctly for 10 of the instructional offerings (83%), a decline of 17% from the August 2022 examination: One instructional offering did not indicate the marks as three digits.	Engineering Science N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2 Building Science N3 Engineering Science N3 Mathematics N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
Administration: Note keeping	Notes were kept by markers throughout the marking process for 10 instructional offerings (83%). This was a significant decline of 17% from the August 2022 examination.	Engineering Science N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Mathematics N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
Control: Marker identification	Markers for all instructional offerings sampled (100%) indicated their code/name in red ink on the cover page of the scripts, as in the August 2022 examination.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Mathematics N3

Criteria	Findings	Instructional Offerings
		Waste-water Treatment Practice N3 Diesel Trade Theory N3
Control: Chief marker identification	The chief markers for 11 of the instructional offerings (92%) wrote their names clearly on the moderated scripts, an improvement of 9% from the August 2022 examination.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Radio and Television Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Mathematics N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
Control: Examination assistant identification	The examination assistants for eleven instructional offerings sampled (92%) wrote their initials/signatures clearly on checked scripts. This was the same as August 2022 examination.	Engineering Science N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Mathematics N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
Internal moderation	Moderation of scripts throughout the marking process was evident in all instructional offerings (100%), as in the August 2022 examination.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Mathematics N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3

Criteria	Findings	Instructional Offerings
Internal moderation: Sampling of scripts	The moderators of ten instructional offerings moderated (83%) randomly sampled scripts from high, average, and low performing candidates for internal moderation, this was the same as August 2022 examination.	Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Mathematics N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
Internal moderation approach	A whole script moderation approach was adopted for all internally moderated instructional offerings (100%) as in the August 2022 examination.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3 Mathematics N3
Standard of internal moderation	The standard of internal moderation in ten of the instructional offerings (83%) was rated as good, a drop of 9% from the August 2022 examination. 17% of instructional offerings were rated poorly.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
Candidates' responses	Candidates for two instructional offerings (17%) found the papers difficult, an improvement of 16% from August 2022 examination.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Diesel Trade Theory N3

Criteria	Findings	Instructional Offerings
Unfair questions	11 instructional offerings (92%) did not include any unfair questions an improvement of 17% from August 2022 examination.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Mathematics N3 Waste-water Treatment Practice N3
	Unfair questions were found in 1 instructional offering (8%), improvement of 17% from August 2022 examination.	
Prevention and management of irregularities	Irregularities were reported in two of the sampled instructional offerings (17%), an improvement of 25% from the number reported in the August 2022 examination.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Radio and Television Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Mathematics N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3
General standard of marking	Marking was declared to be consistent and fair in 10 instructional offerings verified (83%), a decline of 9% from the August 2022 examination. Marking was judged as unfair in two (17%) instructional offering a 9% increase from August 2022 examinations.	Engineering Science N2 Plant Operation Theory N2 Platers' Theory N2 Plumbing Theory N2 Fitting and Machining Theory N2 Building Science N3 Engineering Science N3 Instrument Trade Theory N3 Waste-water Treatment Practice N3 Diesel Trade Theory N3

5.4 Areas of Improvement

The findings of the August 2023 verification of marking revealed the following areas of improvement from the August 2022 N2–N3 examination:

- a. The full complement of scripts of the instructional offerings sampled (58%) had been received at the time of moderation. This represents an increase of 25% from the August 2022 examination;
- b. Training for markers was conducted for eleven of the sampled instructional offerings (92%), an increase of 9% from the August 2022 examination;
- c. The markers in all instructional offerings, marked a copy of the same script (dummy) to determine in marking consistency. an increase of 8% from the August 2022 examination;
- d. Mistakes identified by moderators and/or examination assistants were clearly indicated in ten of the sampled instructional offerings (83%). This was an improvement of 8% from the August 2022 examination;
- e. The chief markers for 11 of the instructional offerings (92%) wrote their names clearly on the moderated scripts, an improvement of 9% from the August 2022 examination;
- f. Candidates for two instructional offerings, (17%) found the question papers difficult, which was an improvement of 16% from the 33% of August 2022 examination;
- g. Eleven instructional offerings (92%) did not include any unfair questions, an improvement of 17% from August 2022 examination;
- h. Unfair questions were found in one instructional offering (8%), an improvement of 17% from August 2022 examination; and
- i. Irregularities were reported in two of the sampled instructional offerings (17%), an improvement of 25% from the number reported in the August 2022 examination.

5.5 Areas of Non-compliance

The findings of the verification of marking revealed the following instances of non-compliance that could affect marking processes in the future:

- a. Though Fifty eight percent of scripts of the instructional offerings sampled had been received at the time of moderation and it represents an increase of 25% from the August 2022 examination, it still remains a challenge as 42% scripts had not been received when marking commenced;
- b. Twenty five percent of instructional offerings did not mark a sample of scripts from a range of centres, a decline of 25% from August 2022 examination.
- c. Marks were not transferred accurately to the cover page in two of the sampled instructional offerings. This was a decline of 17% from the August 2022 examination;
- d. Mark sheets were not completed correctly for 2 of the instructional offerings, a decline of 17% from the August 2022 examination;
- e. One instructional offering did not indicate the marks as three digits on the marksheet, this was a decline of 8% from the August 2022 examination;
- f. Notes were not kept by markers throughout the marking process for two instructional offerings. This was a decline of 17% from the August 2022 examination;
- g. The examination assistants for two instructional offerings did not write their initials/signatures clearly on checked scripts. This represents decline of 9 % from the August 2022 examination.

- h. The moderators of two instructional offerings did not randomly sampled scripts from high, average, and low performing candidates for internal moderation, this represents decline of 9% from the August 2022 examination.
- i. The standard of internal moderation in 17% of instructional offering was rated poor a drop of 9% from the August 2022 examination; and
- j. Seventeen percent of instructional offerings marking was judged as unfair an increase of 9% from August 2022 examinations.

5.6 Directives for Compliance and Improvement

To improve the standard and quality of marking, the DHET is required to:

- a. Review scripts distribution marking models to ensure that all scripts are received in good time by marking centres;
- b. Ensure that markers for all instructional offerings mark the sampled scripts from different examination centres across provinces when commencing with the marking process;
- c. Improve training in administrative duties for markers, moderators, examination assistants to avoid administrative omissions and ensure that the documents are completed correctly; and
- d. Improve training to ensure that all moderators and markers maintain high marking and moderation standards.

5.7 Conclusion

The marking and moderation of scripts for the August 2023 NATED Report 190/191: Engineering Studies N2–N3 examination was found to be consistent and accurate. The administration and control of marking was of a satisfactory standard in ten of the verified instructional offerings (83%), however this represents a decline of 9% from the August 2022 examination. It could therefore be concluded that adherence to the approved standardised marking guidelines for the August 2023 examination was to a considerable extent consistent and dependable.

CHAPTER 6: MONITORING OF MARKING CENTRES

6.1 Introduction

Umalusi monitored the marking centres of the August 2023 NATED Report 190/191: Engineering Studies N2-N3 examinations, as part of its quality assurance of assessment mandate. The purpose of this monitoring was to establish whether the Department of Higher Education and Training (DHET) had the required systems and processes in place ensure the integrity and credibility of the marking processes in accordance with approved guidelines and policies.

The DHET provided Umalusi with the following:

- a. Registration data indicating the number of candidates enrolled for the various instructional offerings;
- b. The location of marking centres, including the physical addresses; and
- c. The dates for marking.

This chapter reports on the findings from the monitoring of eight DHET marking centres. It also acknowledges areas of improvement, highlights areas of non-compliance and provides directives for compliance and improvement.

6.2 Scope and Approach

The marking of the August 2023 NATED Report 190/191: Engineering Studies N2–N3 was conducted at eight marking centres across seven provinces. Umalusi sent out staff members to monitor the marking centres used by the DHET.

Data used to compile this report were collected from on-site monitoring of the marking centres, interviews and observations by Umalusi staff, using an instrument designed for this purpose. The details of the monitored marking centres are provided in Table 6A.

Table 6A: Marking centres monitored by Umalusi staff

No.	Centre	Province	Level	Date
1.	Centurion Campus	Gauteng (GP)	N2 and N3	21 August 2023
2.	Hillside View Campus	Free State (FS)	N2 and N3	23 August 2023
3.	Mpondozankomo Campus	Mpumalanga (MP)	N2 and N3	24 August 2023
4.	Northdale Campus	KwaZulu Natal (KZN)	N2 and N3	22 August 2023
5.	Pretoria West Campus	Gauteng (GP)	N2 and N3	25 August 2023
6.	Seshego Campus	Limpopo (LP)	N2 and N3	25 August 2023
7.	Struandale Campus	Eastern Cape (EC)	N2 and N3	25 August 2023
8.	Thornton Campus	Western Cape (WC)	N2 and N3	23 August 2023

6.3 Summary of Findings

The findings below are presented according to the criteria used for the monitoring of marking centres as prescribed by Umalusi.

6.3.1 Preparation and Planning for Marking

All monitored marking centres had a marking centre management plan based on the DHET's management plans for the marking of the NATED Report 190/191: Engineering Studies N2-N3 August 2023 examinations. Marking personnel arrived according to plan at the monitored marking centres and marking commenced as scheduled. Comprehensive lists of all chief markers, internal moderators, markers and examination assistants were available at all centres.

The training of marking personnel was conducted as per the DHET's management plans at all the marking centres visited. Two markers at Struandale Marking Centre and three from Hillside View did not receive training as they were not available on the day of the training session. Marking guidelines were received on time at all the monitored marking centres.

6.3.2 Marking Centre Resources

All monitored marking centres were equipped with excellent infrastructure. The required furniture, computer equipment and communication facilities such as Wi-Fi and telephone were available. No accommodation was provided for marking personnel at any of the marking centres.

Marking at all marking centres commenced between 07:00 and 08:00 in the morning and ended between 17:00 and 20:00 daily. All marking centres complied fully with the Occupational Health and Safety (OHS) requirements and regulations.

6.3.3 Security Measures

Security was provided by controlling access at the gates and entrances to the marking centres. Vehicle boot searches were conducted at the gates of most marking centres.

Scripts were transported from the nodal points to relevant marking centres by courier services. At the marking centres, the number of scripts was verified, and all the mark sheets were scanned.

It was the responsibility of the examination assistants to move scripts in and out of the marking venues, under the supervision of the deputy marking centre manager academic (DMCMA).

6.3.4 Management of Irregularities

The marking centre management team was trained to identify and manage irregularities. The managers discussed processes and procedures for dealing with irregularities with chief markers and internal moderators during their training sessions. In turn, chief markers and internal moderators discussed these procedures with markers during their marking guideline discussions.

Irregularity committees had been appointed at all the marking centres monitored; these committees were made up of the marking centre management team and the chief marker and/or internal moderator of the respective instructional offerings.

The process of identifying and dealing with irregularities was standardised across all marking centres. Once a marker had identified an irregularity, he/she immediately discussed it with the chief marker. After the implicated script(s) had been internally moderated, the chief marker would evaluate whether this was a genuine irregularity. If there was substantial and convincing evidence, the matter was escalated to the marking centre manager and the irregularity committee. The irregularity committee would then forward a report together with all evidence to the DHET. The original script(s) and a copy of the mark sheet would be sent together with the report to the DHET, and a copy of the script(s) would be replaced in the batch. The irregularity would be recorded in the irregularity register.

6.3.5 Monitoring by the DHET

The state of readiness of all of marking centres visited by Umalusi were verified by the DHET. Officials from DHET visited the marking centres of Hillside View and Struandale. A positive report was submitted to Struandale in which the DHET declared their satisfaction with the running of the marking centre. The two DHET officials who visited Hillside View used the marking centre for training of the one official, a novice. The more experienced official showed her around and explain the running of the marking centre. No report was left at the latter case.

6.3.6 Quality Assurance and Reports

At all marking centres visited by Umalusi monitors and staff, scripts were checked by examination assistants to ensure that marks had been correctly totalled, transferred to the front pages, and transferred to the mark sheets.

The system of capturing of marks at the marking centres was quality assured by a double-entry system, where one official captured, and another verified the entry.

Markers play a huge role in augmenting the information that the chief marker includes in the qualitative marking report. The reports by chief markers and internal moderators were quality assured by the deputy marking centre manager academic at most marking centres

before being sent to the DHET. Online meetings were held at the end of the marking session for all chief markers from specific subjects from all relevant marking centres. Input from all chief markers was gathered to compile consolidated reports which were submitted to DHET.

6.3.7 Marking Concessions

Umalusi received one marking concession request from the DHET for the August 2023 NATED Report 190/191: Engineering Studies N2-N3 examinations.

Umalusi staff was provided with the name and detailed information of the concession to ensure that the marking centres abided by the decisions/verdicts (marking concessions) during their marking processes.

Umalusi staff found, during monitoring, that all marking centres marked strictly according to the decisions/verdicts of marking concessions for the affected subjects.

6.4 Areas of Improvement

The Umalusi staff noted the following areas of good practice:

- a. The marking venues were suitable for marking;
- b. Marking personnel arrived according to plan at all marking centres and marking commenced as scheduled;
- c. The training of marking personnel was conducted as per the DHET management plans at all the marking centres visited;
- d. All the marking centres had irregularity committees;
- e. Standard irregularity management procedures existed to deal with any irregularities;
- f. All mark sheets were scanned upon receipt for security and control purposes and the movement of scripts was strictly monitored; and
- g. The security personnel at all the monitored marking centres were vigilant and conducted their duties diligently.

6.5 Areas of Non-compliance

The following areas of non-compliance were observed at some marking centres:

- a. Evacuation orientation did not form part of the training of the marking officials;
- b. The timetable should allow a break before block marking to allow for the movement of scripts via courier;
- c. The courier service is a stumbling block, the scripts are delayed during transportation, and the company does not operate over the weekend; and
- d. The chief markers did not have a record of all the scripts moved in and out of the venue and did not sign to acknowledge receipt and release of the scripts at all times.

6.6 Directives for compliance and improvement

DHET must ensure that:

- a. A reliable courier service operates in support of the timeous delivery of scripts at the marking centre; and
- b. Chief markers have a record of all scripts moved to and out of the venue, marker and assistant sign to acknowledge receipt and release of the scripts at all times.

6.7 Conclusion

The marking centres were well organised, and activities were conducted according to the marking management plan. Marking personnel fulfilled their duties in a professional manner. The monitoring visits confirmed that marking was conducted in a manner that ensured that the credibility and integrity of the August 2023 examinations for NATED Report 190/191: Engineering Studies N2–N3 were not compromised.

CHAPTER 7: STANDARDISATION AND VERIFICATION OF RESULTS

7.1. Introduction

Standardisation is a process that is informed by the evidence presented in the form of qualitative and quantitative reports. The primary aim of standardisation is to achieve an optimum degree of uniformity, in each context, by considering possible sources of variability other than students' ability and knowledge. In general, variability may occur because of the standard of question papers, quality of marking and many other related factors. It is for this reason that examination results are standardised to control their variability from one examination sitting to the next.

In broad terms, standardisation involves verification of learning area structures, mark capturing, and the computer system used by an assessment body. It also involves the development and verification of norms, as well as the production and verification of standardisation booklets in preparation for the standardisation meetings. Standardisation decisions are informed by amongst others, Umalusi principles of standardisation, qualitative inputs compiled by internal and external moderators, examination monitors and intervention reports presented by assessment bodies. The process is concluded with the approval of mark adjustments, per learning area, statistical moderation and the resulting process.

7.2. Scope and Approach

The Department of Higher Education and Training (DHET) presented 54 subjects for the standardisation of the August 2023 NATED Report 190/191 Engineering Studies N2 – N3 examinations. In turn, Umalusi performed verification of the historical averages, or norms, and verification of standardisation datasets and booklets before the standardisation meeting.

The pre-standardisation and standardisation virtual meetings were held on 06 September 2023. Umalusi was guided by several factors including the consideration of qualitative inputs, and quantitative data to reach its standardisation decisions. The qualitative inputs included reports from Umalusi's internal and external moderators, and monitors, and chief markers. As far as quantitative information is concerned, Umalusi considered the historical averages (norms), and pairs analysis in association with principles of standardisation.

7.3. Findings and Decisions

The main findings and decisions taken prior to, during and following the standardisation meetings are presented in the following section.

7.3.1. Development of Historical Averages (Norms)

In accordance with policy requirements, the DHET submitted to Umalusi historical averages, or norms, for verification, and approval purposes. The norms for the August 2023 NATED Report 190/191 Engineering Studies N2 – N3 examinations were calculated using the previous six examination sittings. Where outliers were found, the principle of exclusion was applied and, as a result, the norm was calculated without the outlying examination sitting. Table 7A indicates the subjects found with outlier years.

Table 7A: Subjects with outliers

Level	Code	Subjects	Outlying year
N2	11040572	Motor Bodywork Theory	202111 202208
	11040832	Radio and Television Theory	202111
	11040862	Radio Theory	202304
	11041102	Aircraft Maintenance Theory	202104
	11041572	Refrigeration Trade Theory	202211
N3	11041263	Electrical Trade Theory	202108
	11040843	Radio and Television Theory	202211
	11040873	Radio Theory	202211

7.3.2. Verification of Datasets and Standardisation Booklets

The submitted standardisation datasets and electronic booklets for the NATED Report 190/191 Engineering Studies N2 – N3 examinations conformed to the Umalusi Requirements and Specification for Standardisation, Statistical Moderation and Resulting Policy. In addition, the submission of standardisation datasets and electronic booklets was done in accordance with the Umalusi management plan. The standardisation datasets and the electronic booklet were verified and approved at first submission.

7.3.3. Pre-Standardisation and Standardisation

The pre-standardisation and standardisation meetings for the August 2023 NATED Report 191/190 engineering studies N2 – N3 examinations were held on 6 September 2023. Umalusi was guided by many factors, including qualitative inputs and quantitative data to reach its standardisation decisions. The qualitative reports from Umalusi included reports from the chief markers, external moderators and monitors on the conduct, administration, and management of examinations. As for quantitative data, Umalusi considered the historical

averages (norms), and pairs analysis. Table 7B below presents a summary of the standardisation decisions:

Table 7B: Summary of Standardisation Decisions

Description	Total
Number of subjects presented	54
Raw marks accepted	36
Adjusted (mainly upwards)	14
Adjusted (mainly downwards)	4
Provisionally standardised	0
Number of standardised subjects	54

During the standardisation meeting, the Assessments Standard Committee (ASC) expressed concern over the marking concession for Electrotechnology N3 which was implemented without prior approval from Umalusi. Once Umalusi was satisfied with the reliability of the information presented, all the subjects presented were standardised. Umalusi accepted the raw marks for 36 out of the 54 subjects, while 14 subjects were adjusted mainly upwards along with four subjects which were adjusted mainly downwards.

7.3.4 Post-Standardisation

The approval of the adjustments process was conducted after the standardisation meeting. The DHET captured the approved adjustments and submitted the adjusted datasets to Umalusi, within the agreed timeframes, for approval. Subsequently, the datasets were approved. The DHET then submitted the statistical moderation and resulting datasets to Umalusi for verification. Umalusi duly approved the datasets.

7.4. Areas of Improvement

No areas of improvement were identified for the examination cycle.

7.5. Areas of Non-compliance

The DHET implemented a marking concession for Electrotechnology N3 without an official request for approval from Umalusi.

7.6. Directives for Compliance and Improvement

The DHET must submit official requests, to Umalusi, for all subjects with possible marking concessions. The marking of a subject with a possible concession may only commence upon the release of Umalusi's decision.

7.7 Conclusion

The process of standardisation was conducted in a systematic, objective and transparent manner. The decisions taken on whether to accept raw marks, make an upward or downward adjustment were based on sound educational reasoning. Therefore, Umalusi can conclude that the standardisation process was conducted in a fair, transparent and reliable manner.

UMALUSI



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