

UMALUSI



Council for Quality Assurance in
General and Further Education and Training



**REPORT ON THE QUALITY ASSURANCE OF THE
DEPARTMENT OF HIGHER EDUCATION AND
TRAINING APRIL 2024 NATED REPORT 190/191
ENGINEERING STUDIES N2–N3 EXAMINATIONS**



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INTRODUCTION AND BACKGROUND

The NATED Report 190/191 Engineering Studies N2 and N3 examinations are administered by the Department of Higher Education and Training (DHET) three times a year, in April, August, and November. These examinations are offered through public Technical and Vocational Education and Training (TVET) Colleges, private Further Education and Training Colleges, and some correctional services centres.

Umalusi, as a quality council, is required by the National Qualifications Framework (NQF) and General and Further Education and Training Quality Assurance (GENFETQA) Acts to formulate and implement policy and criteria for assessing the qualifications within 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 sub-framework.

As the quality council for general and further education and training, Umalusi:

- a. Must perform the external moderation of assessment which is implemented by the various assessment bodies and education institutions;
- b. May adjust raw marks during the standardisation process; and
- c. Must, with the consensus of the Director-General and after consultation with the relevant assessment body or education institution, approve the publication of the results of learners if it is satisfied that the assessment body or education institution has:
 - i. Conducted the assessment free from any irregularity that might jeopardise the integrity of the assessment or its outcomes;
 - ii. Complied with the requirements for conducting assessments prescribed by the council;
 - 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.

Umalusi's mandate is to ensure that the NATED Report 191/190 Engineering Studies N2–N3 examinations, which take place every trimester, are fair, valid, and reliable. In order to fulfil this mandate, Umalusi must ensure that the assessment practices associated with the NATED Report 191/190 Engineering Studies N2–N3 examinations meet and maintain high quality standards.

All the 56 question papers for the April 2024 examinations were set nationally by the DHET and Umalusi externally moderated 25 of the N3 and 26 of the N2 question papers. The DHET distributed question papers via courier to nodal points, for collection by

examination centres. The answer scripts were then returned to the nodal points within 60 minutes of the completion of an examination, as per regulations.

The DHET mandated that the marking centre management staff of the national and provincial marking centres use the marking personnel who had performed well to fulfil the same functions during the November 2023 NATED Report 190/191 examinations.

The DHET followed a decentralised (provincial) marking model for most N2 examinations and a centralised (national) model for most N3 subjects. The N2 marking guidelines were standardised online, after which they were distributed electronically to the marking centres. As in previous examinations, the April 2024 NATED Report 190/191 Engineering Studies N2–N3 examinations were conducted at various schools, correctional services centres, private colleges, public colleges, and a few centres outside the borders of South Africa.

This report provides feedback on the processes followed by Umalusi in the quality assurance of the April 2024 NATED Report 191/190 Engineering Studies N2–N3 examinations. The report includes the findings, areas of improvement in the conduct, administration and management of these examinations, as well as areas of non-compliance and directives for compliance and improvement. The 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 ;
- b. Monitoring/moderation of internal assessment;
- c. Monitoring of the writing of examinations;
- d. Monitoring of the marking of examinations;
- e. Standardisation of marking guidelines;
- f. Verification of marking; and
- g. Standardisation and resulting.

ABBREVIATIONS AND ACRONYMS

ASC	Assessment Standards Committee
CD: NEA	Chief Directorate: National Examinations and Assessment
CEO	Chief Executive Officer
DHET	Department of Higher Education and Training
DMCA	Deputy Marking Centre Manager Academic
EC	Eastern Cape
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
GPW	Government Printing Works
HOD	Head of Department
ID	Identity Document
ICASS	Internal Continuous Assessment
KZN	KwaZulu-Natal
LP	Limpopo
MP	Mpumalanga
NQF	National Qualifications Framework
NW	North West
NC	Northern Cape
OHS	Occupational Health and Safety
PAM	Personnel Administrative Measures
PoA	Portfolio of Assessment (lecturer portfolio)
PoE	Portfolio of Evidence (learner portfolio)
SA	South Africa

SACE	South African Council for Educators
SMS	Short Message Service
SOR	State of Readiness
TVET	Technical and Vocational Education and Training
WC	Western Cape

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CHAPTER 1 MODERATION OF QUESTION PAPERS

1.1 Introduction

Umalusi conducts external moderation of question papers that are set nationally and moderated internally by the Department of Higher Education and Training (DHET). The purpose of external moderation of examination question papers and marking guidelines is to ensure that quality and standards are maintained in all the NATED Report 190/191 Engineering Studies N2–N3 examination cycles.

The moderation of question papers is a critical component of ensuring the quality of assessment processes. External moderation confirms that the question papers have been developed with rigour and adhere to Umalusi's criteria, as well as the curriculum and assessment policy documents of the assessment body.

The DHET is expected to appoint examiners and internal moderators with the requisite content knowledge of the specific instructional offerings to set and internally moderate the question papers before they are presented to Umalusi for external moderation. The question papers and marking guidelines are expected to be print-ready when submitted to Umalusi for external moderation. It, therefore, remains the responsibility of the internal moderators to ensure that the question papers and marking guidelines are of an acceptable standard.

To maintain public confidence in the national examination system, the question papers must be:

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

1.2 Scope and Approach

The DHET administered a total of 56 instructional offerings for the April 2024 NATED Report 190/191 Engineering Studies N2–N3 examinations. Umalusi moderated and approved a total of 51 sampled question papers and marking guidelines for these examinations. External moderation was done off-site, with the question papers, marking guidelines, assessment frameworks, and internal moderators' reports forwarded electronically to external moderators. The external moderators prepared assessment frameworks to appraise the cognitive demand and weighting of the

syllabi topics and evaluated the question papers in terms of the specified criteria. Umalusi moderated and signed off the question papers between 10 January 2024 and 18 March 2024.

Table 1A below indicates the instructional offerings moderated per level.

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

Instructional offering	Level
Aircraft Maintenance Theory	N3
Building and Civil Technology	N3
Building Drawing	N2 and N3
Building Science	N2 and N3
Bricklaying and Plastering Theory	N2
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 and Television Theory	N2 and N3
Radio 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

Table 1B below provides the number of instructional offerings moderated by Umalusi, categorised by level, and their respective percentages.

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

Level	Number of instructional offerings offered	Number of instructional offerings moderated	Percentage of instructional offerings moderated
N2	31*	26	81%
N3	25*	25	100%
Total	56	51	91%

*According to the DHET 2024 examination timetable

The question papers and marking guidelines were moderated according to the following 10 criteria or detailed quality indicators set by Umalusi:

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

1.3 Summary of Findings

Table 1C indicates the approval status of question papers and marking guidelines after preliminary moderation.

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

April 2024 examinations				
Report 190/191 Engineering Studies N2–N3	Number of question papers moderated by Umalusi	Number of question papers approved	Number of question papers conditionally approved	Number of question papers rejected
N2	26	5	16	4
N3	25	8	17	0
Total	51	13	33	4

Figure 1A below summarises the approval status of the NATED Report 190/191 Engineering Studies N2-N3 question papers and marking guidelines after the preliminary moderation.

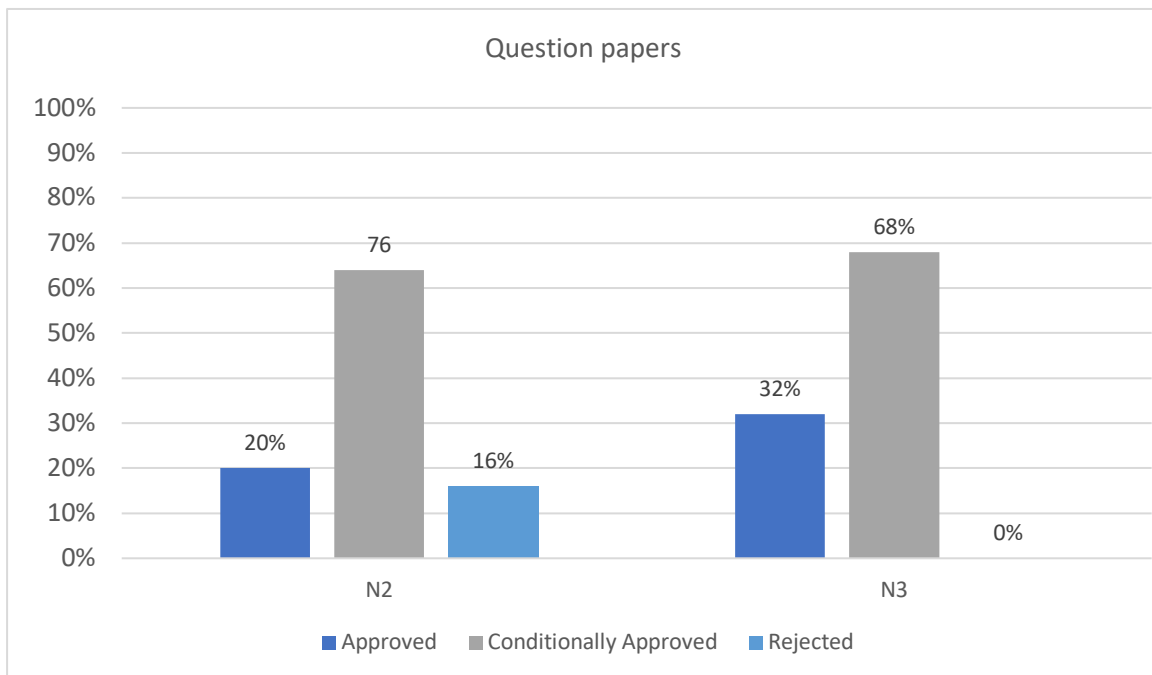


Figure 1A: Approval status of the NATED Report 190/191 Engineering Studies N2-N3 question papers and marking guidelines after initial moderation

Table 1D below summarises the most significant findings from the moderation of the April 2024 examination question papers and marking guidelines. All findings are discussed in terms of the sample of 50 instructional offerings moderated.

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

Criterion	Challenges	Instructional offering
	Technical criteria	
Submission of supporting documents to the external moderator	The internal moderation reports were not submitted for 2% of the question papers, compared to 42% in the April 2023 examination.	Plating and Structural Steel Drawing N2
Layout of the question paper	The cover pages did not contain all relevant details, such as the logo, name of instructional offering, time allocation, number of pages, and additional information for 10% of the question papers, compared to 12% of the April 2023 examination.	Aircraft Maintenance Theory N3 Building Drawing N2 and N3 Motor Electrical Theory N2 Water Treatment Practice N3
Instructions to candidates	The instructions for candidates were unclear and ambiguous in 2% of the question papers, according to the DHET specifications.	Carpentry and Roof Work N2
Numbering of questions	The questions were incorrectly numbered in 2% of the question papers, compared to 2% in the April 2023 NATED examination.	Engineering Drawing N2
Header and footer	The headers and footers on each page were consistent and adhered to the required format in 100% of the question papers, compared to 96% in the April 2023 examination.	All instructional offerings
Font type and size	The fonts were consistently appropriate in 100% of the question paper, compared to 96% in the April 2023 examination.	All instructional offerings
Mark and time allocation	The mark allocations were not clearly indicated in 4% of the question papers, similar to the April 2023 examination.	Bricklaying and Plastering Theory N2 Plating and Structural Steel Drawing N2

Criterion	Challenges	Instructional offering
	The mark allocation on the question paper was not the same as in the marking guidelines in 4% of the question papers, compared to 2% in the April 2023 examination.	Engineering Drawing N2 and N3
Quality of graphics and illustrations	The quality of illustrations, graphs, and tables was poor and unclear, contained errors, and were not print-ready in 4% of question papers, compared to 10% in the April 2023 examination.	Engineering Drawing N2 Industrial Electronics N2
Format requirements for the syllabus	The format requirements of the syllabus were not adhered to in 2% of the question papers, compared to 2% of the April 2023 examination.	Fitting and Machining Theory N2
Internal moderation		
Internal moderators' reports match the question paper	The internal moderator reports did not match the question papers in 10% of the question papers, compared to 44% in the April 2023 examination.	Diesel Trade Theory N2 and N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 Radio and Television Theory N2
Quality and standard of internal moderation report	The internal moderator report was incomplete; it did not include contact details of the examiner and internal moderator, the analysis grid, an evaluation of the paper in terms of specified criteria, the approval status of the question paper, and the marking guideline in 10% of the question papers. This was an improvement compared to 40% in the April 2023 examination.	Bricklaying and Plastering Theory N2 Fitting and Machining Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 Refrigeration Trade Theory N2
	The internal moderation reports were not up to	Bricklaying and Plastering Theory N2 Building Science N3

Criterion	Challenges	Instructional offering
	standard for 26% of the question papers, compared to 44% in the April 2023 examination.	Carpentry and Roof Work N2 Diesel Trade Theory N2 Engineering Drawing N2 and N3 Industrial Electronics N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 Radio and Television Theory N2 and N3 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2
	The internal moderation reports were irrelevant for 12% of the question papers. This was an increase in compliance from 42% in the April 2023 examination.	Diesel Trade Theory N2 and N3 Industrial Orientation N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 Radio and Television Theory N2
Content Coverage		
Coverage of the syllabus	The syllabus was not covered adequately in 6% of the question papers, compared to 16% in the April 2023 examination.	Industrial Organisation and Planning N3 Mechanotechnology N3 Refrigeration Trade Theory N3
	The questions did not correspond with the prescribed weightings of the topics in 10% of the question papers. This was an increase from 20% in the April 2023 examination.	Bricklaying and Plastering Theory N2 Engineering Science N2 Fitting and Machining Theory N2 Refrigeration Trade Theory N2 Water and Waste-water Treatment Practice N2
	The topics were not spread appropriately in 2% of the question papers, compared to 10% in the April 2023 examination.	Industrial Organisation and Planning N3
	The questions were not representative of the latest developments in the respective fields of the instructional offerings in 4% of the question papers, similar to 16% in the April 2023 examination.	Aircraft Maintenance Theory N3 Carpentry and Roof Work N2

Criterion	Challenges	Instructional offering
	Types and quality of questions	
Types of questions	Six percent of the question papers did not have various types of questions, e.g., multiple-choice, paragraph, data/source-based response, essay, real-life scenario, and real-life problem-solving questions, compared to 6% in April 2023.	Building Science N3 Carpentry and Roof Work N2 Industrial Organisation and Planning N3
	There was no correlation between mark allocation, level of difficulty, and time allocation in 14% of the question papers, it was the same in the April 2023 examination.	Building Science N3 Carpentry and Roof Work N2 Fitting and Machining Theory N2 Logic Systems N3 Mathematics N3 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2
Quality of questions	The questions did not relate to what was pertinent in the instructional offerings in 6% of the question papers, similar to the April 2023 examination.	Building Science N3 Carpentry and Roof Work N2 Industrial Organisation and Planning N3
	The questions had vaguely defined problems, ambiguous wording, extraneous or irrelevant information, trivia, and unintentional clues to the correct answers in 10% of the question papers, compared to 14% in the April 2023 examination.	Industrial Electronics N2 Plating and Structural Steel Drawing N2 Radio and Television Theory N3 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2
	The questions did not provide clear instructional keywords/verbs in 8% of the question papers, similar to the April 2023 examination.	Electrotechnology N3 Fitting and Machining Theory N2 Plating and Structural Steel Drawing N2 Water and Waste-water Treatment Practice N2
	The questions did not contain sufficient information to elicit appropriate responses in 4% of the question papers,	Engineering Drawing N2 Plating and Structural Steel Drawing N2

Criterion	Challenges	Instructional offering
	compared to 14% in the April 2023 examination.	
	The questions contained factual errors or misleading information in 6% of the question papers, the same in the April 2023 examination.	Engineering Science N2 Plating and Structural Steel Drawing N2 Radio and Television Theory N2
Cognitive skills		
Analysis grid	The analysis grid did not show the cognitive level of each question/sub-question in 16% of the question papers, compared to 46% in the April 2023 examination.	Diesel Trade Theory N3 Engineering Drawing N3 Fitting and Machining Theory N2 Industrial Orientation N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 Radio Theory N3 Radio and Television Theory N2
	There was no appropriate distribution of cognitive levels (Bloom's taxonomy or any other taxonomy that may have been used) in 12% of the question papers, compared to 22% in the April 2023 examination.	Building Science N3 Carpentry and Roof Work N2 Fitting and Machining Theory N2 Mathematics N3 Motor Trade Theory N2 Waste-water Treatment Practice N3
	The choice questions were not of equal levels of difficulty/standard in 4% of the question papers, compared to 22% in the April 2023 examination.	Fitting and Machining Theory N2 Motor Trade Theory N2
Assessment of latest developments	The questions were not representative of the latest developments in teaching their knowledge fields in 8% of the question papers. This indicated an improvement compared to 14% in the April 2023 examination.	Aircraft Maintenance Theory N3 Building Science N3 Carpentry and Roof Work N2 Motor Electrical Theory N2
Marking guideline		
Accuracy of marking guidelines	Twelve percent of the marking guidelines did not correspond with the questions in the question	Carpentry and Roof Work N2 Engineering Drawing N2 Mathematics N3 Plating and Structural Steel Drawing N2

Criterion	Challenges	Instructional offering
	papers, compared to 4% in the April 2023 examination.	Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2
	The answers were inaccurate in 30% of the marking guidelines, the same in the April 2023 examination.	Aircraft Maintenance Theory N3 Building Science N2 Carpentry and Roof Work N2 Electrical Trade Theory N2 Engineering Drawing N3 Engineering Science N2 Industrial Electronics N2 Logic Systems N3 Mathematics N3 Plating and Structural Steel Drawing N2 Radio and Television Theory N2 and N3 Refrigeration Trade Theory N3 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2
	Ten percent of the marking guidelines did not allow for alternative responses, where applicable, compared to 22% in the April 2023 examination.	Bricklaying and Plastering Theory N2 Engineering Science N2 Logic Systems N2 Refrigeration Trade Theory N3 Waste-water Treatment Practice N3
Mark allocation	The mark allocations on 4% of the marking guidelines did not correspond with the mark allocations on the question papers, compared to 8% in the April 2023 examination.	Engineering Drawing N2 Mathematics N3
	Fourteen percent of the marking guidelines had incomplete mark allocation and distribution in each question, compared to 12% in the April 2023 examination.	Building Drawing N3 Electrotechnology N3 Industrial Electronics N2 Mathematics N3 Radio Theory N2 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2
Macros	All the marking guidelines were laid out according to the prescribed macros.	All instructional offerings
Language and bias		
Grammar	The subject terminology/ data was misused in 2% of	Aircraft Maintenance Theory N3

Criterion	Challenges	Instructional offering
	the question papers, compared to 4% in April 2023.	
	The language register/level and complexity of vocabulary were appropriate for the level of the candidates in 100% of the question papers, compared to 91% in the April 2023 examination.	All instructional offerings
	The language contained complexities that might have confused the candidates in 10% of the question papers, compared to 14% in the April 2023 examination.	Industrial Orientation N3 Motor Trade Theory N3 Plumbing Theory N2 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2
	The language used in the question paper was grammatically incorrect in 10% of the question papers, compared to 14% in the April 2023 examination.	Industrial Electronics N2 Motor Trade Theory N3 Plumbing Theory N2 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2
Predictability		
Repetition of questions from previous examinations	Some questions could easily be spotted or predicted in 24% of the question papers, compared to 14% in the April 2023 examination.	Bricklaying and Plastering Theory N2 Building Science N2 and N3 Carpentry and Roof Work N2 Industrial Orientation N3 Logic Systems N2 and N3 Mathematics N3 Motor Trade Theory N2 and N3 Radio and Television Theory N2 Water and Waste-water Treatment Practice N2
	Twenty percent of the question papers contained questions from examination question papers of the past three years, compared to 12% in the April 2023 examination.	Building Science N2 Carpentry and Roof Work N2 Electrical Trade Theory N3 Engineering Drawing N2 Logic Systems N2 and N3 Mathematics N3 Motor Trade Theory N2 and N3 Radio and Television Theory N2
Innovation	Twelve percent of the question papers lacked an	Building Science N2 Logic Systems N2 and N3

Criterion	Challenges	Instructional offering
	appropriate degree of originality, similar to the April 2023 examination.	Mathematics N3 Motor Trade Theory N2 Radio and Television Theory N2
Overall impression		
Standard of question papers	Four percent of the question papers were not in line with the relevant, current syllabus, compared to 8% from the April 2023 examination.	Fitting and Machining Theory N2 Refrigeration Trade Theory N2
	The outcomes of the curriculum/syllabus were not assessed in 8% of the question papers, compared to 10% in the April 2023 examination.	Building Science N3 Carpentry and Roof Work N2 Industrial Organisation and Planning N3 Refrigeration Trade Theory N2
	The standard was inappropriate in 22% of the question papers, similar to the April 2023 examination.	Building Science N3 Carpentry and Roof Work N2 Engineering Drawing N2 and N3 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N3 Mathematics N3 Radio and Television Theory N2 Refrigeration Trade Theory N2 and N3
	Ten percent of the question papers did not compare favourably with the previous years' examination question papers, compared to 14% in the April 2023 examination.	Fitting and Machining Theory N2 Logic Systems N2 and N3 Mathematics N3 Radio and Television Theory N2
	There was no balance in 4% of the question papers on assessing skills, knowledge, attitudes, values, and reasoning, compared to 2% in the April 2023 examination.	Logic Systems N2 Mathematics N3

1.4 Areas of Improvement

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

- a. The external moderator acknowledged and commended the efforts of the examiner and/or internal moderator for the following question papers, which were of a good standard:
 - i. Building and Civil Technology N3;
 - ii. Industrial Electronics N3;
 - iii. Platers' Theory N2;
 - iv. Building Drawing N2; and
 - v. Welders' Theory N2.
- b. The internal moderation reports were submitted for 98% of the question papers, a significant improvement compared to 42% in the April 2023 examination;
- c. The internal moderation reports were up to standard for 74% of the question papers, compared to 70% in the April 2023 examination;
- d. For 10% of the question papers, the internal moderator reports did not match the question papers, compared to 44% in the April 2023 examination; and
- e. The internal moderation reports were irrelevant for 12% of the question papers; this decreased from 42% in the April 2023 examinations.

1.5 Areas of Non-Compliance

The Umalusi moderator reports revealed the following areas of non-compliance:

- a. There was no correlation between mark allocation, level of difficulty, and time allocation in 14% of the question papers, the same as in the April 2023 examinations.
- b. Some questions could easily be spotted or predicted in 24% of the question papers, the same as in the April 2023 examinations.
- c. Twenty percent of the question papers contained questions from examination question papers of the past three years, similar to the April 2023 examinations.
- d. The standard was inappropriate in 22% of the question papers, similar to the April 2023 examinations.

1.6 Directives for Compliance and Improvement

Based on the findings in the external moderators' reports, the following directives are issued to improve the quality of question papers and marking guidelines for national examinations:

The DHET must ensure that:

- a. The examiner and internal moderator are trained in the use of technology for drawing subjects;
- b. Marking guidelines are error-free, and the allocation of marks within questions is clearly indicated;
- c. Examiners and internal moderators refrain from using questions verbatim from the previous question papers;
- d. They standardise the use of diagrams and illustrations to promote consistency amongst all the instructional offerings;
- e. New examiners and internal moderators are trained to set innovative questions and align the question papers with the previous ones; and
- f. The assessment framework must be compiled correctly, as it serves as the foundation for constructing the question paper.

1.7 Conclusion

After the preliminary moderation, 26% of the question papers were approved, 66% were conditionally approved, and 8% required resetting. This highlighted significant progress in several areas, including an improvement in the submission and quality of internal moderation reports. However, certain areas of non-compliance, such as the lack of correlation between mark allocation and predictability of questions and the questions from past examination questions persist at similar levels to the April 2023 examinations. It is imperative that examiners and moderators strictly adhere to mandatory procedures to ensure the production of high-quality question papers.

There is evident room for improvement in both the quality and standard of the marking guidelines. Examiners and internal moderators should employ creative strategies to reduce the predictability of questions.

CHAPTER 2 MODERATION OF THE CONDUCT OF INTERNAL CONTINUOUS ASSESSMENT

2.1 Introduction

During each trimester Umalusi monitors and moderates the internal assessments of selected Report 191/190 Engineering Studies N2 and N3 subjects at specific sites. The findings on the Portfolios of Assessment (PoA) and tasks are captured in this chapter.

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. Indicate 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 this 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 sent to eight of the nine provinces in South Africa from 19–27 March 2024 to moderate the ICASS of N2 and N3 students' and lecturers' portfolios from a sample of NATED Report 190/191 instructional offerings. Following their assessments at the designated sites, the external moderators drafted reports on their findings at the sampled sites. Fifteen instructional offerings, compared to forty-nine (thirty-nine sites) in April 2023, were moderated at nine (14 in April 2023) private colleges, five (17 in April 2023) in the Technical and Vocational Education and Training (TVET)/public colleges, and none (one in April 2023) in the correctional service centre.

Table 2A below provides information on the sampled instructional offerings, sites, and provinces involved in the external moderation of the NATED Report 191/190 Engineering Studies N2–N3 ICASS during March 2024.

Table 2A: Sampled instructional offerings, sites, and provinces

No.	Instructional Offering	College	Campus/ Site	Province
1.	Building and Civil Technology N3	Central Johannesburg College	Riverlea	Gauteng
2.	Building Drawing N3	Umfolozzi TVET	Esikhawini	KwaZulu-Natal
3.	Building Science N2	Northern Technical College	Muledane	Limpopo
4.	Carpentry and Roof Work N2	Port Elizabeth TVET	Iqhaya	Eastern Cape
5.	Electrical Trade Theory N2	Rock of Springs College	Brits	North West
6.	Electrical Trade Theory N3	Brighton College	Rustenburg	North West
7.	Engineering Drawing N2	West Coast TVET	Atlantis	Western Cape
8.	Engineering Science N2	Lebombo Technical College	Tonga	Limpopo
9.	Engineering Science N3	Inhlokomo Training Institute	Durban	KwaZulu-Natal
10.	Industrial Electronics N3	Tshimologo FET College	Kuruman	Northern Cape
11.	Instrument Trade Theory N2	ABM College	Emalahleni	Mpumalanga
12.	Mathematics N2	Pentagon College	Mankweng	Limpopo
13.	Mathematics N3	Ekurhuleni East TVET	Kwa-Thema	Gauteng
14.	Mechanotechnology N3	Mosieleng Technical College	Vereeniging	Gauteng
15.	Motor Electrical Theory N2	Tshimologo FET College	Kuruman	Northern Cape

*Private colleges are indicated in Bold

2.3 Findings

Table 2B below indicates the findings reported by external moderators for implementing internal assessment of the Engineering Studies instructional offerings.

Table 2B: Findings observed in the April 2024 moderation of internal assessment (ICASS)

Criterion	Findings	College and site
Physical resources	The available facilities at 87% of the sites were sufficient for the number of enrolled students compared to 92% in the April 2023 examinations.	ABM College Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	The textbooks/ teaching material at 87% of the sites were available when the classes commenced at the beginning of the trimester compared to 88% in the April 2023 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	Additional teaching material was available or used at 53% of the sites.	ABM College Esikhawini Campus Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Riverlea Campus Rock of Springs College Tshimologo FET College (Motor Electrical Theory N2)

Criterion	Findings	College and site
	The students at 40% of the sites were exposed to the practical implementation of the theory component of the subject at the teaching and learning site compared to 49% in the April 2023 examinations.	Atlantis Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Northern Technical College Rock of Springs College
	There were computers and printers for the students at 73% of the sites to complete assignments/case studies/do research, etc., compared to 70% in the April 2023 examinations.	ABM College Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College
	Students at 67% of the sites had access to the internet or free Wi-Fi compared to the April 2023 examinations.	ABM College Atlantis Campus Brighton College Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Pentagon College Riverlea Campus Rock of Springs College
Human resources	The college had a process in place for identifying the training needs of the staff members at 40% of the sites compared to 65% in the April 2023 examinations.	Atlantis Campus Iqhayiya Campus Kwa-Thema Campus Northern Technical College Pentagon College Riverlea Campus
	The college had a plan for training staff/staff development at 27% of the sites compared to 69% in the April 2023 examinations.	Atlantis Campus Northern Technical College Pentagon College Riverlea Campus
	There was evidence of a training manual for staff development at 40% of the sites compared to April 2023 examinations.	Atlantis Campus Brighton College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College

Criterion	Findings	College and site
	Evidence showed that the training plan was implemented at 27% of the sites visited compared to 57% in the April 2023 examinations.	Atlantis Campus Northern Technical College Pentagon College Riverlea Campus
	There were areas where the educators felt that they needed further training at 40% of the sites compared to 84% in the April 2023 examinations.	Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Riverlea Campus Rock of Springs College
	The educators were exposed to the workplace environment/relevant industry at 33% of the sites compared to 41% in the April 2023 examinations.	Atlantis Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Pentagon College
Internal assessment policies and systems	Ninety-three percent of the sites had an up-to-date college assessment policy compared to 96% in the April 2023 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	The policy provided monitoring and moderation at different levels (college and campus) at 93% of the sites.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College

Criterion	Findings	College and site
		Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	The assessment policy made provision for absenteeism during assessments at 80% of the sites.	ABM College Atlantis Campus Esikhawini Campus Inhlokomo Training Institute Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	The assessment policy made provision for students with barriers at 47% of the sites.	ABM College Esikhawini Campus Northern Technical College Pentagon College Riverlea Campus Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
Monitoring	Monitoring of assessment structures was evident at 73% of the visited sites.	Atlantis Campus Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	There was evidence of a subject monitoring report per lecturer at 73% of the sites.	Atlantis Campus Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus

Criterion	Findings	College and site
		Lebombo Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	There was evidence of a composite pre - and post-monitoring report reflecting on the moderation status of the subject at 80% of the sites.	Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
Internal assessment task	A plan was in place to develop the assessment tasks at 80% of the sites compared to 88% in the April 2023 examinations.	ABM College Atlantis Campus Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	The plan indicated: a. Tasks; b. Lecturer; c. Moderation; d. Content; e. Duration and mark allocation; and f. Timeframes.	ABM College Atlantis Campus Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Riverlea Campus

Criterion	Findings	College and site
		Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	The tasks were developed according to the plan/ assessment schedule at 80% of the sites compared to 88% in the April 2023 examinations.	ABM College Atlantis Campus Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	At 93% of the sites, systems were in place to ensure that tasks were of an acceptable standard compared to 88% in the April 2023 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
Irregularities register	The college had an irregularity register at 60% of the sites compared to 73% in the April 2023 examinations.	ABM College Esikhawini Campus Iqhayiya Campus Kwa-Thema Campus Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3)

Criterion	Findings	College and site
	Internal assessment irregularities were recorded in the register at 13% of the sites compared to 35% in the April 2023 examinations.	Riverlea Campus Rock of Springs College
Lecturer files	Forty percent of the sites had lecturer files that contained the following documents: a. Name; b. Certified copies of qualifications; c. SACE registration; d. Teaching/lecturing experience; and e. Workplace experience. (Compared to 55% in the April 2023 examinations).	ABM College Atlantis Campus Esikhawini Campus Inhlokomo Training Institute Kwa-Thema Campus Riverlea Campus
	The lecturer file contained the subject syllabus at 80% of the sites compared to 88% in the April 2023 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	The subject file contained lesson plans at 87% of the sites visited compared to 86% in the April 2023 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)

Criterion	Findings	College and site
	The assessment file contained all the relevant documents at 80% of the sites visited, including: <ul style="list-style-type: none"> 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. (Compared to 82% in the April 2023 examinations).	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Kwa-Thema Campus Lebombo Technical College Northern Technical College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	Assessment scores were recorded accurately on the mark sheet at 87% of the sites visited compared to 88% in the April 2023 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	There was evidence of analysis/evaluation of learner performance for each test at 73% of the sites.	ABM College Atlantis Campus Esikhawini Campus Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
Tests	Copies of previous question papers or sections of previous question papers were used as assessment	ABM College Atlantis Campus Brighton College

Criterion	Findings	College and site
	tasks (tests) at 80% of sites compared to 61% in the April 2023 examinations.	Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
Content coverage	Eighty-seven percent of sites ensured that a substantial amount of work had been covered in both tests compared to 88% in April 2024 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	The weighting and spread of content of the topic(s) in both tests were appropriate at 80% of the sites, similar to April 2023 examinations.	ABM College Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	The type of questions was not in line with the stipulated content at one site only (7%) compared to 8% in April 2023 examinations.	Mosieleng Technical College

Criterion	Findings	College and site
Cognitive demand and difficulty levels	The two tasks varied in level of difficulty, were pitched at the right level and assessed a variety of knowledge and skills at 87% of the sites compared to 80% in the April 2023 examinations.	ABM College Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
Internal moderation of task	Ninety-three percent of the sites had evidence of moderation of marking in both tests compared to 92% in the April 2023 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	Ninety-three percent of the sites had evidence of moderation of a minimum sample of 10% (minimum of 5) of the scripts compared to 85% in the April 2023 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3)

Criterion	Findings	College and site
		Tshimologo FET College (Motor Electrical Theory N2)
	The internally moderated test samples included the full range of performance (high, average, and low-scoring students) at 93% of sites compared to 70% in the April 2023 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	Educators who set the task at 47% of the sites received relevant, qualitative feedback.	ABM College Brighton College Esikhawini Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus
Technical aspects	Six sites (40%) contained all the relevant information on the front/cover page of the tests. This included: <ul style="list-style-type: none"> a. The name of the subject; b. The level of the subject; c. Time allocation; d. Content covered; e. Number of tests; and f. Date. (Compared to 71% in April 2023 examinations)	Atlantis Campus Esikhawini Campus Inhlokomo Training Institute Lebombo Technical College Riverlea Campus Tshimologo FET College (Industrial Electronics N3)
	There were instructions for candidates, which were unambiguous for both tests at 67% of the sites compared to 88% in the April 2023 examinations.	ABM College Atlantis Campus Esikhawini Campus Inhlokomo Training Institute Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus

Criterion	Findings	College and site
		Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	The language and terminology used were appropriate and relevant in both tests at 87% of the sites compared to 98% in the April 2023 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	The mark allocation was not clearly indicated for each question in both tests at three of the sites (20%) compared to 4% in the April 2023 examinations.	Kwa-Thema Campus Mosieleng Technical College Riverlea Campus
	The mark allocation on the test was not the same as that on the marking guideline for both tests at four of the sites (27%) compared to 10% in the April 2023 examinations.	Iqhayiya Campus Kwa-Thema Campus Mosieleng Technical College Riverlea Campus
	The numbering for both tests was correct at 80% of the sites compared to 94% in the April 2023 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)

Criterion	Findings	College and site
	The time allocation was realistic for administering the tests at 80% of the sites compared to 96% in April 2023 examinations.	ABM College Atlantis Campus Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
Marking tools	The marking guideline tool facilitated marking and was easy to use in both tests at 60% of the sites compared to 84% in April 2023 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Lebombo Technical College Pentagon College Rock of Springs College Tshimologo FET College (Industrial Electronics N3)
	The mark allocations and mark distribution are clearly indicated within the answers to the different questions at 67% of the sites.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Lebombo Technical College Pentagon College Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
Student performance	There is no evidence of tests administered for the compilation of term marks at one (7%) of the sites compared to April 2023 examinations.	Mosieleng Technical College
	The students interpreted questions correctly and could answer all or most of the questions in the tests at	ABM College Brighton College Esikhawini Campus Inhlokomo Training Institute

Criterion	Findings	College and site
	87% of the sites compared to 82% in April 2023 examinations.	Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
Quality of marking	Marking was consistent with the marking guidelines at 73% of the sites compared to 88% in April 2023 examinations.	ABM College Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Lebombo Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	The mark allocated was a true reflection of the students' performance in both tests at 67% of the sites compared to 88% in April 2023 examinations.	ABM College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Lebombo Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	The totaling and transfer of marks to the mark sheet were accurate at 93% of the sites, a decrease from the 96% of sites visited in April 2023 examinations.	ABM College Atlantis Campus Brighton College Esikhawini Campus Inhlokomo Training Institute Iqhayiya Campus Kwa-Thema Campus Lebombo Technical College Northern Technical College

Criterion	Findings	College and site
		Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)
	There was evidence of feedback on performance to the candidates at 20% of the sites.	Esikhawini Campus Lebombo Technical College Riverlea Campus
Internal moderation of marking	There was no evidence that the students' work had been moderated internally at two (13%) of the sites compared to 86% in the April 2023.	Atlantis Campus Mosieleng Technical College
	The quality and standard of internal moderation were acceptable at 60% of the sites compared to 94% in April 2023 examinations compared to 78% in the April 2023.	ABM College Esikhawini Campus Iqhayiya Campus Lebombo Technical College Pentagon College Riverlea Campus Rock of Springs College Tshimologo FET College (Industrial Electronics N3) Tshimologo FET College (Motor Electrical Theory N2)

2.4 Compliance Check of Additional Instructional Offerings

External moderators were also requested to do a compliance check on documents pertaining to three additional instructional offerings at the sites visited. 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.

Table 2C below provides information on the enrolments of these additional sampled instructional offerings at the sites involved in the spot-check moderation of NATED Report 191/190 Engineering Studies N2–N3 ICASS during April 2024.

One of the key findings was the discrepancy between the number of students registered with the Department of Higher Education and Training (DHET) and the number of actual students enrolled at the sites. The external moderators observed the

same registration numbers with the DHET at two sites (13% of the total), encompassing all three instructional offerings.

Table 2C: Enrolments of the additional sampled instructional offerings at the sites: DHET enrolments compared to enrolments on the mark sheets at the site of teaching and learning

No.	College	Campus/Site	Additional Instructional Offerings	DHET Enrolments	College Enrolments
1.	ABM College	Emalahleni	Mathematics N2	165	116
			Engineering Science N2	167	112
			Engineering Drawing N3	37	38
2.	Brighton College	Rustenburg	Mathematics N2	68	5
			Diesel Trade Theory N2	18	0
			Engineering Drawing N3	22	0
3.	Central Johannesburg College	Highveld Campus Riverlea	Engineering Science N3	64	19
			Mathematics N2	181	66
			Electrical Trade Theory N2	94	79
4.	Ekurhuleni East	Kwa-Thema	Engineering Science N3	28	28
5.	Inhlokomo Training Institute	Durban	Mechanotechnology N3	39	36
			Fitting and Machining Theory N2	21	20
			Mathematics N3	67	57
6.	Lebombo Technical College	Middelburg	Mechanotechnology N3	12	12
			Engineering Science N3	18	18
			Mathematics N3	15	15
7.	Mosiелeng Technical College	Vereeniging	Electrotechnology N3	8	0
			Mathematics N3	23	2
			Engineering Science N3	10	0
8.	Northern Technical College	Muledane	Mathematics N2	151	152
			Diesel Trade Theory N2	47	48
			Engineering Science N2	138	141
9.	Pentagon College	Mankweng	Fitting and Machining Theory N2	10	10
			Diesel Trade Theory N2	13	13
			Engineering Drawing N2	26	17
10.	Port Elizabeth	Iqhayiya	Electrotechnology N3	84	73
			Mathematics N3	155	0

No.	College	Campus/Site	Additional Instructional Offerings	DHET Enrolments	College Enrolments
			Engineering Science N2	145	102
11.	Rock of Springs College	Brits	Mathematics N2	132	0
			Diesel Trade Theory N2	24	0
			Engineering Science N3	49	0
12.	Tshimologo FET College	Kuruman	Mathematics N2	99	70
			Fitting and Machining Theory N2	25	19
			Engineering Science N3	38	24
13.	Tshimologo FET College	Kuruman	Electrical Trade Theory N2	59	47
			Electrotechnology N3	14	13
			Engineering Science N2	98	50
14.	Umfolozu TVET Richards Bay	Esikhawini	Industrial Electronics	22	26
			Engineering Science	29	24
			Mathematics	35	26
15.	West Coast	Atlantis	Engineering Science N2	109	109
			Mathematics N2	99	99
			Fitting and Machining Theory N2	46	46

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 with the ICASS requirements, as stated in the 2024 DHET ICASS instructions, are listed in Table 2D below.

Table 2D: Evidence of one or both tests accompanied by the mark sheet

No.	College	Campus/ Site	Additional Instructional Offerings	Test 1	Test 2	Correct conversion
1.	ABM College	Emalahleni	Instrument Trade Theory N2	✓	✓	Yes
			Mathematics N2	✓	✓	No
			Engineering Science N2	✓	✓	No
			Engineering Drawing N3	✓	✓	No
2.	Brighton College	Rustenburg	Electrical Trade Theory N3	✓	✓	Yes
			Mathematics N2	✓	✓	Yes
			Diesel Trade Theory N2	X	X	No
			Engineering Drawing N3	X	X	No

	College	Campus/ Site	Additional Offerings	Instructional		
				Test 1	Test 2	Correct conversion
3.	Central Johannesburg College	Highveld Campus Riverlea	Building and Civil Technology N3	✓	✓	Yes
			Engineering Science N3	✓	✓	Yes
			Mathematics N2	✓	✓	Yes
			Electrical Trade Theory N2	✓	✓	Yes
4.	Ekurhuleni East TVET	Kwa-Thema Campus	Mathematics N3	✓	✓	Yes
			Engineering Science N3	✓	✓	No
5.	Inhlokomo Training Institute	Durban	Engineering Science N3	✓	✓	Yes
			Mechanotechnology N3	✓	✓	Yes
			Fitting and Machining Theory N2	✓	✓	Yes
			Mathematics N3	✓	✓	Yes
6.	Lebombo Technical College	Middelburg	Engineering Science N2	✓	✓	Yes
			Mechanotechnology N3	✓	✓	Yes
			Engineering Science N3	✓	✓	Yes
			Mathematics N3	✓	✓	Yes
7.	Mosieng Technical College	Vereeniging	Mechanotechnology N3	X	X	No
			Electrotechnology N3	X	X	No
			Mathematics N3	X	X	No
			Engineering Science N3	X	X	No
8.	Northern Technical College	Muledane	Building Science N2	✓	✓	Yes
			Mathematics N2	✓	✓	Yes
			Diesel Trade Theory N2	✓	✓	Yes
			Engineering Science N2	✓	✓	Yes
9.	Pentagon College	Mankweng	Mathematics N2	✓	✓	Yes
			Fitting and Machining Theory N2	✓	✓	Yes
			Diesel Trade Theory N2	✓	✓	Yes
			Engineering Drawing N2	✓	✓	Yes
10.	Port Elizabeth TVET	Iqhayiya Campus	Carpentry and Roof Work N2	✓	✓	Yes
			Electrotechnology N3	✓	✓	Yes
			Mathematics N3	X	X	No
			Engineering Science N2	✓	✓	Yes
11.	Rock of Springs College	Brits	Electrical Trade Theory N2	✓	✓	Yes
			Mathematics N2	✓	X	No
			Diesel Trade Theory N2	✓	✓	Yes
			Engineering Science N3	✓	X	No
12.	Tshimologo FET College	Kuruman Campus	Industrial Electronics N3	✓	✓	Yes
			Mathematics N2	✓	✓	Yes
			Fitting and Machining Theory N2	✓	✓	Yes
			Engineering Science N3	✓	✓	Yes
13.			Motor Electrical Theory N2	✓	✓	Yes

	College	Campus/ Site	Additional Offerings	Instructional		
				Test 1	Test 2	Correct conversion
	Tshimologo FET College	Kuruman Campus	Electrical Trade Theory N2	✓	✓	Yes
			Electrotechnology N3	✓	✓	Yes
			Engineering Science N2	✓	✓	Yes
14.	Umfolozi TVET Richards Bay	Esikhawini Campus	Building Drawing N3	✓	✓	Yes
			Industrial Electronics	✓	✓	Yes
			Engineering Science	✓	✓	Yes
			Mathematics	✓	✓	Yes
15.	West Coast TVET	Atlantis Campus	Engineering Drawing N2	✓	✓	Yes
			Engineering Science N2	✓	✓	Yes
			Mathematics N2	✓	✓	Yes
			Fitting and Machining Theory N2	✓	✓	Yes

Key:

✓: Evidence of tests available

X: Evidence of tests not available

2.5 Campuses/Sites that struggled with ICASS Compliance

Four sites and subjects necessitating immediate follow-up visits due to urgent interventions mandated by the DHET are listed in Table 2E below. Notably, 75% of these are private colleges.

Table 2E: Sites and subjects that needed follow-up visits

College	Campus	Subject
Brighton College	Rustenburg	Diesel Trade Theory N2
		Engineering Drawing N3
Mosiелeng Technical College	Vereeniging	Mechanotechnology N3
		Electrotechnology N3
		Mathematics N3
		Engineering Science N3
Port Elizabeth TVET	Iqhayiya Campus	Mathematics N3
Rock of Springs College	Brits	Mathematics N2
		Engineering Science N3

2.6 Areas of Improvement

The following improvements were observed:

- a. At 93% of the sites (88% in April 2023), systems were in place to ensure that tasks were of an acceptable standard; and

- b. The two tasks varied in level of difficulty, were pitched at the right level, and assessed a variety of knowledge and skills at 87% (80% in April 2023) of the sites.

2.7 Areas of Non-Compliance

Several concerns were raised, these include:

- a. The available facilities at 87% of the sites were sufficient for the number of enrolled students compared to 92% in April 2023;
- b. The students at 40% of the sites were exposed to the practical implementation of the theory component of the subject at the teaching and learning site (compared to 49% in April 2023);
- c. There was a plan in place for the development of the assessment tasks at 80% (88% in April 2023) of the sites;
- d. Forty percent (55% in April 2023) of the sites had lecturer files that contained all the necessary documents, e.g., name, certified copies of qualifications, SACE registration, teaching/lecturing experience, and workplace experience;
- e. The lecturer file contained the subject syllabus at 80% (88% in April 2023) of the sites;
- f. There were clear instructions for both tests at 67% of the sites, compared to 88% in April 2023;
- g. The language and terminology used were appropriate and relevant in both tests at 87% of the sites, which was 98% in April 2023;
- h. The mark allocation on the test was not the same as that on the marking guideline for both tests at four of the sites (27%) compared to 10% in April 2023;
- i. The numbering for both tests was correct at 80% of the sites, compared to 94% in April 2023;
- j. The time allocation was realistic for the administration of the tests at 80% of the sites, compared to 96% in April 2023;
- k. The marking guideline tool facilitated marking and was easy to use in both tests at 60% of the sites (compared to 84% in April 2023); and
- l. Marking was consistent with the marking guidelines at 73% of the sites, compared to the 88% of sites visited in April 2023.

2.8 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. Students are exposed to the workplace/industry;
- b. There are systems in place to ensure that the assessment files contain all the relevant and latest Subject Assessment Guideline and ICASS guidelines (available

from the DHET) as well as the college assessment policy and other relevant documents; and

- c. There are systems in place to ensure the development of quality tasks and marking guidelines;

2.9 Conclusion

The NATED Report 190/191 Engineering Studies N2–N3 programme remains a popular choice among students attending TVET and private colleges. While students acquire theoretical knowledge of the subjects, emphasis on the practical application of these theoretical components is crucial for adequately preparing them for industry students. The internal assessment process is a preparatory stage for students before the examination at the end of the trimester. Therefore, continuous internal assessments should contribute to the holistic development of the students, better equipping them for the demands of the workplace/further academic pursuits.

The findings presented in this chapter have highlighted the areas of compliance and non-compliance, indicating that there are still numerous instances of both.

CHAPTER 3 MONITORING THE WRITING OF EXAMINATIONS

3.1 Introduction

Umalusi monitors the writing of examinations to determine 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 of the 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 monitoring a sample of 25 examination centres. It also acknowledges areas of improvement and non-compliance and provides directives for compliance and improvement.

3.2 Scope and Approach

Twenty-five examination centres from nine provinces were selected to be monitored for writing the April 2024 NATED Report 191/190 Engineering Studies N2–N3 examinations. Umalusi monitors and staff collected data from the selected centres through verification, observation, and interview methods. Reports were generated from the data collected at the selected examination centres.

Table 3A below contains the details of the examination centres monitored.

Table 3A: Examination centres monitored by Umalusi

No.	Name of college	Centre/ Campus	Province	Instructional Offerings	Date visited
1.	Goldfields TVET	Tosa Campus	Free State	Electrical Trade Theory N2	10 April 2024
2.	Motheo TVET College	Thaba Nchu Campus	Free State	Mathematics N2	27 March 2024
3.	Jeppe College (Bloemfontein)	Jeppe College of Commerce and Computer Studies	Free State	Industrial Electronics N2 Building Drawing N2	28 March 2024

No.	Name of college	Centre/ Campus	Province	Instructional Offerings	Date visited
4.	South West Gauteng TVET	Molapo Campus	Gauteng	Engineering Science N2 Building Sciences N2 Diesel Trade Theory N2 Fitting and Machining Theory N2	04 April 2024
5.	Tshwane North TVET	Mamelodi Campus	Gauteng	Electrical Trade Theory N2 Bricklaying and Plastering Theory N2	10 April 2024
6.	Technical SA College	Technical SA College	Gauteng	Mathematics N3 Engineering Science N2	03 April 2024
7.	Mthashana TVET	Nquthu Campus	Eastern Cape	Engineering Science N2	02 April 2024
8.	Shakaland Technical	Shakaland Technical College	KwaZulu-Natal	Engineering Science N2	03 April 2024
9.	Esayidi TVET College	Port Shepstone Campus	Eastern Cape	Engineering Science N2	03 April 2024
10.	Vaal Skills Training Institute	Vaal Skills Training Institute	KwaZulu-Natal	Engineering Science N3	02 April 2024
11.	Sekhukhune TVET	CN Phatudi Campus	Limpopo	Electrical Trade Theory N3 Mechanotechnology N3	05 April 2024
12.	Polokwane Technology	Polokwane Technology Institute	Limpopo	Building and Civil Technology N3 Diesel Trade Theory N3	12 April 2024
13.	Thibela Technical	Thibela Technical College	Mpumalanga	Industrial Electronics N2	28 March 2024

No.	Name of college	Centre/ Campus	Province	Instructional Offerings	Date visited
				Industrial Electronics N3	
14.	White River Technical	White River Technical College	Mpumalanga	Plant Operation Theory N3	08 April 2024
15.	Advisor Progressive College	Advisor Progressive College (Pty) Ltd	Mpumalanga	Engineering Drawing N2 Electrotechnology N3	17 April 2024
16.	KSD TVET College	Mthatha Campus	Eastern Cape	Mathematics N2 Engineering Science N2 Building Science N2	03 April 2024
17.	Buffalo City Campus	St Mark Campus	Eastern Cape	Engineering Science N2	03 April 2024
18.	Sakhikamva College	Sakhikamva College	Eastern Cape	Mathematics N3 Building Science N2 Engineering Science N3	03 April 2024
19.	College of Cape Town	Thornton Campus	Western Cape	Mathematics N2	03 April 2024
20.	Northlink TVET	Belhar Campus	Western Cape	Mathematics N3 Building Science N2 Engineering Science N2	03 April 2024
21.	Northlink TVET	Goodwood Campus	Western Cape	Plumbing Theory N2 Instrument Trade Theory N2 Platers Theory N2 Logic Systems N2	11 April 2024

No.	Name of college	Centre/ Campus	Province	Instructional Offerings	Date visited
22.	Taletso TVET	Mmabatho/ Mafikeng Campus	North West	Motor Trade Theory N2 Plumbing Theory N2	11 April 2024
23.	Vuselela	Taung Campus	North West	Mathematics N2	27 March 2024
24.	Dru-A Professional FET College	Dru-A Professional FET Training College	Northern Cape	Fitting and Machining Theory N2	04 April 2024
25.	Victory Tickets 576 (Pty) Ltd	Victory Tickets 576 (Pty) Ltd	Northern Cape	Electrical Trade Theory N3 Mechanotechnology N3 Instrument Trade Theory N3	05 April 2024

3.3 Summary of Findings

The findings from monitoring the examination writing process are outlined below and categorised by criteria according to Umalusi's monitoring of the examination writing instrument. Table 3B presents the detailed findings provided by Umalusi at the monitored examination centre.

Table 3B: Detailed findings at monitored examination centres

Criteria	Findings	Examination centres
Preparations for the examination	It was evident that the DHET had verified the state of readiness and availability of facilities at 21 (84%) of the examination centres visited, a 10% decrease from 94% in the April 2023 examination.	
	It was found that the verification of the DHET had not been done at four (16%) examination centres.	Mafikeng Campus Thibela Technical College Vaal Skills Training Institute Advisor Progressive College
	There was an official timetable for the current examinations at 23 (92%)	All monitored examination centres

Criteria	Findings	Examination centres
	<p>examination centres, an 8% decrease from the April 2023 examination.</p> <p>Only two (8%) monitored examination centres had no official timetable.</p>	<p>Victory Tickets 576 (Pty) Ltd Dru-A Professional FET College</p>
	<p>Twenty-five (100%) examination centres had sufficient examination rooms to accommodate all registered candidates, similar to the April 2023 examination.</p>	<p>All monitored examination centres</p>
	<p>At 25 (100%) examination centres monitored, all the candidates were registered to write the examination, similar to the April 2023 examination.</p>	<p>All monitored examination centres</p>
	<p>At 24 (92%) examination centres, examination rooms had sufficient space to accommodate all candidates when seated one metre apart, a 2% decrease from 94% in the April 2023 examination.</p> <p>At one (2%) examination centre, candidates were seated less than one metre apart.</p>	<p>Advisor Progressive College</p>
	<p>Sufficient and suitable furniture was provided at 25 (100%) examination centres monitored, a 6% improvement from 94% in the April 2023 examination.</p>	<p>All monitored examination centres</p>
	<p>There was adequate lighting in the examination rooms at 23 (92%) examination centres, a 3% increase from 89% in the April 2023 examination.</p> <p>Two examination centres had inadequate lighting for exams (8%).</p>	<p>Victory Tickets 576 (Pty) Ltd Dru-A Professional FET College</p>
	<p>Twenty-five (100%) examination centres had water and sanitation, similar to 100% in the April 2023 examination.</p>	<p>All monitored examination centres</p>
	<p>Twenty-five (100%) of the examination centres had a safe/strong room where examination material was stored, a 6% increase from the 94% of the April 2023 examination.</p>	<p>All monitored examination centres</p>

Criteria	Findings	Examination centres
	The environment was conducive for writing examinations at 25 (100%) examination centres, a 17% increase from the 83% of the April 2023 examination.	All monitored examination centres
	Chief invigilators or authorised personnel collected/received question papers from the nodal point at 24 (96%) examination centres, a 4% decrease from the 100% of the April 2023 examination.	
	Six question papers were received at one (4%) examination centre through e-mail and were printed on-site.	Victory Tickets 576 (Pty) Ltd
	The chief invigilator or authorised personnel had dispatched documents to 25 (100%) examination centres, similar to 100% of the April 2023 examination.	All monitored examination centres
	An updated stock control register was kept at 24 (96%) examination centres. This was an increase of 7% from the 89% April 2023 examination.	
	In one (4%) of the examination centres, there was no indication of any stock control system in place.	Vaal Skills Training Institute
Invigilators and their training	Campus managers or principals were appointed as chief invigilators at 24 (96%) examination centres monitored, a 7% improvement to 89% in the April 2023 examination.	
	There was evidence that other staff members were appointed as chief invigilators at one (4%) examination centre.	Dru-A Professional FET College
	The assessment body trained invigilators at 23 (92%) examination centres, an 8% decrease from 100% in the April 2023 examination.	
	There was no evidence of attendance for training at two (8%) examination centres.	Thaba Nchu Campus Dru-A Professional FET College

Criteria	Findings	Examination centres
	Invigilators were appointed in writing at 25 (100%) examination centres, a 6% increase from 94% in the April 2023 examination.	All monitored examination centres
	Invigilators at 25 (100%) examination centres had received training for the current examination, a 4% increase from 96% in the April 2023 examination.	All monitored examination centres
Preparations for writing and examination rooms/venues	Candidates were seated 30 minutes before the examination commenced at 23 (92%) examination centres, a 3% increase from 89% in the April 2023 examination.	
	Candidates were not seated 30 minutes before the commencement of the examination at two (8%) examination centres.	Advisor Progressive College (Witbank) Mafikeng Campus
	At 25 (100%) examination centres, monitored invigilators verified candidates' admission letters/identity documents before they were allowed into the examination room, a 6% increase from 94% in the April 2023 examination.	All monitored examination centres
	There was an appropriate number of invigilators at 24 (96%) examination centres monitored, a 4% decrease from 100% in the April 2023 examination.	All monitored examination centres
	There was an unappropriated number of invigilators at one (4%) examination centre.	Advisor Progressive College
	There was an invigilation timetable at 21 (84%) examination centres, a 16% decrease from 100% in the April 2023 examination.	
	There was no evidence of an invigilation timetable being available in four (16%) examination centres.	Belhar Campus Thibela Technical College Victory Tickets 576 (Pty) Ltd Dru-A Professional FET College
Twenty (80%) examination centres had relief timetables, a 14% decrease from 94% in the April 2023 examination.	Belhar Campus	

Criteria	Findings	Examination centres
	There was no relief timetable at five (20%) examination centres.	Mthatha Campus Victory Tickets 576 (Pty) Ltd Dru-A Professional FET College
	Invigilators at 23 (92%) examination centres signed an attendance register, a 2% decrease from 94% in the April 2023 examination.	
	Attendance registers were not signed by the invigilators at the two (8%) invigilation centres.	Thibela Technical College Mamelodi Campus
	Candidates were seated according to a seating plan at 22 (88%) examination centres, a 6% decrease from 94% in the April 2023 examination.	
	Candidates were not seated according to a seating plan at three (12%) examination centres.	Mthatha Campus Victory Tickets 576 (Pty) Ltd Dru-A Professional FET College
	Every examination venue at 25 (100%) of the examination centres had a clock or another device displaying the time, a 6% improvement from 94% in the April 2023 examination.	All monitored examination centres
	An information board was visible at 23 (92%) examination centres, a 9% improvement from 83% in the April 2023 examination.	
	At two (8%) examination centres, the information board was not visible to all candidates in the examination room.	Victory Tickets 576 (Pty) Ltd Thaba Nchu Campus
	The examination rooms at all monitored examination centres were free of any material/writing/drawings that could aid candidates in writing the examination, similar to the April 2023 examination.	All monitored examination centres
	Invigilators at 24 (96%) examination centres ensured that candidates did not have cell phones or any material/ equipment that was not required for the examination, a 2%	

Criteria	Findings	Examination centres
	improvement from 94% in the April 2023 examination. At one (4%) examination centre, invigilators did not ensure that candidates did not have cell phones or any material/equipment that was not required for the examination.	Molapo Campus
	Invigilators at 20 (80%) examination centres checked calculators for compliance, where applicable, a 3% decrease from 83% of the April 2023 examination. Calculators were not checked for compliance at five (20%) examination centres.	Technical SA College Vaal Skills Training Institute Nquthu Campus Goodwood Campus Port Shepstone Campus
Time management	Invigilators arrived on time at 25 (100%) examination centres, a 6% improvement from 94% in the April 2023 examination.	All monitored examination centres
	An attendance register was signed by candidates at all (100%) examination centres, similar to 100% of the April 2023 examination.	All monitored examination centres
	Candidates were issued the official answer book at 25 (100%) examination centres, similar to the April 2023 examination.	All monitored examination centres
	The invigilators at 25 (100%) examination centres verified that the information on the cover page of answer books was correct, an improvement of 17% from 83% in the April 2023 examination.	All monitored examination centres
	The question papers were opened in the presence of candidates at 24 (94%) examination centres, an 8% decrease from 100% in the April 2023 examination.	All monitored examination centres
	Six question papers were e-mailed, printed, and distributed on-site at one (4%) examination centre.	Victory Tickets 576 (Pty) Ltd
	Question papers were distributed to candidates in a timely manner at 23 (92%)	

Criteria	Findings	Examination centres
	<p>examination centres, a 2% decrease from 94% in the April 2023 examination.</p> <p>Two (8%) examination centre question papers were not distributed to candidates in a timely manner due to a delay in the start of the examination.</p>	<p>Advisor Progressive College Victory Tickets 576 (Pty) Ltd</p>
	<p>Question papers were checked for technical accuracy at 21 (84%) examination centres, a 10% decrease from 94% in the April 2023 examination.</p> <p>Invigilators at four (16%) examination centres did not check question papers for technical accuracy.</p>	<p>Port Shepstone Campus Victory Tickets 576 (Pty) Ltd Sakhikamva College Advisory Progressive College</p>
	<p>Candidates were given the required reading time at 23 (92%) examination centres, a 9% improvement from 83% in the April 2023 examination.</p> <p>Candidates were not given the required reading time at two (8%) examination centres.</p>	<p>Victory Tickets 576 (Pty) Ltd Technical SA College</p>
	<p>Examination rules were read to all candidates (100%) at all examination centres, similar to 100% in the April 2023 examination.</p>	<p>All monitored examination centres</p>
	<p>The examination started at the time indicated on the timetable at 23 (92%) examination centres, a 2% decrease from 94% in the April 2023 examination.</p> <p>The examination did not start on time at two (8%) examination centres. The reading of instructions, checking the cover page for correctness, and the candidate's reading time were done during the writing time, which delayed the start of the examination by a few minutes.</p>	<p>Belhar Campus Advisor Progressive College</p>
	<p>The invigilators stamped the answer books at 24 (96%) examination centres, a 4%</p>	<p>All monitored examination centres</p>

Criteria	Findings	Examination centres
	decrease from 100% in the April 2023 examination.	
	The answer books were not stamped in one (4%) examination centre.	Vaal Skills Training Institute
	The examination ended at the stipulated time at 23 (92%) examination centres, an 8% decrease from 100% in the April 2023 examination.	
	The examination did not end at the stipulated time on the timetable at two (8%) examination centres.	Technical SA College Victory Tickets 576 (Pty) Ltd
Activities during writing	Invigilators were not asked to clarify any aspect of the question paper at 25 (100%) examination centres, similar to the April 2023 examination.	All monitored examination centres
	Candidates did not leave the examination room temporarily without an escort at 23 (92%) examination centres, a 2% decrease from 94% in the April 2023 examination.	
	During the examination, candidates left the examination room temporarily without an escort at two (8%) examination centres.	Belhar Campus Advisor Progressive College
	There were no unauthorised personnel in the examination rooms at 25 (100%) examination centres, a 6% increase from 94% in the April 2023 examination.	All monitored examination centres
	Officials at 24 (96%) examination centres did not allow candidates to leave the examination room during the last 15 minutes of the session, a 4% decrease from 100% in the April 2023 examination.	
	At one (4%) examination centre, candidates were allowed to leave the examination room in the last 15 minutes.	Thibela Technical College
	No irregularities were reported during the examination session at 23 (92%) examination centres, a 14% increase from 78% in the April 2023 examination.	
		Tosa Campus Molapo Campus

Criteria	Findings	Examination centres
	Irregularities were reported during the examination session at two (8%) examination centres.	
	Invigilators at 23 (92%) examination centres were active, moving around, and vigilant throughout the examination session, a 2% decrease from 94% in the April 2023 examination.	
	Invigilators at two (8%) examination centres left the examination room with the Umalusi monitor in charge.	Advisor Progressive College Victory Tickets 576 (Pty) Ltd
Packaging and transporting of answer scripts	Scripts were counted and packed in a secured area at 25 (100%) examination centres, a 6% increase from 94% in the April 2023 examination.	
	Where candidates were absent, absentee forms were included in the specific batches of scripts concerned at 25 (100%) examination centres.	All monitored examination centres, are the same as in the April 2023 examination.
	Only authorised personnel were present during the packing of scripts at 25 (100%) examination centres.	
	The scripts were packaged in the sequence on the mark sheet at 25 (100%) examination centres.	
	The number of scripts corresponded to the number on the wrapper at 25 (100%) examination centres.	
	Scripts were sealed in the satchel provided at 25 (100%) examination centres.	
	The scripts were sealed in the presence of the monitor at 25 (100%) examination centres, similar to 100% in the April 2023 examination.	
	The chief invigilators at 23 (92%) examination centres completed a daily situational report, a 3% increase from 89% in the April 2023 examination.	
There was no evidence that the chief invigilator had completed a daily situational report at two (8%) examination centres.	Vaal Skills Training Institute Goodwood Campus	

Criteria	Findings	Examination centres
	Scripts were transported to a nodal point by authorised personnel at 25 (100%) examination centres, similar to 100% of the April 2023 examination.	All monitored examination centres
Monitoring by the DHET	<p>There was evidence of monitoring by the assessment body at 17 (68%) examination centres, a 15% decrease from 83% in the April 2023 examination.</p> <p>At eight (32%) examination centres, there was no evidence that the assessment body had monitored the examination centres during Umalusi's visit/s.</p>	<p>Advisor Progressive College Mafikeng Campus Victory Tickets 576 (Pty) Ltd Vaal Skills Training Institute Thibela Technical College Thaba Nchu Sakhikamva Mthatha Campus</p>

3.3.1 Irregularities and Incidents Identified by Umalusi

Umalusi noted the following irregularities and incidents at examination centres:

a. Advisor Progressive College (Witbank)

- i. Candidates were not seated 30 minutes before the commencement of the examination;
- ii. Approximately 50% of candidates entered the examination room after 08:30;
- iii. Engineering Drawing N2 students were packed in one examination room, and were not one metre apart;
- iv. There was no evidence that DHET verified the examination centre's state of readiness;
- v. In one examination room, there were 47 candidates with one invigilator;
- vi. The question papers were not distributed on time due to the late arrival of candidates;
- vii. The invigilator did not check the question paper for technical accuracy;
- viii. The candidates were not given regulated reading time before writing as per examination instructions. After receiving the question papers, they immediately started to write;
- ix. The examination rules were not read to candidates;

- x. The candidates were allowed to leave the examination during the last 15 minutes of the examination session; and
- xi. The invigilator was observed engaging in activities other than active invigilation. Additionally, only one reliever was preoccupied with their cell phone while performing invigilation duties.

b. Vaal Skills Training Institute

- i. There was no evidence that DHET had verified the centre for state of readiness;
- ii. There was no stock control register available at the examination centre indicating how many answer books were issued;
- iii. The calculators were not checked for compliance at the examination centre;
- iv. The answer books were not stamped at the examination centre; and
- v. The chief invigilator did not complete a daily situational report.

c. Thibela Technical College (Witbank)

- i. The DHET had not verified the examination centre;
- ii. There was no adequate lighting in the rooms due to load shedding;
- iii. There was no water, and ablution facilities were not in a good condition;
- iv. The lecturer was appointed as chief invigilator, and the appointment letter was available;
- v. The assessment body did not train the chief invigilators for the current examination;
- vi. The examination centre has no evidence of an examination timetable, invigilation timetable, relief timetable, and attendance register;
- vii. The invigilators did not sign the attendance registers;
- viii. Invigilators did not ensure that candidates were not in possession of cell phones or any material/equipment that was not required for the examination;
- ix. Calculators were not checked for compliance;
- x. Candidates left the examination room temporarily without any escort; and
- xi. There was no evidence that the assessment body monitored the examination centre.

d. Mamelodi Campus

- i. Invigilators had individual registers instead of single registers for a particular subject being written for the day;
- ii. The invigilators did not sign the attendance registers.

e. Port Shepstone Campus

- i. The calculators were not checked for compliance; and
- ii. The question papers were not checked for technical accuracy.

f. Nquthu Campus

- i. The chief invigilator verified the question papers by himself, with no candidates checking whether they were sealed on arrival; and

- ii. The calculators were not checked for compliance.

g. Technical SA College

- i. The calculators were not checked for compliance;
- ii. The examination did not start at the time indicated on the timetable but at 09h05 due to administration delays; and
- iii. The examination did not end on the time stipulated on the timetable, which was 12h05.

h. Sakhikamva College

- i. The invigilator did not check calculators; and
- ii. There was no evidence that the assessment body monitored the examination centre.

i. Thaba Nchu Campus

- i. There was no evidence that the chief invigilator was trained. Only the deputy chief invigilator had an appointment letter;
- ii. The information board is available but not visible to all candidates; and
- iii. There was no attendance record for monitors available.

j. Mafikeng Campus

- i. There was no evidence that the assessment body verified the examination centre; and
- ii. The invigilators admitted the candidates to the examination room after 09:00.

k. Goodwood Campus

- i. The calculators were not checked for compliance; and
- ii. The chief invigilator did not complete the daily situational report.

l. Molapo Campus

- i. The examination file was not in the examination room during the writing of the examination; and
- ii. There was irregularity reported during the examination session. The candidate was caught with a cell phone on his lap during Diesel Trade Theory N2.

m. Belhar Campus

- i. There were no invigilation and relief timetables at the examination centre;
- ii. There was no evidence of attendance records of monitors; and
- iii. The candidates were allowed to leave the venue during the last 15 minutes of the session.

n. Mthatha Campus

- i. There was no evidence of a relief timetable available;
- ii. The candidates were not seated according to the seating plan; and
- iii. There was no evidence that the assessment body monitored the centre.

o. Dru-A Professional FET College

- i. The centre had no copy of the official timetable;
- ii. The examination room had inadequate lighting, with only one functioning light bulb and two small lights;
- iii. There was no appointment letter available for the chief invigilator;
- iv. The chief invigilator was not trained by the assessment body;
- v. There were no invigilation and relief timetables available;
- vi. There was no seating plan available for the subject written on the day;
- vii. The candidates were not seated according to the seating plan; and
- viii. The invigilator did not verify the correctness of the information on the cover page of the answer book.

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- i. There was no copy of the official timetable;
- ii. The lighting was poor in the examination room;
- iii. The question paper was received by e-mail, printed, and distributed on-site;
- iv. The question papers were not verified on arrival since they were e-mailed to the centre;
- v. There were no invigilation and relief timetables available;
- vi. There was no attendance register signed by invigilators;
- vii. There was no seating plan displayed at the centre;
- viii. Candidates were seated according to subjects, not a seating plan;
- ix. An information board was available but not visible to candidates because it was too small;
- x. Question papers were not opened in front of the candidates because they were e-mailed and printed on-site;
- xi. The question papers were not distributed on time;
- xii. There was no reading time before as per examination instructions due to delays in printing copies;
- xiii. Examination rules were not read to candidates;
- xiv. The examination did not commence at the scheduled time indicated on the timetable; instead, it began at 09:35; and
- xv. The examination did not end at the time stipulated on the timetable but at 12h08.

3.4 Areas of Improvement

The following areas of improvement were observed:

- a. It was evident that the DHET had verified the state of readiness and availability of facilities at 21 (84%) of the examination centres visited, an improvement of 10% from the 94% in the April 2023 examinations;
- b. At 23 (92%) examination centres, candidates were seated 30 minutes before the examination commenced, compared to 89% in the April 2023 examinations;
- c. At 24 (96%) examination centres monitored, there was an appropriate number of invigilators, a 4% decrease from 100% in the April 2023 examinations;
- d. Candidates were given the required reading time at 23 (92%) examination centres, a 9% improvement from 83% in the April 2023 examinations;
- e. The chief invigilators at 23 (92%) examination centres completed a daily situational report, a 3% improvement from 89% in the April 2023 examinations; and
- f. There was evidence of monitoring by the assessment body at 17 (68%) examination centres, a 15% decrease from 83% in the April 2023 examinations.

3.5 Areas of Non-Compliance

The following areas of non-compliance were observed:

- a. In the preparation of examination rooms/venues, it was found that:
 - i. The lighting in the two examination venues was inappropriate;
 - ii. At three examination centres, candidates were seated less than one metre apart;
 - iii. At two examination venues, there was no evidence of an official timetable;
 - iv. The writing on the information board at two examination centres was not visible to all candidates in the examination room; and
 - v. There was no evidence of a stock control register at one examination centre.
- b. During the invigilation of examinations, the following observations were made at some examination centres:
 - i. Invigilators at one examination centre:
 1. did not arrive at the examination venue on time;
 2. did not check question papers for technical accuracy at four examination centres;
 3. did not give candidates the required reading time at two examination centres;
 4. did not verify candidates' calculators for compliance;

5. did not ensure that candidates were not in possession of cell phones or any material/ equipment that was not required for the examination; and
 6. left the examination room with no examination official in charge.
- ii. At three examination centres, invigilators did not check calculators for compliance and did not sign attendance registers;
- c. One examination centre had an inappropriate number of invigilators;
 - d. Invigilators at eight examination centres had not received training for the current examination, which was evident in how the examination was conducted;
 - e. There was no evidence of an invigilation timetable at five examination centres;
 - f. At four examination centres, there was no relief timetable available;
 - g. During monitoring at Victory Tickets 576 (Pty) Ltd, the following was observed:
 - i. The examination centre received question papers through e-mail. The question papers were printed and distributed on-site, causing a 30-minute delay;
 - ii. Other candidates from Rhodes Technical College and Khusela Intergraded Academy were writing at the same venue; and
 - h. At the Mafikeng campus, candidates were allowed inside the examination centre after the 09h00 starting time.

3.6 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;
- b. Examination centres are prepared timeously with the following:
 - i. Sufficient and suitable furniture;
 - ii. Adequate lighting and having contingency measures in place during times of load shedding; and
 - iii. Working clocks and effective whiteboard markers.
- c. Examination centres strengthen invigilation processes by ensuring that:
 - i. Invigilators are trained;
 - ii. Attendance registers are signed;
 - iii. Invigilators arrive on time at the venues;
 - iv. Question papers are distributed on time, and candidates are given regulated reading time;
 - v. Examinations start and end as per the time indicated on the timetable;
 - vi. Candidates who arrive after the stipulated time into the examination room/venue are not permitted; and

- vii. Examination centres consistently compile, display, and adhere to seating plans, invigilation, and relief timetables.

3.7 Conclusion

The April 2024 NATED Report 190/191 Engineering Studies N2–N3 examinations were conducted, administered, and managed to an acceptable standard. The examination centres showed notable improvements in several key areas, such as the timely seating of candidates, the availability of invigilators and the completion of daily situational reports.

However, significant non-compliance issues remain, particularly concerning the preparation and management of examination venues, the training and conduct of invigilators and the adherence to established procedures. The DHET is urged to address these shortcomings promptly to improve overall compliance and uphold the standards of examination administration in future examinations. Although certain challenges were noted at specific centres, they did not compromise the overall integrity and credibility of the examinations.

CHAPTER 4 STANDARDISATION OF MARKING GUIDELINES

4.1 Introduction

The standardisation of marking guidelines provides a platform for the Department of Higher Education and Training's (DHET) markers, examiners, internal moderators, and Umalusi's external moderators to discuss responses per question and to reach consensus 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 common understanding and interpretation of the marking guidelines. Furthermore, this process ensures that all possible alternative responses are included in the final marking guidelines before implementation. Umalusi participates in the finalisation of the marking guidelines to ensure that fairness prevails and reports on the following:

- a. Preparedness of markers, chief markers, and internal moderators for the marking guideline discussions;
- b. The thoroughness of marking guideline discussions; and
- c. Standard and quality of the marking guidelines.

The standardisation of marking guideline meetings were chaired by the respective examiners or the internal moderators responsible for setting up the question paper. The chief markers, internal moderators, and markers appointed were required to participate in these meetings. 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 standardisation of marking guideline meetings.

4.2 Scope and Approach

Umalusi deployed 13 external moderators to attend the standardisation of marking guideline meetings for 14 instructional offerings, as listed in Tables 4A and 4B below. The meetings for all instructional offerings were conducted on an online platform.

Umalusi officials attended the online marking guideline standardisation meetings hosted by the DHET on the Microsoft Teams platform between 2 and 16 April 2024.

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 on the findings based on the following criteria:

- a. Attendance by internal moderators, chief markers, and markers;
- b. Appointment of marking staff;
- c. Chairperson of the meeting;
- d. Adjustments and justification;
- e. Umalusi's role; and
- f. Approval of the final marking guidelines.

Umalusi moderators attended the standardisation of marking guideline meetings to monitor the proceedings, provide guidance where necessary, endorse final decisions, and approve the final marking guidelines for use during the marking processes.

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

Table 4A: N2 marking guideline discussion meetings conducted

No.	Instructional Offerings	Date
1.	Building Drawing N2	11 April 2024
2.	Building Science N2	05 April 2024
3.	Carpentry and Roof Work N2	11 April 2024
4.	Diesel Trade Theory N2	08 April 2024
5.	Electrical Trade Theory N2	12 April 2024
6.	Engineering Science N2	05 April 2024
7.	Motor Trade Theory N2	15 April 2024
8.	Radio Theory N2	11 April 2024

Table 4B: N3 marking guideline discussion meetings conducted

No.	Instructional Offerings	Date
1.	Building and Civil Technology N3	16 April 2024
2.	Engineering Science N3	04 April 2024
3.	Mathematics N3	05 April 2024
4.	Plant Operation Theory N3	10 April 2024
5.	Plating and Structural Steel Drawing N3	02 April 2024
6.	Refrigeration Trade Theory N3	11 April 2024

4.3 Summary of Findings

Umalusi moderators reported that participants were prepared for the meetings. This allowed for rigorous discussions and finalisation of the marking guidelines. There was consensus among the participants on the changes to the marking guidelines. Table 4C presents the findings from the standardisation of the marking guidelines process as reported by Umalusi moderators.

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	The chief markers, internal moderators, and markers attended the marking guideline discussion in 72% of the instructional offerings.	Building and Civil Technology N3 Building Drawing N2 Building Science N2 Diesel Trade Theory N2 Electrical Trade Theory N2 Engineering Science N2 Engineering Science N3 Mathematics N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N3
	In one instructional offering (7%), only the examiner standardised the marking guideline.	Plant Operation Theory N3
	In one instructional offering (7%), only the chief marker and internal moderator standardised the marking guideline.	Radio Theory N2
	In two instructional offerings (14%), only the chief marker standardised the marking guideline due to low enrolments.	Carpentry and Roof Work N2 Refrigeration Trade Theory N3
	The DHET instructed all delegates to add their names and designations to the chat box once logged in, and all participants (100%) in the meetings responded to the request.	All instructional offerings

Evaluation criteria	Findings and challenges	Sampled instructional offerings involved
Appointment of marking staff	The DHET appointed the chief markers, internal moderators, and markers for all instructional offerings (100%) on time. Markers were informed of their appointments by email and short message service (SMS); others received appointment letters from their respective colleges.	All instructional offerings
Chairperson of meeting	The chief markers/internal moderators of 57% of the instructional offerings chaired the meetings, compared to 70% in the April 2023 examination.	Building and Civil Technology N3 Carpentry and Roof Work N2 Electrical Trade Theory N2 Engineering Science N2 Engineering Science N3 Mathematics N3 Radio Theory N2 Refrigeration Trade Theory N3
	The examiners chaired the meetings in 43% of the instructional offerings, compared to 30% in the April 2023 examination.	Building Drawing N2 Building Science N2 Diesel Trade Theory N2 Motor Trade Theory N2 Plant Operation Theory N3 Plating and Structural Steel Drawing N3
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 and Civil Technology N3 Building Drawing N2 Building Science N2 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 Engineering Science N2 Engineering Science N3 Mathematics N3 Motor Trade Theory N2 Plant Operation Theory N3 Plating and Structural Steel Drawing N3 Radio Theory N2 Refrigeration Trade Theory N3
Adjustments to the marking guidelines during the marking	Adjustments were made during the marking guideline discussions for all (100%) instructional offerings,	Building and Civil Technology N3 Building Drawing N2 Building Science N2 Carpentry and Roof Work N2

Evaluation criteria	Findings and challenges	Sampled instructional offerings involved
guideline discussions	compared to 93% in the April 2023 examination.	Diesel Trade Theory N2 Electrical Trade Theory N2 Engineering Science N2 Engineering Science N3 Mathematics N3 Motor Trade Theory N2 Plant Operation Theory N3 Plating and Structural Steel Drawing N3 Radio Theory N2 Refrigeration Trade Theory N3
Justification for changes to the marking guidelines	Umalusi regarded all changes to marking guidelines in the instructional offerings as justified in 93% of the instructional offerings, the same in the April 2023 examination. These amendments would enhance the marking process and promote fairness and consistency.	Building and Civil Technology N3 Building Drawing N2 Building Science N2 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 Engineering Science N2 Mathematics N3 Motor Trade Theory N2 Plant Operation Theory N3 Plating and Structural Steel Drawing N3 Radio Theory N2 Refrigeration Trade Theory N3
Effect of changes to marking guidelines on the cognitive level of the answers/responses	The changes in all the marking guidelines (100%) for the sampled instructional offerings did not affect the cognitive level of answers to the questions, this was the same in the April 2023 examination.	All instructional offerings
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 and Civil Technology N3 Building Drawing N2 Building Science N2 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 Engineering Science N2 Engineering Science N3 Mathematics N3 Motor Trade Theory N2 Plant Operation Theory N3

Evaluation criteria	Findings and challenges	Sampled instructional offerings involved
		Plating and Structural Steel Drawing N3 Radio Theory N2 Refrigeration Trade Theory N3
Signing off the marking guidelines	Marking guidelines for 86% of sampled instructional offerings were endorsed by all Umalusi moderators, compared to 100% in April 2023. Due to the nature of the online meeting, the signing-off procedure was a verbal agreement and not a physical signing of approval.	Building and Civil Technology N3 Building Science N2 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 Engineering Science N2 Mathematics N3 Motor Trade Theory N2 Plant Operation Theory N3 Plating and Structural Steel Drawing N3 Radio Theory N2 Refrigeration Trade Theory N3
Comments and recommendations from Umalusi moderators	<ol style="list-style-type: none"> i. The examiner and internal moderator for setting should attend and chair the standardisation of marking guideline discussions. ii. All appointed markers must be compelled to attend the standardisation of marking guidelines. iii. Consequence management must be implemented for markers who do not attend the meetings without a valid reason. 	

4.4. Area of Improvement

The following area of improvement was noted:

- a. All standardisation of marking guideline meetings were chaired by chief markers, internal moderators, or examiners.

4.5 Areas of Non-Compliance

The following areas of non-compliance were noted:

- a. During 86% of the standardisation of marking guideline meetings, compared to 100% in April 2023, the marking guidelines were signed off verbally and in writing; and
- b. The chief markers, internal moderators, and markers attended the marking guideline discussion in 72% of the instructional offerings.

4.6 Directive for Compliance and Improvement

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

- a. The examiner and/or the internal moderators attend and chair the meetings.

4.7 Conclusion

The standardisation of marking guidelines for the April 2024 NATED Report 190/191 Engineering Studies N2–N3 examinations was successfully completed. DHET must ensure the consistent presence of examiners or internal moderators in these meetings to uphold the quality and standards of the marking process.

CHAPTER 5 MONITORING OF MARKING CENTRES

5.1 Introduction

Umalusi monitored the marking centres of the April 2024 NATED Report 191/190 Engineering Studies N2–N3 examinations as part of its quality assurance assessment mandate. The purpose of this monitoring was to establish whether the Department of Higher Education and Training (DHET) had established the required systems and processes to ensure the integrity and credibility of the marking processes per 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 monitoring seven DHET marking centres. It also acknowledges areas of improvement, highlights areas of non-compliance, and provides directives for compliance and improvement.

5.2 Scope and Approach

Initially, eight marking centres from eight provinces were selected to be monitored for the marking of the April 2024 NATED Report 191/190 Engineering Studies N2–N3 examinations. Port Elizabeth was not monitored due to student unrest, leading to its closure by the DHET. Consequently, scripts were redirected to Gauteng marking centres. Umalusi deployed 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 5A.

Table 5A: Marking centres monitored by Umalusi staff

No.	Centre	Province	Level	Date
1.	Centurion Campus	Gauteng (GP)	N2 and N3	22 April 2024
2.	Hillside View Campus	Free State (FS)	N2 and N3	25 April 2024
3.	Mpondozankomo Campus	Mpumalanga (MP)	N2 and N3	25 April 2024
4.	Pretoria West Campus	Gauteng (GP)	N2 and N3	23 April 2024
5.	Seshego Campus	Limpopo (LP)	N2 and N3	26 April 2024
6.	Northdale Campus	KwaZulu-Natal (KZN)	N2 and N3	26 April 2024
7.	Thornton Campus	Western Cape (WC)	N2 and N3	26 April 2024

5.3 Summary of Findings

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

5.3.1 Preparation and Planning for Marking

All monitored marking centres had a management plan based on the DHET's management plans for marking the NATED Report 191/190 Engineering Studies N2–N3 April 2024 examinations. Marking personnel arrived at the monitored marking centres according to plan 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 plan at all the marking centres visited.

Marking guidelines were received in a timely manner at all the monitored marking centres.

5.3.2 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 with the Occupational Health and Safety (OHS) requirements and regulations.

5.3.3 Security Measures

Security measures were implemented 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 Madibana courier services. At all marking centres, the number of scripts was verified, and all mark sheets were scanned.

It was the responsibility of the examination assistants to transport examination scripts to and from the marking venues under the supervision of the Deputy Manager of the Marking Center for Academics (DMCMA) and security personnel.

5.3.4 Management of Irregularities

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

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

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

5.3.5 Monitoring by the DHET

The DHET verified the state of readiness of all the marking centres visited by Umalusi. Where the DHET made recommendations, action was taken by the respective marking centres, such as the Mpondozankomo Marking Centre, which had intensified the number of security personnel during the April 2024 marking.

5.3.6 Quality Assurance and Reports

At all marking centres visited by Umalusi monitors and staff, examination assistants meticulously checked scripts to ensure accurate totaling and transfer of marks to both the front pages and the mark sheets.

The system of capturing marks at the marking centres underwent quality assurance through a double-entry system. One official entered the data while another verified it using distinct codes, with further verification conducted by the Supervisor of Data Capturers.

Markers play a significant role in augmenting the information the chief marker includes in the qualitative marking report. These reports, compiled by chief markers and internal moderators, underwent quality assurance by the deputy marking centre manager academic at most marking centres before being sent to the DHET.

5.3.7 Marking Concessions

Umalusi received two requests for marking concessions for the April 2024 NATED Report 191/190 Engineering Studies N2–N3 examinations. The requests were for Engineering Science N3 and Industrial Electronics N3.

Umalusi staff received a marking concessions list to ensure that the marking centres followed the decisions/verdicts (marking concessions) during their marking processes.

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

5.4 Areas of improvement

The Umalusi staff noted the following areas of improvement:

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

5.5 Area of Non-Compliance

The following area of non-compliance was observed at some marking centres:

- a. At Mpondozankomo Marking Centre and Seshego Marking Centre, the marking centre management teams were not trained for the April 2024 examination cycle.

5.6 Directives for Compliance and Improvement

DHET must ensure that:

- a. Stricter measures are implemented at examination centres to curb the number of irregularities that arise during the writing of examinations;
- b. Examination centres with a history of irregularities are closely monitored; and
- c. DHET must provide detailed reports during the monitoring of marking centres.

5.7 Conclusion

The marking centres were well organised, and activities were conducted according to the marking management plan. Marking personnel diligently fulfilled their duties. The monitoring visits verified that the marking process was conducted in a manner that ensured the April 2024 examinations for NATED Report 191/190 Engineering Studies N2–N3 retained their credibility and integrity.

CHAPTER 6 VERIFICATION OF MARKING

6.1 Introduction

Umalusi ensures the quality of the marking process by confirming its consistency and accuracy and assessing whether both marking and internal moderation adhere to agreed-upon standards and practices. This quality assurance process serves to verify the standard and quality of marking.

The marking verification was conducted in seven marking centres at the Thornton, Pretoria West, Mpondozankomo, Hillside View, Centurion, Northdale, and Seshego campuses.

This chapter will report on:

- a. The reliability and validity of the systems, processes, and procedures that were planned and implemented at the marking centres;
- b. The quality and standard of marking and internal moderation;
- c. The performance of students;
- d. Identification of areas of compliance and non-compliance; and
- e. Directives for compliance.

6.2 Scope and Approach

Umalusi verified the marking of a sample of 25 instructional offerings for the April 2024 NATED Engineering Studies N2-N3 examinations. This sample included 14 instructional offerings in N2 and 11 instructional offerings in N3. The instructional offerings are listed in Table 6B and 6C below.

Umalusi deployed 19 moderators to seven marking centres to verify the marking of a sample of N2–N3 scripts in 25 instructional offerings as part of the marking verification process.

Table 6A: Distribution of instructional offerings across marking centres

No.	Marking Centre	Number of Instructional offerings
1.	Centurion	4
2.	Mpondozankomo	3
3.	Northdale	2
4.	Pretoria West	8
5.	Seshego	3
6.	Thornton	4

No.	Marking Centre	Number of Instructional offerings
7.	Hillside View	1
TOTAL		25

Table 6B below lists the 14 sampled N2 instructional offerings, the dates of verification, and the marking centres at which on-site verification was conducted:

Table 6B: N2 instructional offerings sampled

No.	Instructional Offerings	Date	Marking Centre
1.	Building Drawing N2	24 April 2024	Seshego
2.	Carpentry and Roof Work N2	26 April 2024	Thornton
3.	Diesel Trade Theory N2	26 April 2024	Pretoria West
4.	Electrical Trade Theory N2	26 April 2024	Pretoria West
5.	Engineering Drawing N2	27 April 2024	Mpondozankomo
6.	Industrial Orientation N2	25 April 2024	Centurion
7.	Logic System N2	25 April 2024	Thornton
8.	Mathematics N2	22 April 2024	Mpondozankomo
9.	Motor Electrical Theory N2	28 April 2024	Pretoria West
10.	Motor Trade Theory N2	23 April 2024	Thornton
11.	Plating and Structural Steel Drawing N2	24 April 2024	Northdale
12.	Plumbing Theory N2	25 April 2024	Pretoria West
13.	Radio and Television Theory N2	23 April 2024	Centurion
14.	Welders' Theory N2	26 April 2024	Thornton

Table 6C below lists the 11 sampled N3 instructional offerings, the dates of verification, and the marking centres at which on-site verification was conducted:

Table 6C: N3 instructional offerings sampled

No.	Instructional Offerings	Date	Marking Centre
1.	Building and Civil Technology N3	25 April 2024	Pretoria West
2.	Building Drawing N3	23 April 2024	Seshego
3.	Building Science N3	25 April 2024	Pretoria West
4.	Electrical Trade Theory N3	26 April 2024	Pretoria West
5.	Engineering Science N3	25 April 2024	Hillside View
6.	Industrial Organisation and Planning N3	26-27 April 2024	Centurion
7.	Instrument Trade Theory N3	25 April 2024	Pretoria West
8.	Mechanotechnology N3	26 April 2024	Mpondozankomo
9.	Plating and Structural Steel Drawing N3	25 April 2024	Northdale Campus
10.	Radio and Television Theory N3	26 April 2024	Centurion
11.	Refrigeration Trade Theory N3	26 April 2024	Seshego

Table 6D below shows the criteria and quality indicators for evaluating the marking process in N2 and N3 instructional offerings.

Table 6D: Evaluation criteria and quality indicators for verification of marking

Criterion	Quality Indicators
Delivery of scripts	All anticipated examination scripts were received for marking at the centre.
Training for marking	Training for marking conducted.
Sample marking	How sample marking was conducted after the marking guideline discussion.
Marking procedure	The approach followed during the marking process.
Adherence to the marking guidelines	The rating of adherence to the marking guideline.
Standard of marking/performance of markers	The rating of the standard of marking conducted.
Administration	The prescribed procedure for the allocation of marks; Marks indicated per question; Mistakes clearly indicated; Marks transferred correctly from the cover page to the mark sheet; Mark sheets completed correctly; and Notes are kept throughout the marking period to assist with report writing at the end.
Control	Markers and internal moderators indicated their names on each script.
Internal moderation	Evidence of moderation of scripts throughout the marking process.
Performance of candidates	The performance of the candidates is in line with predicted expectations.
Prevention and handling of irregularities	Evidence and reporting of irregularities.

During the April 2023 NATED Report 191/190 Engineering Studies N2-N3 examination, Umalusi sampled 10 and 16 N2 and N3 instructional offerings, respectively, to verify the marking process. The sample for the April 2024 NATED Report 191/190 Engineering Studies examination increased to 25 with 14 N2 and 11 N3 instructional offerings. Although this is a small statistical sample, it is above the norm compared to sampling instructional offerings in previous verification of marking processes for a similar examination period.

Tables 6E and 6F below indicate the number of instructional offerings, provinces, and examination centres for N2 and N3 included in the sample, respectively:

Table 6E: Verification of marking N2: Instructional offerings, number of provinces, and number of centres

Instructional Offerings	Number of Provinces	Provinces									
		Western Cape	Northern Cape	Free State	Eastern Cape	KwaZulu-Natal	Mpumalanga	Limpopo	Gauteng	North West	Province 10*
Building Drawing N2	1	0	0	0	0	14	0	0	0	0	0
Carpentry and Roof Work N2	4	5	0	0	3	0	0	9	3	0	0
Diesel Trade Theory N2	1	0	0	0	0	0	0	0	20	0	0
Electrical Trade Theory N2	3	0	0	0	0	0	0	0	8	9	3
Engineering Drawing N2	1	0	0	0	0	0	20	0	0	0	0
Industrial Orientation N2	3	0	0	0	0	6	1	0	3	0	0
Logic System N2	1	23	0	0	0	0	0	0	0	0	0
Mathematics N2	1	0	0	0	0	0	0	0	20	0	0
Motor Electrical Theory N2	6	0	2	0	0	1	5	3	4	5	0
Motor Trade Theory N2	5	3	1	3	10	0	0	3	0	0	0
Plating and Structural Steel Drawing N2	1	0	0	0	0	20	0	0	0	0	0
Plumbing Theory N2	9	3	0	4	2	2	2	2	2	2	2
Radio and Television Theory N2	2	0	1	0	0	0	0	0	19	0	0
Welders' Theory N2	1	20	0	0	0	0	0	0	0	0	0

* Province 10 refers to examination centres outside South Africa

Table 6F: Verification of marking N3: instructional offerings, number of provinces, and number of examination centres per province

Instructional Offerings	Number of Provinces	Provinces									
		Western Cape	Northern Cape	Free State	Eastern Cape	KwaZulu-Natal	Mpumalanga	Limpopo	Gauteng	North West	Province 10*
Building and Civil Technology N3	6	0	0	4	3	2	0	3	0	4	4
Building Drawing N3	6	0	1	1	1	0	0	3	7	0	1

Instructional Offerings											
	Number of Provinces	Western Cape	Northern Cape	Free State	Eastern Cape	KwaZulu-Natal	Mpumalanga	Limpopo	Gauteng	North West	Province 10*
Building Science N3	4	0	0	0	0	6	0	0	7	4	3
Electrical Trade Theory N3	9	0	3	2	1	2	3	3	4	1	1
Engineering Science N3	2	6	14	0	0	0	0	0	0	0	0
Industrial Organisation and Planning N3	6	0	0	1	0	1	6	1	10	1	0
Instrument Trade Theory N3	9	2	1	1	0	3	3	5	1	1	3
Mechanotechnology N3	1	0	0	0	0	0	20	0	0	0	0
Plating and Structural Steel Drawing N3	4	0	0	0	0	7	0	0	8	1	4
Radio and Television Theory N3	3	0	0	0	0	0	1	1	12	0	0
Refrigeration Trade Theory N3	4	1	0	0	0	5	0	0	1	0	12

* Province 10 refers to examination centres outside South Africa

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

6.3 Summary of Findings

This section highlights the most significant findings of the verification of the marking process for the April 2024 NATED Report 190/191 Engineering Studies N2-N3 examinations. It compares and discusses the interpretation of these results with those of the April 2023 NATED: Engineering Studies examination. The findings were analysed and collated from the moderation of 25 instructional offerings at seven marking centres in Thornton, Pretoria West, Mpondozankomo, Hillside View, Centurion, Northdale, and Seshego campuses. The findings of N2 and N3 verification of marking included in the moderation sample are summarised in Table 6G below.

Table 6G: Findings of the verification of marking of N2 and N3 instructional offerings

Criteria	Findings	Instructional offerings
Delivery of scripts	Twenty (80%) instructional offerings had received all expected scripts at the time of moderation, an increase	Building and Civil Technology N3 Building Drawing N2 Building Science N3

Criteria	Findings	Instructional offerings
	of 16% from 64% in the April 2023 examination.	Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Orientation N2 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Radio and Television Theory N3 Refrigeration Trade Theory N3 Welders' Theory N2
Training for marking	Marking training was conducted in 23 (92%) instructional offerings, an 8% decrease from 100% in the April 2023 examination.	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Radio and Television Theory N2 and N3 Refrigeration Trade Theory N3 Welders' Theory N2
Sample marking	In 24 (96%) instructional offerings, each marker marked a copy of the same scripts to determine marking consistency, a 4% decrease from 100% in the April 2024 examination.	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Science N3

Criteria	Findings	Instructional offerings
		Industrial Organisation and Planning N3 Industrial Orientation N2 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Radio and Television Theory N2 and N3 Refrigeration Trade Theory N3 Welders' Theory N2
	<p>The markers received a sample of scripts from various centres to mark 22 (88%) instructional offerings, a 12% decrease from 100% in the April 2023 examination.</p>	Building and Civil Technology N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 and N3 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Radio and Television Theory N2 and N3 Refrigeration Trade Theory N3 Welders' Theory N2
	<p>During sample marking, markers for 22 instructional offerings (88%) adhered to the marking guidelines, a 6% decrease from 94% in the April 2023 examination.</p>	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Science N3

Criteria	Findings	Instructional offerings
		Industrial Organisation and Planning N3 Industrial Orientation N2 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Refrigeration Trade Theory N3 Welders' Theory N2
Marking procedure	<p>The question-wise marking approach was followed in 16 of the sampled instructional offerings (64%), and each marker was allocated a specific question to mark, a 17% decrease from 81% in the April 2023 examination.</p>	Building and Civil Technology N3 Building Drawing N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Plumbing Theory N2 Radio and Television Theory N3 Welders' Theory N2
	<p>The whole script marking approach was followed in nine (36%) instructional offerings, a 17% increase from 19% in the April 2023 examination.</p>	Building Drawing N2 Industrial Organisation and Planning N3 Industrial Orientation N2 Instrument Trade Theory N3 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 Radio and Television Theory N2 and N3
Adherence to marking guidelines	<p>Adherence to marking guidelines was good in 22 (88%) instructional offerings, similar to the April 2023 examination.</p>	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2

Criteria	Findings	Instructional offerings
		Electrical Trade Theory N2 and N3 Engineering Science N3 Industrial Organisation and Planning N3 Industrial Orientation N2 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Refrigeration Trade Theory N3 Welders' Theory N2
	Adherence to marking guidelines was average in one instructional offering (4%), an 8% improvement from 12% in the April 2023 examination.	Engineering Drawing N2
	Adherence to marking guidelines was poor in two instructional offerings (8%), an 8% decrease from 0% in the April 2023 examination.	Radio and Television Theory N2 and N3
Standard of marking/ performance of markers	The standard of marking was rated as good in 21 instructional offerings (84%), a 4% decrease from 88% in the April 2023 examination.	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Science N3 Industrial Organisation and Planning N3 Industrial Orientation N2 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Refrigeration Trade Theory N3 Welders' Theory N2

Criteria	Findings	Instructional offerings
	The standard of marking was rated average in two (8%) instructional offerings, a 4% improvement from 12% in the April 2023 examination.	Engineering Drawing N2 Instrument Trade Theory N3
	The standard of marking was rated poor in two instructional offerings (8%), an 8% decrease from 0% in the April 2023 examination.	Radio and Television Theory N2 and N3
Administration	The prescribed procedure for the recording of marks on the front page of the script was followed in 25 (100%) instructional offerings, an 88% increase from 12% in the April 2023 examination.	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Industrial Orientation N2 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Radio and Television Theory N2 and N3 Refrigeration Trade Theory N3 Welders' Theory N2
	Marks were indicated per question in 25 (100%) instructional offerings, similar to the April 2023 examination.	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Industrial Orientation N2 Instrument Trade Theory N3

Criteria	Findings	Instructional offerings
		Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Radio and Television Theory N2 and N3 Refrigeration Trade Theory N3 Welders' Theory N2
	<p>Mistakes identified by moderators and/or examination assistants were clearly indicated in 23 instructional offerings (92%), an 8% decrease from 100% in the April 2023 examination.</p>	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Industrial Orientation N2 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Refrigeration Trade Theory N3 Welders' Theory N2
	<p>Marks were transferred correctly (without any mistakes) to the cover page in 23 (92%) instructional offerings, a 2% decrease from 94% in the April 2023 examination.</p>	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Industrial Orientation N2

Criteria	Findings	Instructional offerings
		Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Refrigeration Trade Theory N3 Welders' Theory N2
	Marks were transferred correctly (without any mistakes) to the marksheet in 22 (88%) instructional offerings, a 6% decrease from 94% in the April 2023 examination.	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Orientation N2 Logic System N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Radio and Television Theory N2 and N3 Refrigeration Trade Theory N3 Welders' Theory N2
	The markers in 22 (88%) instructional offerings recorded notes throughout the marking, a 6% decrease from 94% in the April 2023 examination.	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3

Criteria	Findings	Instructional offerings
		Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Refrigeration Trade Theory N3 Welders' Theory N2
Control	<p>The markers for all instructional offerings (100%) indicated their code/name in red ink on the cover page of the scripts, similar to the April 2023 examination.</p>	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Industrial Orientation N2 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Radio and Television Theory N2 and N3 Refrigeration Trade Theory N3 Welders' Theory N2
	<p>The chief markers for 22 instructional offerings (88%) wrote their names clearly on the moderated scripts, a 12% decrease from 100% in the April 2023 examination.</p>	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Industrial Orientation N2 Instrument Trade Theory N3 Logic System N2 Mathematics N2

Criteria	Findings	Instructional offerings
		Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Refrigeration Trade Theory N3 Welders' Theory N2
	<p>The examination assistants for 21 (84%) instructional offerings clearly wrote their initials/signatures on checked scripts, a 16% decrease from 100% in the April 2023 examination.</p>	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Industrial Orientation N2 Instrument Trade Theory N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Refrigeration Trade Theory N3 Welders' Theory N2
Internal moderation	<p>Moderation of scripts throughout the marking process was evident in 22 (88%) sampled instructional offerings, a 12% decrease from 100% in the April 2023 examination.</p>	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2

Criteria	Findings	Instructional offerings
		Radio and Television Theory N2 and N3 Welders' Theory N2
	The moderation of scripts was not conducted in three (12%) instructional offerings.	Industrial Orientation N2 Motor Electrical theoryN2 Refrigeration Trade Theory N3
	The scripts from all examination centres were moderated in 17 (68%) instructional offerings, a 32% decrease from 100% in the April 2023 examination.	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Diesel Trade Theory N2 Electrical Trade Theory N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Radio and Television Theory N3 Welders' Theory N2
	A whole script moderation approach was adopted for 19 (76%) internally moderated instructional offerings, a 13% increase from 63% In the April 2023 examination.	Building Drawing N2 and N3 Building Science N3 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Radio and Television Theory N2 and N3 Welders' Theory N2
	A question-marking moderation approach was adopted during the internal moderation process in three (12%) instructional offerings, a 19%	Carpentry and Roof Work N2 Electrical Trade Theory N3 Plumbing Theory N2

Criteria	Findings	Instructional offerings
	decrease from 31% in the April 2023 examination.	
	The standard of moderation was rated as good for 18 (72%) instructional offerings, a 16% decrease from 88% in the April 2023 examination.	Building and Civil Technology N3 Building Drawing N2 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Radio and Television Theory N3 Welders' Theory N2
	The standard of moderation was considered average in four instructional offerings (16%), a 4% decrease from 12% in the April 2023 examination.	Building Drawing N3 Electrical Trade Theory N2 and N3 Radio and Television Theory N2
Performance of candidates	In four (16%) instructional offerings, the performance of the candidates was good.	Electrical Trade Theory N3 Industrial Organisation and Planning N3 Plating and Structural Steel Drawing N2 and N3
	In 17 (68%) instructional offerings, the performance of the candidates was average.	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 Engineering Drawing N2 Industrial Orientation N2 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Motor Electrical Theory N2 Plumbing Theory N2 Radio and Television Theory N2

Criteria	Findings	Instructional offerings
		Refrigeration Trade Theory N3 Welders' Theory N2
	In four (16%) of the sampled instructional offerings, the performance of the candidates was below average.	Engineering Science N3 Mechanotechnology N3 Motor Trade Theory N2 Radio and Television Theory N3
Performance per centre	Sixteen (64%) instructional offerings had centres that performed excellently.	Building Drawing N2 and N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Industrial Orientation N2 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Plating and Structural Steel Drawing N2 and N3 Radio and Television Theory N2 Refrigeration Trade Theory N3 Welders' Theory N2
	Twenty-one (84%) instructional offerings had centres where candidates struggled with their performance.	Building Drawing N2 and N3 Building Drawing N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Electrical Trade Theory N3 Industrial Orientation N2 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plating and Structural Steel Drawing N3 Plumbing Theory N2 Radio and Television Theory N2 and N3 Radio and Television Theory N3 Refrigeration Trade Theory N3 Welders' Theory N2

Criteria	Findings	Instructional offerings
Unfair questions	All (100%) instructional offerings did not include questions that were considered beyond the level of the syllabus, inaccurate, or unfair in the question paper.	Building and Civil Technology N3 Building Drawing N2 and N3 Building Science N3 Carpentry and Roof Work N2 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Engineering Science N3 Industrial Organisation and Planning N3 Industrial Orientation N2 Instrument Trade Theory N3 Logic System N2 Mathematics N2 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Radio and Television Theory N2 and N3 Radio and Television Theory N3 Refrigeration Trade Theory N3 Welders' Theory N2
Handling of irregularities	Irregularities were reported in 16 (64%) instructional offerings, an 8% increase from the 56% reported in the April 2023 examination.	Building and Civil Technology N3 Building Science N3 Diesel Trade Theory N2 Electrical Trade Theory N2 and N3 Engineering Drawing N2 Industrial Organisation and Planning N3 Instrument Trade Theory N3 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3 Plumbing Theory N2 Radio and Television Theory N3 Refrigeration Trade Theory N3 Welders' Theory N2
	One (4%) instructional offering had scripts that were not stamped.	Industrial Orientation N2

Criteria	Findings	Instructional offerings
	One (4%) instructional offering did not have an absenteeism form inserted in the batch.	Mechanotechnology N3
	All (100%) instructional offerings had attendance registers signed by the candidates as proof of examination attendance.	All instructional offerings
General comments	The external moderators raised concern in three sampled instructional offerings about the chief markers allocated to mark several instructional offerings and not focus on one instructional offering.	Motor Trade Theory N2 Radio and Television Theory N2 and N3
	The external moderator in one of the sampled instructional offerings suggested that the Umalusi moderation should take place after the marking is completed.	Mechanotechnology N3
	The external moderator in one of the sampled instructional offerings raised concern about some batches that were not moderated at the marking centres.	Engineering Science N3

6.4 Areas of Improvement

The findings of the April 2024 NATED Report 190/191 Engineering Studies N2-N3 examination verification of marking revealed the following areas of improvement:

- a. Sixteen percent improvement in the delivery of the scripts to marking centres from the April 2023 examination;
- b. The prescribed procedure for the recording of marks on the front page of the script was followed in 25 (100%) instructional offerings, a 12% increase from 88% in the April 2023 examination; and
- c. All (100%) instructional offerings did not include questions that were deemed to be beyond the level of the syllabus, inaccurate, or unfair in the question paper.

6.5 Areas of Non-Compliance

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

- a. The training of markers decrease by 8% to 92% from 100% in the 2023 April examination;
- b. The marking of sampling scripts decrease by 12% to 88% from 100% in the April 2023 examination;
- c. Adherence to sample marking guidelines decreased by 6% to 88% from 94% in the April 2023 examination;
- d. Adherence to marking guidelines during formal marking was considered poor in 8% of the sampled instructional, offering an 8% decrease from 0% in the April 2023 examination;
- e. The standard of marking decreased by 4% to 84% from 88% in the April 2023 examination;
- f. Eight percent of the instructional offerings had mistakes on the marks transferred to the cover page of the scripts, a 2% decrease from 6% in the April 2023 examination;
- g. Twelve percent of the instructional offerings had mistakes on the marks transferred to the mark sheet of the scripts, a 6% decrease from 6% in the April 2023 examination;
- h. The moderation of scripts was not conducted in three (12%) instructional offerings;
- i. The scripts moderated from all examination centres decreased by 32% compared to the April 2023 examination;
- j. The standard of moderation decreased by 12% to 88% from 100% in the April 2023 examination; and
- k. Irregularities were reported in 16 instructional offerings (64%), an 8% increase from the 56% reported in the April 2023 examination.

6.6 Directives for Compliance and Improvement

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

- a. Ensure that markers for all instructional offerings mark the sampled scripts from different examination centres before commencing with the marking process;
- b. Ensure that markers, internal moderators, and chief markers thoroughly adhere to marking guidelines;
- c. Ensure that all subjects are moderated regardless of the number of the scripts;
- d. Improve training in administrative duties for markers, internal moderators, and examination assistants to avoid administrative omissions; and
- e. Improve training of markers to ensure that all moderators and markers maintain high marking and moderation standards.

6.7 Conclusion

The marking of scripts for the April 2024 NATED Report 190/191 Engineering Studies N2-N3 examination was largely conducted with fairness and consistency. However, Umalusi is concerned about the decline in marking and internal moderation standards. The marking standard decreased by 4% to 84% from 88% in the April 2023 examination, and the internal moderation standard declined by 16% to 72% from 88% in the April 2023 examination. The lack of moderation in the three sampled instructional offerings is a significant concern for Umalusi.

CHAPTER 7 STANDARDISATION AND VERIFICATION OF RESULTS

7.1 Introduction

Standardisation is a process 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 the student's ability and knowledge. In general, variability may occur because of the standard of question papers, marking quality, 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 the verification of subject structures, mark capturing, and the computer system used by an assessment body. It also involves developing and verifying norms and producing standardisation booklets to prepare 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

In preparation for the April 2024 NATED Report 190/191 Engineering Studies N2–N3 standardisation and resulting processes, the Department of Higher Education (DHET) developed and submitted the historical averages (norms), standardisation datasets, and the standardisation booklet for approval. In turn, Umalusi processed, verified, and approved the norms, standardisation datasets, and booklets. During the pre-standardisation meeting, the Assessment Standards Committee (ASC) was guided by many factors, including the quantitative data and qualitative inputs, to reach the standardisation decisions. After the standardisation meeting, the DHET submitted the final adjustments, statistical moderation, and candidates' resulting files for verification and eventual approval.

7.3 Summary of Findings

The following section presents the most important results and decisions reached prior to, during, and post the standardisation meetings.

7.3.1 Development of Historical Averages (Norms)

The historical averages (norms) for the NATED Report 190/191 Engineering Studies N2–N3 examinations were developed from the previous six examination sittings for the

April 2024 standardisation process. Once that was done, in accordance with policy requirements, the DHET submitted the norms to Umalusi for verification and approval. Analysis of the historical datasets showed six subjects with outlier years for the April 2024 NATED Report 190/191 Engineering Studies N2–N3 examinations. Therefore, based on the principle of exclusion, the outlier years were excluded from the norm calculation. Table 7A below shows subjects with outliers for the April 2024 examinations:

Table 7A: Subjects with outliers for the April 2024 NATED N2–N3

Level	Code	Subjects	Outlier year
NQF 2	8080262	Logic systems	202211
	11010102	Bricklaying and Plastering Theory	202304
	11040572	Motor Bodywork Theory	202111 202208
	11041852	Rigging Theory	202111
NQF 3	11040843	Radio and Television Theory	202211
	11040873	Radio Theory	202211

7.3.2 Electronic Datasets and Standardisation Booklets

The standardisation datasets and electronic booklets for the NATED Report 190/191 Engineering Studies N2–N3 examinations submitted by the DHET adhered to the requirements articulated in the Requirements and Specifications for Standardisation, Statistical Moderation, and Resulting Guideline document. The standardisation datasets and the electronic booklet were verified and eventually approved.

7.3.3 Pre-Standardisation and Standardisation

The pre-standardisation and standardisation meetings for the NATED Report 190/191 Engineering Studies N2–N3 examinations were held on 09 May 2024. Many factors, including qualitative and quantitative data, guided the ASC decision-making process. The qualitative input included issues emanating from the moderation of question papers, marking guideline discussions, and the marking process focusing on issues that might unfairly advantage or disadvantage candidates. Quantitative inputs included guiding historical averages (norms) and pairs analysis. All evidence was considered based on the standardisation principles. The April 2024 NATED Report 190/191 Engineering Studies N2–N3 examinations standardisation decisions are listed in Table 7B below:

Table 7B: List of standardisation decisions for the April 2024 N2–N3

Description	Total
Number of subjects presented	56
Raw marks	29
Adjusted (mainly upwards)	22
Adjusted (downwards)	5
Unstandardised	0
Number of subjects standardised	56

During the standardisation meeting, the Assessment Standards Committee (ASC) observed a decline in the number of enrolments for the NATED Report 190/191 Engineering Studies N2–N3 examinations. Once Umalusi was satisfied with the reliability of the information presented, all the subjects presented were standardised. Umalusi accepted the raw marks for 29 of the 56 subjects, while five subjects were adjusted mainly downwards, and 22 were adjusted mainly upwards.

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 for approval. Subsequently, the datasets were verified and approved. The DHET then submitted the statistical moderation and resulting datasets to Umalusi for verification. Umalusi duly approved the datasets.

7.4 Area of Improvement

The DHET complied with the following area of improvement:

- a. Timeous submission of the standardisation datasets.

7.5 Areas of Non-Compliance

None.

7.6 Directives for Compliance

None.

7.7 Conclusion

The process to standardise the NATED Report 190/191 Engineering Studies N2–N3 examination results was rigorous. Decisions regarding whether to accept raw marks or

make adjustments were made in accordance with the approved standardisation principles, ensuring fairness, transparency, and reliability.



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