REPORT ON THE QUALITY ASSURANCE OF THE APRIL 2023 NATED REPORT 190/191 ENGINEERING STUDIES N2–N3 EXAMINATION

UMALUSI

Quality Council for General and Further Education and Training

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PUBLISHED BY

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Quality Council for General and Further Education and Training

37 General van Ryneveld Street, Persequor Park, Pretoria
Telephone: +27 12 349 1510 • info@umalusi.org.za

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INTRODUCTION AND BACKGROUND

The NATED Report 190/191: Engineering Studies N2 and N3 examinations are managed and administered by the Department of Higher Education and Training (DHET) on a trimester basis in April, August and November of each year. Programmes for these examinations are offered by public Technical and Vocational Education and Training (TVET) Colleges, private Further Education and Training Colleges, some correctional services centres and a few schools.

As a quality council, Umalusi is mandated by the National Qualifications Framework (NQF) and General and Further Education and Training Quality Assurance (GENFETQA) Acts to develop and implement policy and criteria for assessment of the qualifications on its sub-framework. The NATED Report 190/191 Engineering Studies N1–N3 is registered by 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.

Therefore, Umalusi has a mandate to ensure that the NATED Report 190/191 Engineering Studies N2–N3 examinations conducted each trimester are fair, valid and reliable. To perform this function, it is required to ensure that the quality and standard of all the assessment practices associated with the NATED Report 190/191 Engineering Studies N2–N3 examinations are set and maintained.

All the question papers for the April 2023 examinations were set nationally by the DHET and moderated externally by Umalusi. The DHET distributed question papers via courier services 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 drawing subjects were written during the first week of the examination session. All the April 2023 examinations were written during the morning session, starting at 09:00.

The DHET mandated the marking centre management staff of the national and provincial marking centres to make use of the marking personnel who had performed well to fulfil the same functions during the April 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

on-line, after which they were distributed electronically to the marking centres. As in previous examinations, the April 2023 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 beyond the borders of South Africa.

As reported in the past, the execution of the NATED Report 190/191: Engineering Studies N2–N3 programmes and examinations presents several challenges, including, but not limited to:

a. Outdated syllabi;
b. No requirements for experience of practical components for the development of skills;
c. Lack of capacity for effective tuition; and
d. High percentages of candidates who register but do not write the examinations.

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

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

a. Moderation of question papers from a sample of N2 and N3 instructional offerings;
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.

ACRONYMS AND ABBREVIATIONS

ASC	Assessment Standards Committee
CBD	Central Business District
DHET	Department of Higher Education and Training
EC	Eastern Cape Province
FET	Further Education and Training
FS	Free State Province
GP	Gauteng Province
GFETQSF	General and Further Education and Training Qualifications Sub-framework
GENFETQA	General and Further Education and Training Quality Assurance
ID	Identity Document
ICASS	Internal Continuous Assessment
KZN	KwaZulu-Natal Province
LP	Limpopo Province
MP	Mpumalanga Province
NQF	National Qualifications Framework
NW	North West Province
NC	Northern Cape Province
OHS	Occupational Health and Safety
PoA	Portfolio of Assessment (lecturer portfolio)
PoE	Portfolio of Evidence (student 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 Province
Umalusi	Council for Quality Assurance in General and Further Education and Training

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CHAPTER 1
MODERATION OF QUESTION PAPERS

1.1 Introduction

Umalusi conducts the 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 element of the quality assurance of assessment processes. External moderation confirms that the question papers have been developed with rigour and that they comply with Umalusi's criteria and the curriculum and assessment policy documents of the assessment body.

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

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

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

1.2 Scope and Approach

The DHET administered a total of 55 instructional offerings for the April 2023 NATED Report 190/191: Engineering Studies N2–N3 examinations. Umalusi moderated and approved a sample of 50 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 with which to appraise the cognitive demand and weighting of the topics in the various syllabi and evaluated the question papers according to specified criteria. Umalusi moderated and signed off question papers between 1 December 2022 and 18 March 2023.

Table 1A lists 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
Bricklaying and Plastering Theory	N2
Building Science	N2 and N3
Carpentry and Roofing Theory	N2
Diesel Trade Theory	N2 and N3
Electrical Trade Theory	N2 and N3
Electrotechnology	N3
Engineering Drawing	N2 and N3
Engineering Science	N2 and N3
Fitting and Machining Theory	N2
Industrial Electronics	N2 and N3
Industrial Organisation and Planning	N3
Industrial Orientation	N2 and N3
Instrument Trade Theory	N2 and N3
Logic Systems	N2 and N3
Mathematics	N2 and N3
Mechanotechnology	N3
Motor Electrical Theory	N2
Motor Trade Theory	N2 and N3
Plant Operation Theory	N2 and N3
Platers' Theory	N2
Plating and Structural Steel Drawing	N2 and N3
Plumbing Theory	N2
Radio Theory	N2 and N3
Radio and Television Theory	N2 and N3
Refrigeration Trade Theory	N2 and N3
Supervision in Industry	N3
Waste-water Treatment Practice	N3
Water and Waste-water Treatment Practice	N2
Water Treatment Practice	N3
Welders' Theory	N2

Table 1B indicates the number and percentage of instructional offerings moderated by Umalusi per level.

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	30*	25	83%
N3	25*	25	100%
Total	**55**	**50**	**90%**

*According to the DHET 2023 examination timetable

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

a. Technical aspects related to the presentation of 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 and correct use of grammar in question papers and marking guidelines, and content that is free from bias;
i. Degree of predictability of questions, and of innovation in question papers; and
j. An overall evaluation of question papers and their suitability for the level assessed.

1.3 Summary of Findings

Table 1C indicates the findings of the preliminary moderation of the 50 sampled question papers:

Table 1C: Approval status of NATED Report 190/191 Engineering Studies question papers after preliminary moderation

April 2023 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	25	5	19	1
N3	25	10	14	1
Total	**50**	**15**	**33**	**2**

Figure 1A provides a summary of the findings after first moderation of the question papers and their marking guidelines, as captured in external moderators' reports.

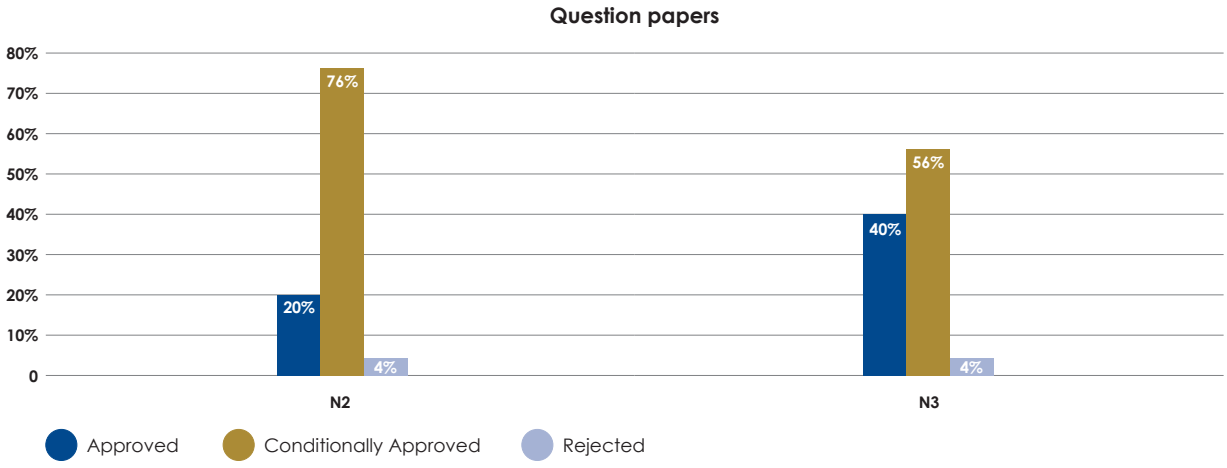

Figure 1A: Approval status of the NATED Report 190/191: Engineering Studies question papers and marking guidelines after first moderation

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

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 for 42% of the question papers were not submitted, a rise from 14% in the April 2021 examination.	Aircraft Maintenance Theory N3 Diesel Trade Theory N3 Engineering Drawing N3 Engineering Science N2 Industrial Orientation N2 and N3 Instrument Trade Theory N2 and N3 Mathematics N3 Mechanotechnology N3 Motor Electrical Theory N2 Motor Trade Theory N3 Plant Operation Theory N3 Platers' Theory N2 Plating and Structural Steel Drawing N3 Radio Theory N2 Radio and Television Theory N2 Refrigeration Trade Theory N3 Supervision in Industry N3 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3 Welder's Theory N2
Layout of the question paper	Cover pages of 10% of the question papers did not include all relevant details, such as logo, name of instructional offering, time allocation, number of pages and additional information, an increase from 9% in the April 2021 examination.	Aircraft Maintenance Theory N3 Engineering Drawing N2 and N3 Mathematics N3 Motor Electrical Theory N2 Water Treatment Practice N3
Instructions to candidates	In 4% of the question papers the instructions to candidates were ambiguous and not clearly stated according to DHET specifications.	Engineering Science N2 Plating and Structural Steel Drawing N3
Numbering of questions	The questions in 2% of the question papers were not correctly numbered, compared to 5% in the April 2021 NATED examination.	Logic Systems N2

Criterion	Challenges	Instructional offering
Technical criteria (continued)		
Header and footer	In 4% of the question papers, the headers and footers on each page were inconsistent and did not adhere to the required format. This was an improvement from 7% in the April 2021 examination.	Mathematics N3 Motor Electrical Theory N2
Font type and size	In 4% of the question papers, the font was not consistent throughout the paper. This was also the case in the April 2021 examination.	Mathematics N3 Motor Electrical Theory N2
Mark and time allocation	In 4% of the question papers, the mark allocations were not clearly indicated. This was the case in 7% of the question papers in the April 2021 examination.	Mathematics N3 Refrigeration Trade Theory N3
	In 2% of the question papers, the mark allocation on the question paper differed from the allocation in the marking guidelines; in the April 2021 examination this occurred in 14% of question papers .	Industrial Orientation N2
Quality of graphics and illustrations	The quality of illustrations, graphs and tables was poor, were not clear, contained errors and were not print-ready in 10% of question papers, compared to 19% of question papers in the April 2021 examination.	Engineering Drawing N3 Industrial Electronics N2 Mathematics N3 Plating and Structural Steel Drawing N3 Refrigeration Trade Theory N3
Format requirements to the syllabus	In 2% of the question papers, the format requirements of the syllabus were not adhered to, an improvement from 6% in the April 2021 examination.	Industrial Electronics N2
Internal moderation		
Internal moderators' reports correspond to the question paper	The internal moderator reports for 44% of the question papers did not correspond to the question papers; this was an increase from 25% in the April 2021 examination.	Building Drawing N2 Carpentry and Roofing Theory N2 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Industrial Organisation and Planning N3 Industrial Orientation N2 Industrial Orientation N3 Instrument Trade Theory N3

Criterion	Challenges	Instructional offering
Internal moderation (continued)		
Internal moderators' reports correspond to the question paper (continued)		Mathematics N2 Mathematics N3 Mechanotechnology N3 Motor Trade Theory N3 Platers' Theory N2 Plating and Structural Steel Drawing N3 Radio and Television Theory N3 Refrigeration Trade Theory N3 Supervision in Industry N3 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3 Welder's Theory N2
Quality and standard of internal moderation report	The internal moderator reports for 40% of the question papers were incomplete: they did not include contact details of the examiner or internal moderator, the analysis grid, an evaluation of the paper in terms of specified criteria or the approval status of the question paper and marking guideline. However, this was an improvement when compared to 25% in the April 2021 examination.	Building Science N2 Engineering Drawing N3 Industrial Electronics N2 Industrial Orientation N2 and N3 Instrument Trade Theory N3 Mathematics N2 and N3 Mechanotechnology N3 Motor Trade Theory N2 Motor Trade Theory N3 Platers' Theory N2 Plating and Structural Steel Drawing N3 Radio and Television Theory N2 Refrigeration Trade Theory N3 Supervision in Industry N3 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3 Welder's Theory N2
	The internal moderation reports for 44% of the question papers were not of the required standard, compared to 25% in the April 2021 examination.	Building Drawing N2 and N3 Fitting and Machining Theory N2 Industrial Electronics N2 Industrial Organisation and Planning N3 Industrial Orientation N2 and N3 Instrument Trade Theory N2 and N3 Mathematics N2 and N3 Mechanotechnology N3 Motor Trade Theory N3 Platers' Theory N2 Plating and Structural Steel Drawing N3 Radio and Television Theory N2 and N3

Criterion	Challenges	Instructional offering
Internal moderation (continued)		
Quality and standard of internal moderation report (continued)		Refrigeration Trade Theory N3 Supervision in Industry N3 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3 Welder's Theory N2
	The internal moderation reports for 42% of the question papers were not entirely relevant. This was an increase from 25% in the April 2021 examination.	Building Drawing N2 Engineering Drawing N3 Fitting and Machining Theory N2 Industrial Electronics N2 Industrial Organisation and Planning N3 Industrial Orientation N2 and N3 Instrument Trade Theory N2 and N3 Mathematics N2 and N3 Mechanotechnology N3 Motor Trade Theory N3 Platers' Theory N2 Plating and Structural Steel Drawing N3 Radio and Television Theory N2 and N3 Refrigeration Trade Theory N3 Supervision in Industry N3 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3 Welder's Theory N2
Content coverage		
Coverage of the syllabus	The syllabus was not covered adequately in 16% of the question papers, compared to 8% in the April 2021 examination.	Engineering Drawing N2 Industrial Electronics N2 Mathematics N2 and N3 Plant Operation Theory N3 Plating and Structural Steel Drawing N2 Radio and Television Theory N2 Water Treatment Practice N3
	In 20% of the question papers, the questions did not correspond to the prescribed weightings of the topics. This was an increase from 9% in the April 2021 examination.	Engineering Drawing N2 Fitting and Machining Theory N2 Mathematics N3 Mechanotechnology N3 Plating and Structural Steel Drawing N2 and N3 Radio and Television Theory N2 Refrigeration Trade Theory N2 and N3 Water Treatment Practice N3

Criterion	Challenges	Instructional offering
Content coverage (continued)		
Coverage of the syllabus (continued)	In 10% of the question papers, the topics were not spread appropriately, an increase from 7% in the April 2021 examination.	Industrial Electronics N2 Mathematics N3 Plating and Structural Steel Drawing N2 Radio and Television Theory N2 Refrigeration Trade Theory N3
	The questions in 16% of the question papers did not reflect the latest developments in the respective instructional offerings. This was the case in 10% of question papers in the April 2021 examination.	Aircraft Maintenance Theory N3 Building Drawing N2 Carpentry and Roof Work N2 Engineering Drawing N2 Industrial Organisation and Planning N3 Motor Electrical Theory N2 Plant Operation Theory N3 Radio and Television Theory N2
Types and quality of questions		
Types of questions	Six percent of the question papers did not contain several types of questions, e.g. multiple-choice, paragraph, data/source-based response, essay, real-life scenario and real-life problem-solving questions, a slight increase from 5% in the April 2021.	Carpentry and Roof Work N2 Logic Systems N2 Plant Operation Theory N3
	There was no correlation between mark allocation and level of difficulty, and time allocation in 14% of the question papers, compared to 18% in the April 2021 examination.	Electro-technology N3 Engineering Drawing N2 Engineering Drawing N3 Fitting and Machining Theory N2 Mathematics N3 Plant Operation Theory N3 Radio and Television Theory N2
Quality of questions	In four percent of the question papers the questions were not pertinent to the instructional offerings. This was the same percentage as in the April 2021 examination.	Motor Electrical Theory N2 Radio and Television Theory N2
	In 14% of the question papers, some questions contained vaguely defined problems, ambiguous wording, extraneous or irrelevant information, trivia and unintentional clues to the correct answers, a decrease from 19% in the April 2021 examination.	Fitting and Machining Theory N2 Mathematics N3 Plant Operation Theory N3 Radio and Television Theory N2 Refrigeration Trade Theory N3 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2

Criterion	Challenges	Instructional offering
Types and quality of questions (continued)		
Quality of questions (continued)	In 8% of the question papers, questions did not include clear instructional key words/verbs, compared to 10% in the April 2021 examination.	Carpentry and Roof Work N2 Plumbing Theory N2 Radio and Television Theory N3 Water and Waste-water Treatment Practice N2
	Questions in 14% of the question papers did not contain sufficient information to elicit appropriate responses, a decrease from 25% in the April 2021 examination.	Carpentry and Roof Work N2 Mathematics N3 Plant Operation Theory N3 Plumbing Theory N2 Refrigeration Trade Theory N3 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2
	In 6% of the question papers, some questions contained factual errors or misleading information, a drop from 14% in the April 2021 examination.	Mathematics N3 Radio and Television Theory N2 Refrigeration Trade Theory N3
Cognitive skills		
Analysis grid	The analysis grid for 46% of the question papers did not show the cognitive level of each question/ sub-question, an increase from 32% in the April 2021 examination.	Engineering Drawing N3 Engineering Science N3 Fitting and Machining Theory N2 Industrial Electronics N2 Industrial Organisation and Planning N3 Industrial Orientation N2 Industrial Orientation N3 Instrument Trade Theory N2 Instrument Trade Theory N3 Mathematics N2 Mathematics N3 Mechanotechnology N3 Motor Trade Theory N3 Plant Operation Theory N3 Platers' Theory N2 Plating and Structural Steel Drawing N2 Plating and Structural Steel Drawing N3 Radio and Television Theory N2 Refrigeration Trade Theory N3 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3 Welder's Theory N2

Criterion	Challenges	Instructional offering
Cognitive skills (continued)		
Analysis grid (continued)	The distribution of cognitive levels (Bloom's taxonomy or other taxonomy that may have been used) was not appropriate in 22% of the question papers, a rise from 12% in the April 2021 examination.	Carpentry and Roof Work N2 Diesel Trade Theory N3 Electrotechnology N3 Fitting and Machining Theory N2 Industrial Electronics N2 Industrial Organisation and Planning N3 Industrial Orientation N2 and N3 Instrument Trade Theory N2 and N3 Mathematics N2 and N3 Mechanotechnology N3 Motor Trade Theory N3 Plant Operation Theory N3 Platers' Theory N2 Plating and Structural Steel Drawing N2 and N3 Radio and Television Theory N2 Refrigeration Trade Theory N3 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3 Welder's Theory N2
	In 22% of the question papers, the choice questions were not from equivalent levels of difficulty/ standard.	Carpentry and Roof Work N2 Fitting and Machining Theory N2 Industrial Orientation N2 and N3 Instrument Trade Theory N2 Mathematics N3 Plating and Structural Steel Drawing N2 Radio and Television Theory N2 Refrigeration Trade Theory N3 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3
Assessment of latest developments	In 14% of the question papers, questions did not reflect the latest developments in the teaching of the knowledge field. This was an increase from 12% in the April 2021 examination.	Aircraft Maintenance Theory N3 Carpentry and Roof Work N2 Industrial Organisation and Planning N3 Motor Electrical Theory N2 Plant Operation Theory N3 Radio and Television Theory N2 Waste-water Treatment Practice N3

Criterion	Challenges	Instructional offering
Marking guideline		
Accuracy of marking guidelines	Four percent of the marking guidelines did not correspond to the questions in the question papers, compared to 18% in the April 2021 examination.	Industrial Orientation N2 Plating and Structural Steel Drawing N3 Water and Waste-water Treatment Practice N2
	In 32% of the marking guidelines, some answers were inaccurate, compared to 42% in the April 2021 examination.	Building Science N2 and N3 Engineering Drawing N2 and N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Industrial Orientation N2 Logic Systems N3 Mathematics N3 Radio and Television Theory N2 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3
	Twenty-two percent of the marking guidelines did not allow for alternative responses where applicable, an improvement from 27% in the April 2021 examination.	Building Science N2 and N3 Engineering Science N2 Industrial Electronics N2 Industrial Orientation N2 Logic Systems N2 Motor Electrical Theory N2 Plant Operation Theory N3 Refrigeration Trade Theory N3 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2
Mark allocation	In 8% of the marking guidelines, the mark allocations on the marking guidelines did not correspond to those on the question papers. This was an increase from 2% in the April 2021 examination.	Engineering Drawing N2 and N3 Industrial Orientation N2 Radio and Television Theory N3
	There were inconsistencies in mark allocation and mark distribution in all questions in 12% of the marking guidelines, a drop from 14% in the April 2021 examination.	Industrial Electronics N2 Industrial Orientation N2 Instrument Trade Theory N3 Mathematics N3 Radio Theory N3 Refrigeration Trade Theory N3

Criterion	Challenges	Instructional offering
Marking guideline (continued)		
Prescribed macros	Two percent of the marking guidelines were not laid out according to the prescribed macros.	Industrial Orientation N2
Predictability		
Grammar	In 4% of the question papers, subject terminology/data were used incorrectly.	Fitting and Machining Theory N2 Plumbing Theory N2
	The language register/level and complexity of vocabulary were not appropriate to the level of the candidates in 9% of the question papers. This was also the case in the April 2021 examination.	Bricklaying and Plastering Theory N2 Engineering Drawing N2 Industrial Electronics N2
	In 14% of the question papers, the language contained complexities that might have created confusion among candidates.	Carpentry and Roof Work N2 Fitting and Machining Theory N2 Industrial Electronics N2 Plumbing Theory N2 Radio and Television Theory N2 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2
	There were grammatical errors in 14% of the question papers.	Industrial Electronics N2 Plumbing Theory N2 Radio and Television Theory N2 Supervision in Industry N3 Waste-water Treatment Practice N3 Water and Waste-water Treatment Practice N2 Water Treatment Practice N3
Repetition of questions from previous examinations	Some questions in 14% of the question papers could easily have been spotted or predicted. This was the same percentage as in the April 2021 examination.	Carpentry and Roof Work N2 Engineering Drawing N2 Logic Systems N2 and N3 Mathematics N3 Plant Operation Theory N3 Radio and Television Theory N2
	Twelve percent of the question papers contained questions from examination question papers from the past three years. This was the same percentage as in the April 2021 examination.	Building Drawing N2 Carpentry and Roof Work N2 Logic Systems N2 and N3 Plant Operation Theory N3 Radio and Television Theory N2

Criterion	Challenges	Instructional offering
Predictability (continued)		
Innovation	Twelve percent of the question papers lacked an appropriate degree of originality, compared to 9% in the April 2021 examination.	Engineering Drawing N2 Logic Systems N2 and N3 Mathematics N3 Plant Operation Theory N3 Radio and Television Theory N2
Overall impression		
Standard of question papers	Eight percent of the question papers were not in line with the current syllabus, an improvement from 10% in the April 2021 examination.	Fitting and Machining Theory N2 Industrial Electronics N2 Motor Trade Theory N3 Plating and Structural Steel Drawing N2
	The outcomes of the curriculum/ syllabus were not assessed in 10% of the question papers. The percentage in the April 2021 examination was 5%.	Industrial Electronics N2 Mathematics N3 Motor Trade Theory N3 Plant Operation Theory N3 Plating and Structural Steel Drawing N2
	The standard of 22% of the question papers was not adequate, an increase from 16% in the April 2021 examination.	Carpentry and Roof Work N2 Engineering Drawing N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N3 Mathematics N3 Motor Trade Theory N3 Plant Operation Theory N3 Plating and Structural Steel Drawing N2 Radio and Television Theory N2 Water and Waste-water Treatment Practice N2
	Fourteen percent of the question papers did not compare favourably with those from previous years. The percentage in the April 2021 examination was also 14%.	Carpentry and Roof Work N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N3 Mathematics N3 Plant Operation Theory N3 Plating and Structural Steel Drawing N2
	The assessment of skills, knowledge, attitudes, values and reasoning was not balanced in 2% of the question papers. This also the proportion in the April 2021 examination.	Electrotechnology N3 Logic Systems N2 Mathematics N3 Motor Trade Theory N3

1.4 Areas of Improvement

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

a. The examiner and/or internal moderator of the following question papers were acknowledged by the external moderator and commended for their efforts. The following question papers were of a good standard:
   i. Building Drawing N3;
   ii. Building and Civil Technology N3;
   iii. Aircraft Maintenance Theory N3;
   iv. Bricklaying and Plastering Theory N2;
   v. Electrical Trade Theory N2;
   vi. Industrial Electronics N3;
   vii. Platers' Theory N2;
   viii. Radio Theory N2 and N3; and
   ix. Water Treatment Practice N3.

1.5 Areas of Non-compliance

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

a. The internal moderation report for 42% of the question papers was not submitted;
b. The internal moderator reports for 44% of the question papers did not correspond to the question papers, an increase from 25% in the April 2021 examination;
c. In 40% of the question papers, the internal moderator report was incomplete (the report lacked the contact details of the examiner and internal moderator, the analysis grid, an evaluation of the paper in terms of specified criteria and the approval status of the question paper and marking guideline);
d. The internal moderation reports for 30% of the question papers were not up to standard and the internal moderation reports for 44% were not relevant;
e. In 54% of the question papers, the analysis grid did not indicate the cognitive level of each question/sub-question;
f. Answers in 32% of the marking guidelines were not accurate;
g. In 20% of the question papers, questions did not correspond to the prescribed weightings of topics;
h. Distribution of cognitive levels was inappropriate in 22% of the question papers; and
i. Twenty-two percent of the marking guidelines did not allow for alternative responses.

1.6 Directives for Compliance and Improvement

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

The DHET must ensure that:

a. Question papers presented for external moderation are accompanied by all necessary supporting documents;
b. Internal moderation is conducted thoroughly, with the aim of improving the quality and standard of question papers; and
c. Marking guidelines are error free and the allocation of marks within questions is clearly indicated.

1.7 Conclusion

Poor quality or the absence of internal moderation, inaccurate marking guidelines and analysis grids were once again common in this examination cycle. It is important that examiners and moderators adhere strictly to mandatory procedures and ensure that question papers of good quality are produced.

After the initial moderation, 30% of the question papers were approved, 66% were conditionally approved and 4% required resetting. Two question papers had to be reset because they were identical to question papers from previous examinations. It is very important that the assessment framework is compiled correctly as it serves as the foundation on which the question paper is constructed.

CHAPTER 2
MODERATION OF THE CONDUCT OF INTERNAL CONTINUOUS ASSESSMENT

2.1 Introduction

Umalusi has moderated and monitored the internal assessments of selected NATED Report 190/191: Engineering Studies N2–N3 instructional offerings since 2012.

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 efficiently 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 the ICASS;
iv. Highlight areas of improvement and those requiring improvement; and
v. Make recommendations to enhance the quality of internal assessment.

2.2 Scope and Approach

External moderators from Umalusi were deployed to seven of the nine provinces between 27 and 31 March 2023 to moderate the ICASS of N2 and N3 students' and lecturers' portfolios from a sample of NATED Report 190/191 instructional offerings. The external moderators drafted reports on their findings at the sampled sites. Forty-nine instructional offerings, compared to 20 in April 2021, were moderated at 39 sites of 17 public TVET, 14 private FET colleges and one correctional service centre (compared to 10 public TVET and 10 private centres in April 2021).

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

Table 2A: Moderation of Report 190/191 internal continuous assessment (ICASS)

No.	Instructional Offering	TVET/FET College	Site	Province
1	Aircraft Maintenance Theory N2	Tshwane South TVET College	Centurion Campus	GP
2	Aircraft Maintenance Theory N3	Ekurhuleni West TVET College	Kempton Campus	GP

No.	Instructional Offering	TVET/FET College	Site	Province
3	Bricklaying and Plastering Theory N2	Central Johannesburg College	Johannesburg Campus	GP
4	Building and Civil Technology N3	Sedibeng TVET College	Sebokeng Campus	GP
5	Building Drawing N2	Gauteng City College	Johannesburg	GP
6	Building Drawing N3	Tshwane College of Commerce and Computer Studies	Pretoria	GP
7	Building Science N2	Tshwane City College	Pretoria	GP
8	Building Science N3	Academic Institute of Excellence	Midrand	GP
9	Carpentry and Roofing Theory N2	Tshwane South TVET College	Atteridgeville Campus	GP
10	Diesel Trade Theory N2	Platinum TVET College Rustenburg	Rustenburg	NW
11	Diesel Trade Theory N3	Ekurhuleni East TVET College	Benoni Campus	GP
12	Electrical Trade Theory N2	South West Gauteng College	Technisa Campus	GP
13	Electrical Trade Theory N3	Technicol SA College	Pretoria	GP
14	Electrotechnology N3	Thibela Technical College	Emalahleni	MP
15	Engineering Drawing N2	Thekwini TVET College	Springfield Campus	KZN
16	Engineering Drawing N3	Coastal KZN TVET	Swinton Campus	KZN
17	Engineering Science N2	Academic Institute of Excellence	Midrand	GP
18	Engineering Science N3	Mthashana TVET College	Vryheid Campus	KZN
19	Fitting and Machining Theory N2	Umgungundlovu TVET College	Plessislaer Campus	KZN
20	Industrial Electronics N2	College of Cape Town	Gugulethu Campus	WC
21	Industrial Electronics N3	Port Elizabeth TVET College	Iqhayiya Campus	EC
22	Industrial Organisation and Planning N3	Kent Technical College	Springs	GP
23	Industrial Orientation N2	Eastview TIVET College (PTY) LTD	Pretoria	GP
24	Industrial Orientation N3	Oaklands Institute of Technology	Pretoria	GP

No.	Instructional Offering	TVET/FET College	Site	Province
25	Instrument Trade Theory N2	Denver Technical College of SA	Pretoria	GP
26	Instrument Trade Theory N3	Tshwane South TVET College	Pretoria West Campus	GP
27	Logic Systems N2	Central Johannesburg College	Johannesburg Campus	GP
28	Logic Systems N3	Denver Technical College	Pretoria	GP
29	Mathematics N2	Tshwane North TVET College	Soshanguve North Campus	GP
30	Mathematics N3	Westcol TVET College	Krugersdorp Campus	GP
31	Mechanotechnology N3	Westcol TVET College	Carletonville Campus	GP
32	Motor Electrical Theory N2	Eastcape Midlands TVET College	Charles Goodyear Campus	EC
33	Motor Trade Theory N2	Motheo TVET College	Hillside View Campus	FS
34	Motor Trade Theory N3	Central Johannesburg College	Alexandra Campus	GP
35	Plant Operation Theory N2	Growth Path Projects	Middelburg	MP
36	Plant Operation Theory N3	South West Gauteng TVET College	Roodepoort West Campus	GP
37	Platers' Theory N2	Northlink TVET College	Bellville Campus	WC
38	Plating and Structural Steel Drawing N2	ABM College SA	Witbank	MP
39	Plating and Structural Steel Drawing N3	Thekwini TVET College	Springfield Campus	KZN
40	Plumbing Theory N2	Port Elizabeth TVET College	Iqhayiya Campus	EC
41	Radio and Television Theory N2	Central Johannesburg College	Johannesburg Campus	GP
42	Radio and Television Theory N3	Central Johannesburg College	Johannesburg Campus	GP
43	Radio Theory N2	Northlink TVET College	Wingfield Campus	WC
44	Radio Theory N3	Northlink TVET College	Wingfield Campus	WC
45	Refrigeration Trade Theory N2	College of Cape Town	Pinelands Campus	WC

No.	Instructional Offering	TVET/FET College	Site	Province
46	Refrigeration Trade Theory N3	College of Cape Town	Pinelands Campus	WC
47	Supervision in Industry N3	African Institute of Technology	Pretoria	GP
48	Water Treatment Practice N3	South West Gauteng TVET College	Roodepoort West Campus	GP
49	Welders' Theory N2	Correctional Service Centre	Voorberg Prison	WC

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

2.3 Findings

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

Table 2B: Findings of the ICASS moderation of March 2023

Criterion	Challenges	Instructional offering
Administration	At 69% of the sites, colleges provided support before enrolment, such as a competency test/aptitude test/ placement test.	Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Gauteng City College Gugulethu Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Radio and Television Theory N2) Kempton Campus Krugersdorp Campus

Criterion	Challenges	Instructional offering
Administration (continued)		Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Tshwane College of Commerce and Computer Studies Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
Physical resources	The available facilities at 92% (95% in April 2021) of the sites were sufficient for the number of enrolled students.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TIVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Radio and Television Theory N2) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus

Criterion	Challenges	Instructional offering
Physical resources (continued)		Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Swinton Campus Technicol SA College Technisa Campus Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	At 88% of the sites, textbooks/ teaching materials were available when the classes commenced at the beginning of the trimester (90% in April 2021).	ABM College Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Radio and Television Theory N2) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2)

Criterion	Challenges	Instructional offering
Physical resources (continued)		Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Swinton Campus Technicol SA College Technisa Campus Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	The students at 49% of the sites were given experience in the practical implementation of the theory component of the subject at the site of learning (45% in April 2021).	Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) Atteridgeville Campus Bellville Campus Benoni Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Gugulethu Campus Hillside View Campus Kempton Campus Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus Pretoria West Campus Sebokeng Campus Technicol SA College Tshwane College of Commerce and Computer Studies Voorberg Prison

Criterion	Challenges	Instructional offering
Physical resources (continued)	Computers and printers were provided for students to complete assignments/case studies and to do research at 82% of the sites This was a 12% increase from 70% in April 2021.	Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Carletonville Campus
		Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Swinton Campus Technicol SA College Technisa Campus Tshwane City College Tshwane College of Commerce and Computer Studies Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)

Criterion	Challenges	Instructional offering
Human resources	The college had a process to identify the training needs of staff members at 67% of the sites visited. This was a slight increase from 65% in April 2021.	Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Atteridgeville Campus Bellville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Swinton Campus Technicol SA College Technisa Campus Thibela Technical College Tshwane College of Commerce and Computer Studies Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	The college had a plan for staff development at 69% of the sites visited, a drop of 1% from 70% in April 2021.	Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Atteridgeville Campus Bellville Campus Benoni Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2)

Criterion	Challenges	Instructional offering
Human resources (continued)		Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Gugulethu Campus Hillside View Campus Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Logic Systems N2) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Swinton Campus Technicol SA College Technisa Campus Tshwane College of Commerce and Computer Studies Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	There was evidence that the training plan had been implemented at 57% of the sites visited, a slight increase of 2% from 55% in April 2021.	Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Atteridgeville Campus Bellville Campus Benoni Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Gugulethu Campus Kent Technical College Oaklands Institute of Technology

Criterion	Challenges	Instructional offering
Human resources (continued)		Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Sebokeng Campus Soshanguve North Campus Technicol SA College Technisa Campus Tshwane College of Commerce and Computer Studies Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	Lecturers at 84% of the sites felt there were areas where they needed further training, an increase of 34% from 50% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus

Criterion	Challenges	Instructional offering
Human resources (continued)		Pretoria West Campus Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Swinton Campus Technicol SA College Technisa Campus Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	The educators at 41% of the sites visited had been exposed to the workplace environment of the relevant industry, a 19% decrease from 60% in April 2021.	ABM College SA Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Eastview TVET College Gauteng City College Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Technicol SA College Thibela Technical College Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
Internal assessment policies and systems	There was an up-to-date college assessment policy at 96% of the sites visited, an increase of 16% from 80% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus

Criterion	Challenges	Instructional offering
Internal assessment policies and systems (continued)	There was an up-to-date college assessment policy at 96% of the sites visited, an increase of 16% from 80% in April 2021.	Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Technisa Campus Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)

Criterion	Challenges	Instructional offering
Internal assessment policies and systems (continued)	There was evidence of a strategy/plan for the monitoring of assessment at the site of learning at 82% of the sites visited, 7% more than 75% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Radio and Television Theory N2) Kempton Campus Kent Technical College Krugersdorp Campus Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Technisa Campus Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)

Criterion	Challenges	Instructional offering
Internal assessment policies and systems (continued)	There was evidence of an instructional offering monitoring report per lecturer at 73% of the sites visited, an increase of 18% from 55% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Johannesburg Campus (Radio and Television Theory N2) Kempton Campus Kent Technical College Krugersdorp Campus Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	There was a plan in place for the development of the assessment tasks at 88% of the sites, a 23% increase from the 65% of April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus

Criterion	Challenges	Instructional offering
Internal assessment policies and systems (continued)		Bellville Campus Benoni Campus Carletonville Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Thibela Technical College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)

Criterion	Challenges	Instructional offering
Internal assessment policies and systems (continued)	The tasks were developed according to the plan/schedule of assessment at 88% of the sites, a significant increase of 43% from 45% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)

Criterion	Challenges	Instructional offering
Internal assessment policies and systems (continued)	At 88% of the sites (65% in April 2021), there were systems in place to ensure that tasks were of an acceptable standard.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies

Criterion	Challenges	Instructional offering
Internal assessment policies and systems (continued)		Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	There was an irregularity register at 73% of the sites visited, a significant increase of 33% from the 40% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Swinton Campus Tshwane College of Commerce and Computer Studies Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)

Criterion	Challenges	Instructional offering
Internal assessment policies and systems (continued)	Internal assessment irregularities had been recorded in the register at 35% of the sites visited, an increase of 10% from 25% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) Bellville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Gugulethu Campus Hillside View Campus Kempton Campus Krugersdorp Campus Oaklands Institute of Technology Pretoria West Campus Sebokeng Campus Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
Lecturer files	Fifty-five percent of the sites visited had lecturer files containing following the documents: a. Name; b. Certified copies of qualifications; c. SACE registration; d. Teaching/ lecturing experience; and e. Workplace experience. This was a significant increase of 20% from 35% in April 2021	Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Charles Goodyear Campus Eastview TVET College Gauteng City College Hillside View Campus Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Krugersdorp Campus Oaklands Institute of Technology Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2)

Criterion	Challenges	Instructional offering
Lecturer files (continued)	The lecturer files at 88% of the sites visited contained the instructional offering syllabus, compared to 80% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Charles Goodyear Campus Denver Technical College of SA (Logic Systems N3) Eastview TIVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Swinton Campus Technicol SA College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)

Criterion	Challenges	Instructional offering
Lecturer files (continued)	The subject files contained lesson plans at 86% of the sites visited, an increase of 1% from 85% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Charles Goodyear Campus Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Swinton Campus Technicol SA College Tshwane College of Commerce and Computer Studies Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)

Criterion	Challenges	Instructional offering
Lecturer files (continued)	At 82% of the sites visited, the assessment files contained all relevant documents namely: a. Assessment schedules; b. Assessment instruments and tools; c. Evidence of pre-assessment moderation; d. Evidence of post-assessment moderation; and e. Mark sheets for all groups.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Krugersdorp Campus Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Thibela Technical College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)

Criterion	Challenges	Instructional offering
Lecturer files (continued)	At 88% of the sites visited, assessment scores had been recorded accurately on the mark sheets, an improvement of 13% from 75% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)

Criterion	Challenges	Instructional offering
Content coverage (continued)	Copies of previous question papers or sections of previous question papers were used as assessment tasks (tests) at 61% of sites, compared to 74% in April 2021.	ABM College SA Academic Institute of Excellence (Engineering Science N2) Alexandra Campus Bellville Campus Denver Technical College of SA (Instrument Trade Theory N2) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Sebokeng Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Swinton Campus Technicol SA College Technisa Campus Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus
	Eighty-eight percent of sites (80% in April 2021) ensured that a substantial amount of work was covered in both tests.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus

Criterion	Challenges	Instructional offering
Content coverage (continued)		Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Technisa Campus Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	The weighting and spread of topic content in both tests was appropriate at 80% (85% in April 2021) of the sites.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2)

Criterion	Challenges	Instructional offering
Content coverage (continued)		Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Iqhayiya Campus (Industrial Electronics N3) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Plating and Structural Steel Drawing N3) Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	The types of questions were in line with the stipulated content at 92% of the sites, an increase of 2% from 90% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects

Criterion	Challenges	Instructional offering
Content coverage (continued)		Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Plating and Structural Steel Drawing N3) Swinton Campus Technisa Campus Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
Cognitive demand and difficulty levels	At 80% of sites as in 2021, the two tasks varied in levels of difficulty, were pitched at the right level, and assessed a variety of knowledge and skills.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Carletonville Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3)

Criterion	Challenges	Instructional offering
Cognitive demand and difficulty levels (continued)		Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Technisa Campus Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
Internal moderation of task	Ninety-two percent of the sites (85% in April 2021) had evidence of moderation of marking of both tests from a sample of at least 10% of the scripts.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects

Criterion	Challenges	Instructional offering
Internal moderation of task (continued)		Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	At 92% of sites, compared to 85% in April 2021, the samples of internally moderated tests included the full range of performance, i.e. high, average, and low scoring students.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3)

Criterion	Challenges	Instructional offering
Internal moderation of task (continued)		Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)

Criterion	Challenges	Instructional offering
Technical aspects	Seventy-one percent of sites, compared to 55% in April 2021, contained all relevant information: a. The name of the subject; b. The level of subject; c. Time allocation; d. Content covered; e. Number of test; and f. Date.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Gauteng City College Growth Path Projects Gugulethu Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Springfield Campus (Plating and Structural Steel Drawing N3) Technisa Campus Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	There were clear instructions to students on both tasks at 88% of sites visited, 18% more than the 70% found in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus

Criterion	Challenges	Instructional offering
Technical aspects (continued)		Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Technisa Campus Thibela Technical College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	The language and terminology used was appropriate and relevant in both tests at 98% of the sites, an increase from 90% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus

Criterion	Challenges	Instructional offering
Technical aspects (continued)		Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Technisa Campus Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)

Criterion	Challenges	Instructional offering
Technical aspects (continued)	The mark allocation was clearly indicated for each question in both tests at 96% of the sites, an increase from 85% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Technisa Campus Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies

Criterion	Challenges	Instructional offering
Criterion	Challenges	Instructional offering
Technical aspects (continued)		Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	The mark allocation on the test corresponded to that on the marking guidelines for both tests at 90% of the sites, as in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3)

Criterion	Challenges	Instructional offering
Technical aspects (continued)		Technicol SA College Technisa Campus Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	Numbering on the tests was incorrect at 6% of the sites, a decrease of 9% from 15% in April 2021.	Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Radio and Television Theory N2) Swinton Campus
	At 96% of the sites, the time allocation was realistic for the administration of the tests, a significant rise from 75% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3)
		Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3)

Criterion	Challenges	Instructional offering
Technical aspects (continued)		Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Plating and Structural Steel Drawing N3) Swinton Campus Technicol SA College Technisa Campus Thibela Technical College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
Marking guidelines	The marking guidelines for both tests facilitated marking and were easy to use at 84% of sites, an increase of 14% from 70% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Eastview TIVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus

Criterion	Challenges	Instructional offering
Marking guidelines (continued)		Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Swinton Campus Technicol SA College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
Student performance	Students interpreted questions correctly and were able to answer all or most of the questions in the tests at 82% of sites, an increase of 7% from 75% of sites in April 2021.	ABM College SA Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Logic Systems N3) Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2)

Criterion	Challenges	Instructional offering
Student performance (continued)		Springfield Campus (Plating and Structural Steel Drawing N3) Swinton Campus Technicol SA College Technisa Campus Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
Quality of marking	Marking was consistent with the marking guidelines at 88% of the sites, an increase of 18% from 70% of sites visited in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3)

Criterion	Challenges	Instructional offering
Quality of marking (continued)		Sebokeng Campus Soshanguve North Campus Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Technisa Campus Thibela Technical College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	The marks allocated were a true reflection of students' performance in both tests at 88% of the sites, an increase of 8% from 80% of sites visited in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus

Criterion	Challenges	Instructional offering
Quality of marking (continued)		Soshanguve North Campus Springfield Campus (Plating and Structural Steel Drawing N3) Technicol SA College Technisa Campus Thibela Technical College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	The calculation and transfer of marks to mark sheets was accurate at 96% of the sites, an increase of 6% from 90% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Bricklaying and Plastering Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3)

Criterion	Challenges	Instructional offering
Quality of marking (continued)		Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Swinton Campus Technicol SA College Technisa Campus Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	The quality and standard of marking was acceptable at 94% of sites, a 19% increase from 75% of sites in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Charles Goodyear Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Platinum TVET College Plessislaer Campus

Criterion	Challenges	Instructional offering
Quality of marking (continued)		Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Plating and Structural Steel Drawing N3) Swinton Campus Technicol SA College Technisa Campus Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
Internal moderation of marking	There was evidence that students' work had been moderated internally at 86% of the sites, an increase from 65% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) African Institute of Technology Atteridgeville Campus Bellville Campus Benoni Campus Carletonville Campus Centurion Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus

Criterion	Challenges	Instructional offering
Internal moderation of marking (continued)		Pretoria West Campus Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Springfield Campus (Engineering Drawing N2) Springfield Campus (Plating and Structural Steel Drawing N3) Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)
	The quality and standard of internal moderation was acceptable at 78% of sites, an increase from 55% in April 2021.	ABM College SA Academic Institute of Excellence (Building Science N3) Academic Institute of Excellence (Engineering Science N2) Alexandra Campus Atteridgeville Campus Bellville Campus Benoni Campus Denver Technical College of SA (Instrument Trade Theory N2) Denver Technical College of SA (Logic Systems N3) Eastview TVET College Gauteng City College and Growth Path Projects Gugulethu Campus Hillside View Campus Iqhayiya Campus (Industrial Electronics N3) Iqhayiya Campus (Plumbing Theory N2) Johannesburg Campus (Logic Systems N2) Johannesburg Campus (Radio and Television Theory N2) Johannesburg Campus (Radio and Television Theory N3) Kempton Campus Kent Technical College Krugersdorp Campus Oaklands Institute of Technology Pinelands Campus (Refrigeration Trade Theory N2) Pinelands Campus (Refrigeration Trade Theory N3) Plessislaer Campus

Criterion	Challenges	Instructional offering
Internal moderation of marking (continued)		Pretoria West Campus Roodepoort West Campus (Plant Operation Theory N3) Roodepoort West Campus (Water Treatment Practice N3) Sebokeng Campus Soshanguve North Campus Thibela Technical College Tshwane City College Tshwane College of Commerce and Computer Studies Voorberg Prison Vryheid Campus Wingfield Campus (Radio Theory N2) Wingfield Campus (Radio Theory N3)

2.3.1 Compliance check of additional instructional offerings

As indicated earlier in section 2.2 of this report, external moderators were requested to conduct a compliance check of documents pertaining to additional instructional offerings at the sites visited.

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

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

No.	College	Campus / Site	Additional Instructional Offerings	Test 1	Test 2	Correct conversion
1.	ABM	Emalahleni	Electrical Trade Theory N2	Y	Y	Y
			Fitting and machining Theory N2	Y	Y	Y
2.	Academic Institute of Excellence	Midrand	Mathematics N2	Y	Y	Y
			Electrotechnology N3	Y	Y	Y
			Engineering Science N3	Y	Y	Y
			Electrical Trade Theory N2	Y	Y	Y
3.	African Institute of Technology	Pretoria	Industrial Electronics N3	Y	Y	Y
			Electrical Trade Theory N3	Y	Y	Y
4.	Central Johannesburg College	Alexandra	Diesel Trade Theory N3	Y	Y	Y
			Mathematics N3	Y	Y	Y
5.	Central Johannesburg College	Johannesburg (Ellispark)	Mechanotechnology N3	Y	Y	Y
			Mathematics N3	Y	Y	Y
			Electrotechnology N3	Y	Y	Y
			Engineering Science N3	Y	Y	Y
			Diesel Trade Theory N3	Y	Y	Y
			Engineering Drawing N2	Y	Y	Y
			Logic Systems N3			
6.	Coastal KZN	Swinton Road	Engineering Drawing N3	Y	Y	Y
			Mathematics N2	Y	Y	Y

No.	College	Campus / Site	Additional Instructional Offerings	Test 1	Test 2	Correct conversion
7.	College of Cape Town	Gugulethu	Electro-Technology N3	Y	Y	Y
			Mathematics N2	Y	Y	Y
8.	College of Cape Town	Pinelands	Electrical Trade Theory N2	Y	Y	Y
			Industrial Electronics N2	Y	Y	Y
			Mathematics N2	Y	Y	Y
			Mathematics N3	Y	Y	Y
9.	Correctional Services	Voorberg Prison	Engineering Drawing N2	Y	Y	Y
			Mathematics N2	Y	Y	Y
10.	Denver Technical College of SA	Pretoria	Industrial Electronics N3	Y	Y	Y
			Electrical Trade Theory N2	Y	Y	Y
			Mathematics N3	Y	Y	Y
			Building Science N2	Y	Y	Y
11.	Eastcape Midlands	Charles Good Year	Engineering Science N2	Y	Y	Y
			Mathematics N3	Y	Y	Y
12.	Eastview TVET College	Pretoria	Mathematics N3	N	N	N
			Supervision in Industry N3	N	N	N
13.	Ekurhuleni East	Benoni	Industrial Electronics N2	Y	Y	Y
			Mathematics N3	Y	Y	Y
14.	Ekurhuleni West	Kempton	Engineering Science N2	Y	Y	Y
			Engineering Drawings N3	Y	Y	Y
15.	Gauteng City College	Johannesburg	Mathematics N2	Y	Y	Y
			Engineering Science N3	Y	Y	Y
16.	Kent Technical College	Springs	Mathematics N3	Y	Y	Y
			Industrial Electronics N3	Y	Y	Y
			Mechanotechnology	Y	Y	Y
17.	Motheo	Hillside View	Electrical Trade Theory N2	Y	Y	Y
			Mathematics N3	Y	Y	Y
18.	Mthashana	Vryheid	Industrial Electronics N2	Y	Y	Y
			Motor Trade Theory N3	Y	Y	Y
19.	Northlink TVET	Bellville	Mathematics N3	Y	Y	Y
			Diesel Trade Theory N3	Y	Y	Y
20.	Northlink TVET	Wingfield	Logic Systems N3	Y	Y	Y
			Fitting and Machining N2	Y	Y	Y
			Mathematics N3	Y	Y	Y
			Mechanotechnology N3	Y	Y	Y
21.	Oaklands Institute of Technology	Pretoria	Engineering Science N3	Y	Y	Y
			Mechanotechnology N3	Y	Y	Y
			Mathematics N2	Y	Y	Y
			Engineering Science N3	Y	Y	Y
22.	Port Elizabeth	Iqhayiya	Mathematics N2	Y	Y	Y
			Electrical Trade Theory N2	Y	Y	Y
23.	Sedibeng	Sebokeng	Industrial Electronics N2	Y	Y	Y
			Building Science N3	Y	Y	Y
24.	Southwest Gauteng	Technisa	Engineering Science N2	Y	Y	Y
			Mathematics N3	Y	Y	Y

No.	College	Campus / Site	Additional Instructional Offerings	Test 1	Test 2	Correct conversion
25.	Southwest Gauteng	Roodepoort West	Engineering Science N2	Y	Y	Y
			Electrical Trade Theory N2	Y	Y	Y
26.	Technicol SA College	Pretoria	Industrial Electronics N2	Y	Y	Y
			Mathematics N2	Y	Y	Y
27.	Thekwini	Springfield	Fitting & Machining Theory N2	Y	Y	Y
			Diesel Trade Theory N3	Y	Y	Y
			Engineering Science N3	Y	Y	Y
			Mathematics N2	Y	Y	Y
			Mathematics N2	Y	Y	Y
			Engineering Science N3	Y	Y	Y
28.	Tshwane City College	Pretoria	Mathematics N2	Y	Y	Y
			Bricklaying & Plastering Theory N2	Y	Y	Y
29.	Tshwane College of Commerce and Computer Studies	Pretoria	Diesel Trade Theory N2	Y	Y	Y
			Mathematics N2	Y	Y	Y
30.	Tshwane North	Soshanguve North	Engineering Science N3	Y	Y	Y
			Electro-Technics N3	Y	Y	Y
31.	Tshwane South	Atteridgeville	Industrial Electronics N2	Y	Y	Y
			Mathematics N3	Y	Y	Y
32.	Tshwane South	Centurion	Industrial Electronics N3	Y	Y	Y
			Mathematics N2	Y	Y	Y
33.	Tshwane South	Pretoria West	Engineering Science N2	Y	Y	Y
			Mathematics N3	Y	Y	Y
34.	Umgungundlovu	Plessislaer	Engineering Science N3	Y	Y	Y
			Mathematics N2	Y	Y	Y
35.	Westcol	Carletonville	Mathematics N2	Y	Y	Y
			Industrial Electronics N3	Y	Y	Y
36.	Westcol	Krugersdorp West	Engineering Science N2	Y	Y	Y
			Electrotechnology N3	Y	Y	Y

One of the sites concerned had experienced difficulties and were not compliant with the requirements for marked tests and marksheets as stated in the 2023 DHET ICASS Instructions. This site is indicated in table 2D.

Table 2D: Site not compliant with ICASS requirements

Evidence of Additional Instructional Offerings	College	Instructional Offering
No evidence of tests and mark sheets	Eastview TIVET College Pretoria	Mathematics N3
		Supervision in Industry N3

2.4 Areas of Improvement

The following improvements were observed:

a. The students at 49% of the sites had experienced the practical implementation of the theory component of the subject at the site of learning (as opposed to 45% in April 2021);
b. There were computers and printers for students to use to complete assignments/case studies and to conduct research at 82% of the sites. This was a 12% increase from 70% in April 2021;
c. Lecturers at 84% of the sites felt that they needed further training, an increase of 34% from 50% in April 2021;
d. There was an up-to-date college assessment policy at 96% of the sites visited, an increase of 16% from 80% in April 2021;
e. There was evidence of a strategy/plan for the monitoring of assessment at the site of learning at 82% of the sites visited, an increase of 7% from 75% in April 2021;
f. There was an instructional offering monitoring report per lecturer at 73% of the sites visited, an increase of 18% from 55% in April 2021;
g. There was a plan in place for the development of assessment tasks at 88% of the sites, a 23% increase from 65% in April 2021;
h. At 88 % of the sites, tasks had been developed according to the plan/schedule of assessment, a significant increase of 43% from 45% in April 2021;
i. At 88% of the sites (65% in April 2021), there were systems in place to ensure that tasks were of an acceptable standard;
j. There was an irregularity register at 73% of the sites visited, a significant increase of 33% from 40% in April 2021;
k. Internal assessment irregularities were recorded in the register at 35% of the sites visited, an increase of 10% from 25% in April 2021;
l. The lecturer file contained the instructional offering syllabus at 88% of the sites visited, compared to 80% in April 2021;
m. Assessment scores were recorded accurately on the mark sheet at 88% of the sites visited, an increase of 13% from 75% in April 2021;
n. Copies of previous question papers or sections of previous question papers were used as assessment tasks (tests) at 61% of sites, a decrease from 74% in April 2021;
o. Eighty-eight percent of sites (80% in April 2021) ensured that a substantial amount of work had been covered in both tests;
p. At 92% of the sites, the sample of tests that had been internally moderated included the full range of performance, i.e. high, average, and low scoring students, as opposed to 85% in April 2021;
q. At 88% of sites visited, both tasks contained clear instructions to students, 18% more than 70% in the April 2021 findings;
r. Mark allocations for all questions in both tests were clearly indicated at 96% of the sites, an increase of 11% from 85% in April 2021;
s. Numbering on tests was incorrect at 6% of the sites, a decrease of 9% from 15% in April 2021;
t. The time allocation was realistic for the administration of the tests at 96% of the sites, a noticeable improvement from 75% in April 2021;
u. At 84% of the sites, marking guidelines for both tests facilitated marking and were easy to use, an improvement of 14% from 70% in April 2021.

v. Students at 82% of the sites had interpreted test questions correctly and were able to answer all or most of them, an increase of 7% from 75% of sites in April 2021;
w. Marking was consistent with the marking guidelines at 88% of the sites, an improvement of 18% from 70% of sites visited in April 2021;
x. At 88% of the sites, allocated marks were a true reflection of students' performance in both tests, an improvement of 8% from 80% of sites in April 2021;
y. The calculation and transfer of marks to the mark sheet was accurate at 96% of the sites, a rise of 6% from 90% of sites visited in April 2021;
z. The quality and standard of marking was acceptable at 94% of the sites, a 19% increase from 75% of sites visited in April 2021;
aa. There was evidence at 86% of the sites that students' work had been internally moderated, in contrast to 65% in April 2021; and
bb. The quality and standard of internal moderation at 78% of sites was deemed acceptable, in contrast to 55% in April 2021.

2.5 Areas of Non-compliance

A number of concerns were noted:

a. The facilities at 92% of the sites were adequate for the number of enrolled students, a drop from 95% in April 2021;
b. Textbooks/teaching material were available at 88% of the sites when classes commenced at the beginning of the trimester, a drop from 90% in April 2021;
c. Educators at 41% of the sites visited had experience in the workplace environment/relevant industry, a drop of 19% from 60% in April 2021; and
d. The weighting and spread of content of topic(s) in both tests were correct at 80% of the sites, a drop from 85% in April 2021.

2.6 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 colleges by ensuring that:

a. College facilities are upgraded in accordance with enrolment numbers; alternatively, colleges should partner with industry in facilitating workshop and work-integrated learning experience;
b. All students have textbooks/teaching material when classes commence at the beginning of the trimester;
c. Lecturers have experience of the workplace environment/relevant industry; and
d. There are systems in place to ensure that tasks of a high standard are produced.

2.7 Conclusion

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

CHAPTER 3
MONITORING THE WRITING OF EXAMINATIONS

3.1 Introduction

Umalusi monitors the writing of examinations with the purpose of determining whether the Department of Higher Education and Training (DHET) conducts, administers and manages them 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 of the monitoring of a sample of 18 examination centres. It recognises areas of improvement, highlights areas of non-compliance and provides directives for compliance and improvement.

3.2 Scope and Approach

Initially, 20 examination centres from eight provinces were selected for monitoring of the writing of the April 2023 NATED Report 190/191: Engineering Studies N2–N3 examinations. However, as two of the Umalusi monitors were not available, only 18 of the 20 centres were visited. Umalusi monitors and staff collected data from the selected centres using verification, observation and interview methods. Reports were generated from these data.

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

No	Name of college and type	Centre/Campus	Province	Subject	Date visited
1.	Advisor Progressive College: Witbank (Private)	Emalahleni	Mpumalanga	Engineering Drawing N2	18/04/2023
2.	Ekurhuleni West College (Public)	Usizo Kathorus	Gauteng	Electrical Trade Theory N2	12/04/2023
3.	Flavius Mareka College (Public)	Sasolburg	Free State	Electro-technology N3	18/04/2023
4.	Gert Sibande College (Public)	Evander	Mpumalanga	Engineering Drawing N2	18/04/2023
5.	Kent Technical College (Private)	Springs	Gauteng	Plating and Structural Steel Drawing N2	17/04/2023
6.	Majuba College (Public)	Dundee	KwaZulu-Natal	Electro-technology N3	18/04/2023
7.	Motheo College (Public)	Hillside View	Free State	Engineering Drawing N2	18/04/2023
8.	Mthashana College (Public)	Nongoma	KwaZulu-Natal	Electro-technology N3	18/04/2023
9.	Nkangala College (Public)	C.N. Mahlangu	Mpumalanga	Electrical Trade Theory N2	12/04/2023

No	Name of college and type	Centre/Campus	Province	Subject	Date visited
10.	Northlink College (Public)	Belville	Western Cape	Plating and Structural Steel Drawing N2	17/04/2023
11.	Polokwane Technology Institute (Private)	Polokwane	Limpopo	Engineering Drawing N3	12/04/2023
12.	Springfield TVET College: Klerksdorp (Private)	Klerksdorp	North West	Electro-technology N3	18/04/2023
13.	Thekwini City College: Mthata (Private)	Mthata	Eastern Cape	Electro-technology N3	18/04/2023
14.	Thekwini College (Public)	Springfield	KwaZulu-Natal	Plating and Structural Steel Drawing N2	17/04/2023
15.	Tshwane North College (Public)	Mamelodi	Gauteng	Electrical Trade Theory N2	12/04/2023
16.	Tshwane South College (Public)	Pretoria West	Gauteng	Electro-technology N3	18/04/2023
17.	Vhembe College (Public)	Tshisimani	Limpopo	Building and Civil Technology N3	14/04/2023
18.	Vuselela College (Public)	Jouberton	North West	Electrical Trade Theory N2	12/04/2023

3.3 Summary of Findings

The findings of the monitoring of the writing of examinations are indicated below, by criteria, as per Umalusi's instrument for the monitoring of the writing of examinations.
Table 3B lists Umalusi's findings at the monitored examination centres in detail.

Table 3B: Findings of monitoring of examination centres

Criteria	Findings	Examination centres
Preparations for the examination	It was evident that the DHET had verified the state of readiness (SOR) and availability of facilities at 17 (94%) of the examination centres visited. This was an improvement of 13% from 81% in the April 2021 examinations. Only one (6%) of the monitored examination centres had not been verified by the DHET.	Kent Technical College (Springs)
	There was an official timetable for the current examinations at 18 (100%) examination centres, as was the case in the April 2021examinations.	All monitored examination centres

Criteria	Findings	Examination centres
Preparations for the examination (continued)	Eighteen (100%) examination centres had enough examination rooms to accommodate all registered candidates. This was an improvement of 8% from 92% in the April 2021examinations.	All monitored examination centres
	At 18 (100%) examination centres monitored, all candidates were registered to write the examination, as was the case in the April 2021examinations.	All monitored examination centres
	At 17 (94%) examination centres, examination rooms had adequate space to accommodate all candidates when seated one metre apart. This was an improvement of 8% from 86% in the April 2021 examinations. At one examination centre, candidates were seated less than one metre apart.	Jouberton
	Sufficient and suitable furniture was provided at 17 (94%) examination centres. This was a decrease of 6% from 100% in the April 2021 examinations. At one (6%) examination centre, there was not enough furniture in the examination room to accommodate the number of candidates writing during the session; some candidates were therefore moved to another venue in the college.	Kent Technical College (Springs)
	There was proper lighting in the examination rooms at 16 (89%) examination centres; a decrease of 8% from 97% in the April 2021 examinations. At two (11%) examination centres, the lighting was not adequate for the writing of examinations.	Springfield TVET College (Klerksdorp) Tshisimani
	Eighteen (100%) examination centres had water and sanitation, as was the case in the April 2021 examinations.	All monitored examination centres
	At 17 (94%) examination centres, there was a safe/strong room to store examination material; this was a drop of 6% from 100% in the April 2021 examinations. At one examination centre, there was a strong room but it was not used. The examination material was stored in the campus manager's office.	Springfield TVET College (Klerksdorp)

Criteria	Findings	Examination centres
Preparations for the examination (continued)	The environment was conducive to the writing of examinations at 15 (83%) examination centres, a drop of 14% from 97% in the April 2021 examinations. High noise levels at three (17%) examination centres hampered the writing of examinations.	Kent Technical College (Springs) Mamelodi Sasolburg
	At 18 (100%) examination centres, chief invigilators or authorised personnel collected/received question papers from the nodal point. This was an improvement of 8% from 92% in the April 2021 examinations.	All monitored examination centres
	At 18 (100%) examination centres, the chief invigilator or authorised personnel were in possession of dispatch documents. This was an improvement of 3% from 97% in the April 2021 examinations.	All monitored examination centres
	An updated stock control register was kept at 16 (89%) examination centres, as was the case in the April 2021 examinations. At two (11%) examination centres, there was no evidence of stock control.	Kent Technical College (Springs) Springfield TVET College (Klerksdorp)
Invigilators and their training	Campus managers or principals had been appointed as chief invigilators at 16 (89%) examination centres monitored; a drop of 3% from 92% in the April 2021 examinations. At two (11%) examination centres, there was evidence that other staff members had been appointed as chief invigilators.	Mamelodi Springfield
	The assessment body had trained invigilators from 18 (100%) examination centres, an improvement of 8% from 92% in the April 2021 examinations.	All monitored examination centres
	Invigilators had been appointed in writing at 17 (94%) examination centres. This was 1% lower than 95% in the April 2021 examinations. At one (6%) examination centre, there was no evidence of the appointment of invigilators.	Evander

Criteria	Findings	Examination centres
	Invigilators at 17 (96%) examination centres had received training for the current examination; a decrease of 4% from 100% in the April 2021 examinations. There was no evidence at one (6%) examination centre that invigilators had been trained for the current examination.	Kent Technical College (Springs)
Preparations for writing and examination rooms/ venues	At 16 (89%) examination centres, candidates were seated 30 minutes before the examination commenced; an improvement of 5% from 84% in the April 2021 examinations. Candidates at two (11%) examination centres were not seated 30 minutes before the commencement of the examination.	Advisor Progressive College (Witbank) Kent Technical College (Springs)
	At 17 (94%) examination centres, invigilators verified candidates' admission letters/identity documents (ID) before they were allowed into the examination room. This was 6% lower than 100% in the April 2021 examinations. At one (6%) monitored examination centre, candidates' admission letters/ID were not verified before they were allowed into the examination room.	Kent Technical College (Springs)
	There was an appropriate number of invigilators at all 18 (100%) examination centres monitored; an improvement of 3% from 97% in the April 2021 examinations.	All monitored examination centres
	There was an invigilation timetable at all 18 (100%) examination centres, an improvement of 5% from 95% in the April 2021 examinations.	All monitored examination centres
	Seventeen (94%) examination centres had relief timetables, a rise of 8% from 86% in the April 2021 examinations. There was no relief timetable at one (6%) examination centre.	Springfield
	Invigilators at 17 (94%) examination centres signed an attendance register, an improvement of 2% from 92% in the April 2021 examinations. At one (6%) examination centre, attendance registers were not signed by the invigilators.	Kent Technical College (Springs)

Criteria	Findings	Examination centres
Preparations for writing and examination rooms/venues (continued)	At 17 (94%) examination centres, candidates were seated according to a seating plan, an increase of 5% from 89% in the April 2021 examinations. Candidates at one (6%) examination centre were not seated according to a seating plan.	Kent Technical College (Springs)
	A clock or other device displaying the time was clearly visible in every examination room at 17 (94%) examination centres,1% down from 95% in the April 2021 examinations. One (6%) examination centre did not display a clock in the examination room.	Springfield
	There was a noticeboard at 15 (83%) examination centres, a drop of 14% from 97% in the April 2021 examinations. At three (17%) examination centres, the noticeboard was not visible to all candidates in the examination room.	Sasolburg Springfield Pretoria West
	The examination room/s at all monitored examination centres were free of any material/ writing/drawings that could aid candidates writing the examinations. This was also the case in the April 2021 examinations.	All examination centres monitored.
	Invigilators at 17 (94%) examination centres ensured that candidates were not in possession of cell phones or any material/devices not required in the examination, a drop of 6% from 100% in the April 2021 examinations. At one (6%) examination centre, invigilators did not ensure that candidates were not in possession of cell phones or any material/devices not required in the examination.	Kent Technical College (Springs)
	Invigilators at 15 (83%) examination centres checked calculators for compliance, where applicable. This was 1% lower than 84% in the April 2021 examinations. At three (17%) examination centres calculators were not checked for compliance.	Evander Kent Technical College (Springs) Tshisimani

Criteria	Findings	Examination centres
Time management	Invigilators arrived on time at 17 (94%) examination centres, a decrease of 3% when compared to 97% in the April 2021 examinations. Invigilators did not arrive on time at one (6%) examination centre.	Kent Technical College (Springs)
	An attendance register was signed by candidates at all examination centres (100%); this was also the case in the April 2021 examinations.	All monitored examination centres
	Candidates were issued with the official answer book at 18 (100%) examination centres, as in the April 2021 examinations.	All monitored examination centres
	The invigilators at 15 (83%) examination centres verified that the information on the cover page of answer books was correct. This was a drop of 6% from 89% in the 2021 examinations. Invigilators at three (17%) examination centres did not verify information on the cover pages of answer books.	Kent Technical College (Springs) Springfield TVET College (Klerksdorp) Tshisimani
	The question papers were opened in the presence of candidates at 18 (100%) examination centres, an improvement of 8% from 92% in the April 2021 examinations.	All monitored examination centres
	Question papers were distributed to candidates on time at 17 (94%) examination centres, an improvement of 21% from 73% in the April 2021 examinations. Question papers at one (6%) examination centre were not distributed to candidates on time because the late arrival of invigilators and candidates delayed the start of the examination.	Kent Technical College (Springs)
	Question papers were checked for technical accuracy at 17 (94%) examination centres. This is an improvement of 10% from 84% in the April 2021 examinations. Invigilators at one (6%) examination centre did not check question papers for technical accuracy.	Springfield TVET College (Klerksdorp)
	Candidates were given the required reading time at 15 (83%) examination centres, an improvement of 15% from 68% in the April 2021 examinations. Candidates were not given the required reading time at three (17%) examination centres.	Evander Kent Technical College (Springs) Nongoma

Criteria	Findings	Examination centres
Time management (continued)	Examination rules were read to candidates at all examination centres (100%), an increase of 11% from 89% in the April 2021 examinations.	All monitored examination centres
	The examination started at the time indicated on the timetable at 17 (94%) examination centres. This was a 5% improvement from 89% in the April 2021 examinations. At one (6%) examination centre, candidates and invigilators arrived late at the examination venue. The reading of instructions, checking of the cover page for accuracy and candidates' reading time thus took up some of the writing time, delaying the start of the examination by a few minutes.	Kent Technical College (Springs)
	At all examination centres (100%), the answer books were stamped by the invigilators, an improvement of 8% from 92% in the April 2021 examinations.	All monitored examination centres
	The examination ended at the stipulated time at 18 (100%) examination centres, an improvement of 5% from 95% in the April 2021 examinations.	All monitored examination centres
Interactions during writing	Invigilators were not asked to clarify any aspect of the question paper at 18 (100%) examination centres. This was also the case in the April 2021 examinations.	All monitored examination centres
	At 17 (94%) examination centres, no candidates left the room during the examination without an escort, an improvement of 2% from 92% in the April 2021 examinations. At one (6%) examination centre, candidates left the room unescorted during the examination.	Kent Technical College (Springs)
	No unauthorised personnel were present in in the examination rooms at 17 (94%) of the centres, a drop of 6% from 100% in the April 2021 examinations. At one (6%) examination centre, the names of invigilators present in the examination rooms differed from those on the invigilation timetable.	Kent Technical College (Springs)
	Officials at 18 (100%) examination centres did not allow candidates to leave the examination room during the last 15 minutes of the session. This was also the case in the April 2021 examinations.	All monitored examination centres

Criteria	Findings	Examination centres
Interactions during writing (continued)	No irregularities were reported during the examination session at 14 (78%) examination centres, a drop of 19% from 97% in the April 2021 examinations. Irregularities were reported during the examination session at four (22%) examination centres.	C.N. Mahlangu Dundee Hillside View Springfield
	Invigilators at 17 (94%) examination centres remained on their feet, moving around the rooms and remaining vigilant throughout the examination session, a drop of 6% from 100% in the April 2021 examinations. An invigilator at one (6%) examination centre left the examination room, leaving the Umalusi monitor in charge.	Tshisimani
	There were no official errata at any of the monitored examination centres, as in the April 2021 examinations.	All monitored examination centres
Packaging and transfer of answer scripts	Scripts were counted and packed in a secured area at 17 (94%) examination centres, a drop of 6% from 100% in the April 2021 examinations. At Kent Technical College, the scripts were counted and packed in one of the examination rooms.	Kent Technical College (Springs)
	At all 18 (100%) examination centres, absentee forms for candidates who did not write the examination were included in the batches of scripts concerned.	All monitored examination centres (This was also the case in the April 2021 examinations.)
	Only authorised personnel were present during the packaging of scripts at all 18 (100%) examination centres.	
	The scripts were packaged in sequence according to the mark sheet at 18 (100%) examination centres.	
	The number of scripts corresponded to the number indicated on the wrapper at 18 (100%) examination centres.	
	Scripts were sealed in the satchel provided at 18 (100%) examination centres.	
	The scripts were sealed in the presence of the monitor at 18 (100%) examination centres, a 5% improvement from 95% in 2021.	

Criteria	Findings	Examination centres
Packaging and transfer of answer scripts (continued)	The chief invigilators at 16 (89%) examination centres completed a daily situational report, an increase of 3% from 86% in the April 2021 examinations. There was no evidence at two (11%) examination centres that the chief invigilator had completed a daily situational report.	Kent Technical College (Springs) Springfield TVET College (Klerksdorp)
	At 18 (100%) examination centres, scripts were transferred to a nodal point by authorised personnel, as was the case in the April 2021 examinations.	All monitored examination centres
Monitoring by the DHET	There was evidence of monitoring by the assessment body at 15 (83%) examination centres, an improvement of 34% from 49% in the April 2021 examinations. At three (11%) examination centres, no evidence was found during Umalusi's visit that the assessment body had monitored the examination centres.	Mamelodi Nongoma Springfield

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. Approximately half the candidates entered the examination room after 08:30.
b. Evander Campus
   i. There was no indication that invigilators had been officially appointed;
   ii. Calculators were not checked for compliance;
   iii. The Umalusi monitor asked the invigilator to rearrange the drawing tables so that they were one metre apart;
   iv. Examination information in one of the rooms was limited and indicated only the time intervals and no other information relevant to the examination;
   v. Candidates were not allowed the required reading time; and
   vi. The clock in the second examination room was out of order.
c. Jouberton Campus
   i. Violent protests by students who were not writing examinations disrupted the operations of the campus. Invigilators and monitors were forced to park their vehicles at a nearby high school and enter the campus on foot through the back entrance.
d. Kent Technical College (Springs):
   i. The examination centre had not been verified by the DHET;
   ii. There was not enough furniture in the examination room to accommodate all candidates writing the examination; some candidates were therefore accommodated in another room of the college;

iii. The examination centre was situated in the central business district (CBD) amidst the noise from traffic and passersby. The reception area was near the examination rooms and this was another source of high levels of noise as it was very busy at times;
iv. There was no evidence that invigilators had been trained for the current examination;
v. Invigilators and candidates arrived a few minutes before 09:00. Subsequently, invigilators had to rush to start the examination on time;
vi. Candidates were admitted to the examination room without their admission letters/ID having been verified. When the Umalusi monitor conducted a verification, it was found that two candidates did not have their ID with them. The invigilator was informed of this but did not take the necessary action;
vii. Attendance registers were not signed by invigilators;
viii. Only upon the arrival of the Umalusi monitor were copies of the marksheets posted on the noticeboard, but without room numbers or seating plans. Candidates were seated randomly in the examination room;
ix. Invigilators failed to ensure that candidates were not in possession of cell phones or any material/devices not required for the examination;
x. Calculators were not checked for compliance;
xi. The examination file did not contain the prescribed irregularity forms;
xii. The reading of instructions, checking of cover pages for accuracy and candidate's reading time took up several minutes of writing time;
xiii. The invigilators present in the examination rooms were not those listed on the invigilation timetable;
xiv. Candidates left the examination room temporarily without any escort; and
xv. There was no evidence of stock control or daily situational reporting at the examination centre.

e. Mamelodi Campus
   i. The noise from a generator near the examination venue caused some disturbance.
f. Sasolburg Campus
   i. The invigilator read the rules from the front of the hall but poor acoustics prevented all candidates from following what was said;
   ii. The mowing of the lawn on a neighbouring property during the examination disturbed candidates;
   iii. The writing on the white board was not visible to all candidates; and
   iv. Relief invigilators were not readily available when needed. It was observed that as it was a cold day, more candidates asked to visit the toilets. Relief invigilators would have been a great help in this case.
g. Springfield Campus
   i. The writing on the whiteboard was unclear and could not be read by candidates at the back of the examination room, and the subject name on the board was incomplete; and
   ii. There was no relief timetable at the examination centre. Relief occurred on an ad hoc basis; if an invigilator required relief during the examination session, he/she would ask the security officer at the door to call other staff members, or the invigilator would call upon passing staff members to relieve him/her.
h. Springfield TVET College: Klerksdorp
   i. The local church premises were used for the writing of the examinations. Blue lights and spotlights used in online church services were an unnecessary distraction during examinations;

ii. The examination venue did not have a generator for use during loadshedding. This was unfortunate as the windows did not allow enough light to enter the examination room;
iii. Students were seen writing on the question paper during reading time;
iv. Invigilators did not verify information on the cover pages of answer books, nor did they check question papers for technical accuracy;
v. At the end of the examination session, students did not remain seated until the invigilator had collected their scripts. Instead, they handed their scripts to the invigilator as they left the examination room; and
vi. There was no evidence of stock control or daily situational reporting at the examination centre.

i. Tshisimani Campus
   i. The invigilator left the room for at least six minutes during the examination session, leaving the Umalusi monitor in charge;
   ii. The campus does not have a generator; during loadshedding the candidates were forced to write examinations in natural light, which was not adequate in an examination venue;
   iii. Calculators were not checked for compliance; and
   iv. Invigilators did not verify information on the cover pages of answer books.

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 17 (94%) of the examination centres visited. This was an improvement of 13% from 81% in the April 2021 examinations;
b. Eighteen (100%) examination centres had sufficient examination rooms to accommodate all registered candidates, an improvement of 8% from 92% in the April 2021 examinations;
c. At 17 (94%) examination centres, examination rooms were large enough to accommodate all candidates when seated one metre apart, an improvement of 8% from 86% in the April 2021 examinations;
d. Chief invigilators or authorised personnel collected/received question papers from the nodal point at 18 (100%) examination centres, an improvement of 8% from 92% of the April 2021 examinations;
e. The assessment body had trained invigilators at 18 (100%) examination centres, an improvement of 8% from 92% in the April 2021 examinations;
f. Candidates at 16 (89%) examination centres were seated 30 minutes before the examination commenced, an improvement of 5% from 84% in the April 2021 examinations;
g. There was an appropriate number of invigilators at all 18 (100%) examination centres monitored, an improvement of 3% from 97% in the April 2021 examinations;
h. There was an invigilation timetable at all 18 (100%) examination centres. This was 5% more than 95% in the April 2021 examinations;
i. Seventeen (94%) examination centres had relief timetables, an increase of 8% from 86% in the April 2021 examinations;
j. Invigilators at 17 (94%) examination centres signed an attendance register, an improvement of 2% from 92% in the April 2021 examinations;
k. Candidates were seated according to a seating plan at 17 (94%) examination centres, an improvement of 5% from 89% in the April 2021 examinations;

l. Question papers were distributed on time to candidates at 17 (94%) examination centres, an improvement of 21% from 73% in the April 2021 examinations;
m. Question papers were checked for technical accuracy at 17 (94%) examination centres, an increase of 10% from 84% in the April 2021 examinations;
n. Candidates were given the required reading time at 15 (83%) examination centres, an improvement of 15% from 68% in the April 2021 examinations;
o. The examination started punctually at the time indicated on the timetable at 17 (94%) examination centres, an improvement of 5% from 89% in the April 2021 examinations;
p. At 17 (94%) examination centres, no candidates left the examination room without any escort, an improvement of 2% from 92% in the April 2021 examinations;
q. The chief invigilators at 16 (89%) examination centres completed a daily situational report, an improvement of 3% from 86% in the April 2021 examinations; and
r. There was evidence of monitoring by the assessment body at 15 (83%) examination centres, an improvement of 34% from 49% in the April 2021 examinations.

3.5 Areas of Non-compliance

The following areas of non-compliance were observed:

a. It was found that, in the preparation of examination rooms/venues:
    i. One examination centre did not have enough furniture for all candidates assigned to the venue with the result that some were moved to another venue at short notice;
    ii. The lighting in two examination venues was not adequate;
    iii. The noisy environment of three examination centres was not suitable for the writing of examinations;
    iv. One examination centre did not have a clock or other device displaying the time, and the clock at a second centre was out of order; and
    v. The writing on the information board at three examination centres could not be read by all candidates in the examination room;
b. The following observations were made at some examination centres during the invigilation of examinations:
    i. Invigilators at one examination centre:
        1. did not arrive punctually at the examination venue;
        2. did not verify candidates' admission letters/ID before allowing them into the examination room;
        3. did not ensure that candidates were not in possession of cell phones or any material/devices not required for the examination; and
        4. left the examination room, leaving the examination official in charge.
    ii. Invigilators at three examination centres:
        1. did not check calculators for compliance; and
        2. did not verify that the information on the cover pages of answer books was correct.
c. There were unauthorised personnel in the examination rooms at one examination centre; and
d. Invigilators at one examination centre had not received training for the current examination. This was evident from the way in which the entire examination process was conducted.

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 examinations;
b. Examination centres are prepared in good time and have:
    i. Sufficient suitable furniture;
    ii. Proper lighting, and contingency measures for periods of loadshedding; and
    iii. Working clocks and effective white board markers;
c. Examination centres strengthen invigilation processes by ensuring that:
    i. Invigilators are trained;
    ii. Attendance registers are signed;
    iii. Invigilators arrive punctually 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 are not permitted to enter the examination room/venue; and
    vii. Examination centres compile, display and adhere to seating plans, invigilation and relief timetables at all times.

3.7 Conclusion

The conduct, administration and management of the April 2023 NATED Report 190/191 Engineering Studies N2–N3 examinations was of an acceptable standard and there was compliance with regulations at the majority of monitored examination centres. Although discrepancies were observed at some examination centres, these 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 markers, examiners and internal moderators from the Department of Higher Education and Training (DHET) and Umalusi's external moderators to discuss candidates' responses to questions and to reach consensus before the final marking guidelines are approved by Umalusi.

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

a. Preparedness for the marking guideline discussions of markers, chief markers and internal moderators;
b. 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 the setting of the question paper. All appointed chief markers, internal moderators and markers were required to take part in the marking guideline discussions. In the case of instructional offerings with large enrolments, only the chief markers and internal moderators from each marking centre were invited to join the marking guideline discussion meetings.

4.2 Scope and Approach

Umalusi sent fourteen external moderators to attend the marking guideline discussion meetings for the 15 instructional offerings listed in tables 4A and 4B below. The meetings for 14 instructional offerings were conducted on the online platform while the meeting for one instructional offering was held face-to-face.

Umalusi officials attended the online marking guideline standardisation meetings hosted by the DHET on the Microsoft Teams platform between 12–19 April 2023; the face-to-face meeting was held on 22 April 2023.

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

a. Attendance by internal moderators, chief markers and markers;
b. Punctuality of attendees;
c. Duration of discussions;
d. Appointment of marking staff;
e. Chairperson of the meeting;
f. Standardisation of the marking guideline process;

g. Participation of role players;
h. Adjustments and justification;
i. Umalusi's role;
j. Challenges arising during the meeting; and
k. Approval of the final marking guidelines.

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

Table 4A and 4B provide lists of those N2 and N3 instructional offerings for which standardisation meetings were attended by Umalusi, and the dates.

Table 4A: N2 marking guideline discussion meetings

No.	Subject	Date
1.	Bricklaying and Plastering Theory	2023/04/14
2.	Carpentry and Roof Work	2023/04/14
3.	Engineering Drawing	2023/04/19
4.	Fitting and Machining Theory	2023/04/11
5.	Logic Systems	2023/04/12
6.	Motor Trade Theory	2023/04/17
7.	Platers' Theory	2023/04/17
8.	Plating and Structural Steel Drawing	2023/04/19
9.	Refrigeration Trade Theory	2023/04/22

Table 4B: N3 marking guideline discussion meetings

No.	Subject	Date
1.	Building and Civil Technology	2023/04/17
2.	Building Drawing	2023/04/13
3.	Diesel Trade Theory	2023/04/18
4.	Electrical Trade Theory	2023/04/12
5.	Electrotechnology	2023/04/19
6.	Mechanotechnology	2023/04/13

4.3 Summary of Findings

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

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

Evaluation criteria	Findings and challenges	Sampled instructional offerings
Attendance of marking staff	All chief markers, internal moderators and markers attended the marking guideline discussion.	Building and Civil Technology N3 Bricklaying and Plastering Theory N2 Building Drawing N2 Diesel Trade Theory N3 Electrotechnology N3 Electrical Trade Theory N3 Logic Systems N2 Mechanotechnology N3 Plating and Structural Steel Drawing N2 Platers' Theory N2
	In the case of two instructional offerings, only the chief marker and internal moderator standardised the marking guideline.	Carpentry and Roofing Theory N2 Refrigeration Trade Theory N2
	Only the chief marker standardised the marking guideline for one instructional offering because enrolments were low.	Motor Trade Theory N2
	The DHET instructed all delegates to add their names and designations to the chat box once they had logged in, but some participants in 13% of the meetings did not respond to this request. Umalusi thus found it difficult to identify all participants.	Engineering Drawing N2 Fitting and Machining Theory N2
Appointment of marking staff	Chief markers, internal moderators and markers of all instructional offerings (100%) were appointed on 25 March 2023. Markers were informed of their appointments by email and short message service (SMS) while others received appointment letters from their respective colleges.	All instructional offerings

Evaluation criteria	Findings and challenges	Sampled instructional offerings
Chairperson of meeting	The chief markers/internal moderators of 66.6% of the instructional offerings chaired the meetings.	Building Drawing N3 Building and Civil Technology N3 Bricklaying and Plastering Theory N2 Carpentry and Roofing Theory N2 Diesel Trade Theory N3 Electrical Trade Theory N3 Engineering Drawing N2 Logic Systems N2 Refrigeration Trade Theory N2 Plating and Structural Steel Drawing N2
	Examiners for 26.6% of the instructional offerings chaired the meetings.	Electrotechnology N3 Fitting and Machining Theory N2 Mechanotechnology N3 Motor Trade Theory N2
	The external moderator for one (6.6%) of the instructional offerings chaired the meeting. At the start of the meeting, the panel had not yet received the marking guideline from the DHET. The chairperson appointed by the DHET joined the meeting late. The external moderator used the signed-off marking guideline for standardisation purposes.	Platers' Theory N2
Changes recommended by Umalusi during moderation process	The changes recommended by Umalusi moderators were accepted for all (100%) question papers and marking guidelines.	All instructional offerings
Adjustments to marking guidelines during marking guideline discussions	Adjustments were made to marking guidelines for 93% of instructional offerings during marking guideline discussions, an increase from 88% in the April 2021 examinations.	Bricklaying and Plastering Theory N2 Building and Civil Technology N3 Building Drawing N3 Carpentry and Roofing Theory N2 Diesel Trade Theory N3 Electrical Trade Theory N3 Electrotechnology N3 Engineering Drawing N2 Fitting and Machining Theory N2 Mechanotechnology N3 Motor Trade Theory N2 Platers' Theory N2 Plating and Structural Steel Drawing N2 Refrigeration Trade Theory N2

Evaluation criteria	Findings and challenges	Sampled instructional offerings
Justification for changes to marking guidelines	Umalusi regarded all changes to marking guidelines (93%) as justified. These amendments would enhance the marking process and promote fairness and consistency of marking.	Bricklaying and Plastering Theory N2 Building and Civil Technology N3 Building Drawing N3 Carpentry and Roofing Theory N2 Diesel Trade Theory N3 Electrical Trade Theory N3 Electrotechnology N3 Engineering Drawing N2 Fitting and Machining Theory N2 Mechanotechnology N3 Motor Trade Theory N2 Platers' Theory N2 Plating and Structural Steel Drawing N2 Refrigeration Trade Theory N2
Effect of changes to marking guidelines on cognitive level of answers/responses	Changes made to marking guidelines (100%) for the sampled instructional offerings had no effect on the cognitive level of answers.	All instructional offerings
Role of Umalusi moderator in marking guideline discussion meetings	Umalusi assumed various 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 that of an active participant and/or advisor.	All instructional offerings
Sign-off of marking guidelines	Marking guidelines for all sampled instructional offerings (100%) were endorsed by all Umalusi moderators. The sign-off procedure for the online meeting took the form of a verbal agreement.	All instructional offerings
Comments and recommendations by Umalusi moderators	• The examiner and internal moderator for setting should attend and chair the standardisation of marking guideline discussions; • It is imperative that all appointed markers attend the standardisation of marking guidelines meetings; and • There should be consequences if markers are absent from meetings without providing a valid reason.	

4.4 Areas of Improvement

The following areas of improvement were noted:

a. All changes and amendments were justified and did not affect the cognitive demand of the question paper; and
b. After the marking guideline standardisation meetings, all (100%) marking guidelines were signed off, verbally or in writing.

4.5 Areas of Non-compliance

The following areas of non-compliance were noted:

a. Meetings for only 26% of instructional offerings were chaired by the examiners, compared to 100% in the April 2021 examination.
b. The DHET did not send the marking guideline for Platers' Theory N2 to markers before the standardisation meeting. The appointed chairperson of this instructional offering joined the meeting late; the external moderator chaired the meeting.

4.6 Directives for Compliance and Improvement

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

a. The examiner and/or the internal moderator attends and chairs the meetings;
b. All marking centres are represented at the marking guideline standardisation meetings; and
c. All participants are issued with the relevant marking guidelines before the meetings take place.

4.7 Conclusion

The standardisation of marking guidelines for the April 2023 NATED Report 190/191 Engineering Studies N2–N3 examinations was successfully completed. However, the DHET must establish procedures to ensure that all appointed markers attend these meetings.

CHAPTER 5
MONITORING OF MARKING CENTRES

5.1 Introduction

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

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 physical addresses; and
c. The dates for marking.

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

5.2 Scope and Approach

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

Data used to compile this report were collected from on-site monitoring of 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 monitors

No.	Centre	Province	Level	Date
1.	Centurion Campus	Gauteng (GP)	N2 and N3	25 April 2023
2.	Hillside View Campus	Free State (FS)	N2 and N3	24 April 2023
3.	Mpondozankomo Campus	Mpumalanga (MP)	N2 and N3	25 April 2023
4.	Pretoria West Campus	Gauteng (GP)	N2 and N3	26 April 2023
5.	Seshego Campus	Limpopo (LP)	N2 and N3	26 April 2023
6.	Struandale Campus	Eastern Cape (EC)	N2 and N3	24 April 2023
7.	Thornton Campus	Western Cape (WC)	N2 and N3	26 April 2023

5.3 Summary of Findings

The findings below are presented according to the criteria used for the monitoring of 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 the marking of the NATED Report 190/191: Engineering Studies N2–N3 April 2023 examinations. Marking personnel arrived punctually at the monitored marking centres and marking commenced as scheduled. Comprehensive lists of chief markers, internal moderators, markers and examination assistants were available at all centres.

The training of marking personnel was conducted according to the DHET's management plan at all the marking centres visited; however, two markers from Struandale Marking Centre did not receive training as they were not present on the day of the training session.

Marking guidelines were received on time 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 connections were available. Accommodation was not provided for marking personnel at any of the marking centres.

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

5.3.3 Security Measures

Security was provided by controlling access at the gates and entrances to the marking centres. Boots of vehicles were searched at the gates of most marking centres.

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

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

5.3.4 Management of Irregularities

Marking centre management teams were trained to identify and deal with irregularities. The managers discussed processes and procedures in this regard with chief markers and internal moderators during the training sessions. In turn, chief markers and internal moderators explained these procedures to markers during the marking guideline discussions.

Irregularity committees had been constituted at all monitored marking centres; these committees were made up of marking centre management teams and chief markers and/or internal moderators of the instructional offerings.

The process of identifying and dealing with irregularities was standardised across all marking centres. When a marker identified an irregularity, he/she immediately discussed it with the chief

marker. After the implicated script(s) had been internally moderated, the chief marker evaluated the irregularity. If substantial and convincing evidence of an infringement was found, the matter was escalated to the marking centre manager and the irregularity committee. The irregularity committee then forwarded a report together with all the evidence, the original script(s) and a copy of the mark sheet to the DHET. Finally, a copy of the script(s) was placed in the batch. The irregularity was recorded in the irregularity register.

5.3.5 Monitoring by the DHET

The state of readiness of all marking centres visited by Umalusi was verified by the DHET. Where recommendations were made by the DHET, action was taken by the respective marking centre, such as the Mpondozankomo Marking Centre which required more security personnel.

5.3.6 Quality Assurance and Reports

Scripts at all marking centres visited by Umalusi monitors and staff were checked by examination assistants to ensure that marks had been correctly calculated and transferred to front pages and to the mark sheets.

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

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

5.3.7 Marking Concessions

Umalusi received six marking concession requests from the DHET for the April 2023 NATED Report 190/191: Engineering Studies N2–N3 examinations.

Umalusi staff were provided with a list of marking concessions to ensure that the marking centres abided by the decisions/verdicts (marking concessions) during marking.

During their monitoring, Umalusi staff found that markers at all marking centres had marked strictly according to the decisions/verdicts of the marking concessions for the affected subjects.

5.4 Areas of Improvement

Umalusi staff noted the following areas of good practice:

a. The marking venues were suitable for marking;
b. Marking personnel at all marking centres reported for duty punctually and marking commenced as scheduled;
c. The training of marking personnel was conducted as per the DHET management plan at all marking centres visited;
d. All marking centres had irregularity committees;
e. Standard irregularity management procedures existed to deal with any irregularities;

f. All mark sheets were scanned upon receipt for security and control purposes and the movement of scripts was strictly monitored;
g. The security personnel at all monitored marking centres were vigilant and carried out their duties diligently; and
h. The marking centre manager at Seshego hired additional security personnel and requested the local police station commander to arrange patrols in the vicinity of the campus during marking sessions because of disruptions caused by protesting students.

5.5 Areas of Non-compliance

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

a. At Seshego marking centre, the strong room key was not kept in a securely locked drawer/ cabinet; and
b. At Struandale marking centre, markers who missed the training session were not given training before they began marking.

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; and
b. Examination centres with a history of irregularities are closely monitored.

5.7 Conclusion

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

CHAPTER 6
VERIFICATION OF MARKING

6.1 Introduction

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

This chapter will report on:

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

Umalusi quality assured the marking processes for the April 2023 NATED Report 190/191: Engineering Studies N2–N3 examinations by verifying the marking of selected instructional offerings. This verification evaluated markers' adherence to the approved standardised marking guidelines during the marking of scripts.

6.2 Scope and Approach

Umalusi sampled 16 instructional offerings from six marking centres for on-site monitoring and verification. This sample consisted of ten N2 and six N3 instructional offerings. Umalusi deployed 16 external moderators to verify the standard and quality of marking as part of the verification process. Table 6A lists the distribution of instructional offerings across marking centres.

Table 6A Distribution of instructional offerings across marking centres

No.	Marking Centre	Number of Instructional offerings
1.	Centurion	2
2.	Mpondozankomo	2
3.	Northdale	1
4.	Pretoria West	7
5.	Seshego	3
6.	Thornton	1
TOTAL		**16**

Table 6B lists the 10 sampled N2 instructional offerings, the dates of verification and the marking centres at which on-site verification was conducted:

Table 6B: N2 sampling grid

No.	Instructional Offerings	Date	Marking Centre
1.	Bricklaying and Plastering N2	26 April 2023	Pretoria West
2.	Building Science N2	26 April 2023	Mpondozankomo
3.	Electrical Trade Theory N2	26 April 2023	Pretoria West
4.	Engineering Science N2	25 April 2023	Pretoria West
5.	Fitting and Machining Theory N2	25 April 2023	Pretoria West
6.	Industrial Electronics N2	26 April 2023	Thornton
7.	Logic Systems N2	24–26 April 2023	Centurion
8.	Mathematics N2	24–26 April 2023	Seshego
9.	Motor Trade Theory N2	27 April 2023	Pretoria West
10.	Plating and Structural Steel Drawing N2	24 April 2023	Northdale

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

Table 6C: N3 sampling grid

No.	Instructional Offerings	Date	Marking Centre
1.	Building and Civil Technology N3	24 April 2023	Pretoria West
2.	Diesel Trade Theory N3	26 April 2023	Seshego
3.	Electrotechnology N3	25 April 2023	Seshego
4.	Logic Systems N3	26 April 2023	Centurion
5.	Mechanotechnology N3	26 April 2023	Pretoria West
6.	Plating and Structural Steel Drawing N3	24 April 2023	Mpondozankomo

Table 6D shows the criteria and quality indicators that were used during the evaluation of the marking process of N2 and N3 instructional offerings.

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

Criterion	Quality Indicators
Sample marking	How sample marking was conducted after the marking guideline discussion.
Marking	All anticipated examination scripts received for marking at the centre
Training for marking	Training for marking conducted
Marking procedure	The approach followed during the marking procedure
Adherence to the marking guideline	The adherence to the marking guideline
Standard of marking	The rating of the standard of marking conducted
Administration	The prescribed procedure for 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 kept throughout the marking period to assist with report writing

Criterion	Quality Indicators
Control	Markers and internal moderators indicated their names on each script.
Internal moderation	Evidence of moderation of scripts throughout the marking process
Response to the examination question paper	The performance of candidates in line with predictions
Prevention and handling of irregularities	Evidence and reporting of irregularities
Reports	Chief markers, markers and internal moderators prepared/contributed to qualitative reports.

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

Table 6E: Verification of marking N2 instructional offerings, number of provinces and number of verified examination centres per province

Instructional Offerings	Number of Provinces	Western Cape	Northern Cape	Free State	Eastern Cape	KwaZulu-Natal	Mpumalanga	Limpopo	Gauteng	North West	Province 10*	Province 11*
Bricklaying and Plastering N2	7	0	1	2	0	0	4	0	8	3	1	1
Building Science N2	1	0	0	0	0	0	19	0	0	0	0	0
Electrical Trade Theory N2	4	0	0	0	0	0	0	0	9	4	2	1
Engineering Science N2	4	0	0	0	0	0	0	0	3	4	3	1
Fitting and Machining Theory N2	4	0	0	0	0	0	5	0	10	4	1	0
Industrial Electronics N2	1	10	0	0	0	0	0	0	0	0	0	0
Logic Systems N2	4	0	2	0	0	8	3	0	7	0	0	0
Mathematics N2	1	0	0	0	0	0	0	10	0	0	0	0
Motor Trade Theory N2	7	3	2	1	2	0	0	5	2	2	0	0
Plating and Structural Steel Drawing N2	9	1	1	2	0	1	3	2	5	3	1	0

*Province 10 and 11 refer to examination centres outside South Africa

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

Instructional Offerings	Number of Provinces	Western Cape	Northern Cape	Free State	Eastern Cape	KwaZulu-Natal	Mpumalanga	Limpopo	Gauteng	North West	Province 10*	Province 11*
Building and Civil Technology N3	3	0	0	2	0	0	0	0	4	3	0	0
Diesel Trade Theory N3	4	0	1	4	0	0	4	11	0	0	0	0
Electrotechnology N3	1	0	0	0	0	0	0	7	0	0	0	0
Logic Systems N3	6	1	1	0	0	3	2	2	5	0	0	0
Mechanotechnology N3	5	0	0	0	0	0	3	4	9	3	1	0
Plating and Structural Steel Drawing N3	9	1	1	2	0	1	3	3	5	3	1	0

* Province 10 and 11 refer to examination centres outside South Africa

6.3 Summary of Findings

Table 6G presents a summary of the findings of the verification of marking process for the ten N2 and six N3 instructional offerings, as reported by Umalusi moderators.

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

Criteria	Findings	Instructional Offerings
Sample marking	In all (100%) instructional offerings markers marked a copy of the same script to establish consistency in marking. This was on par with the April 2021 examination.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 and N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3

Criteria	Findings	Instructional Offerings
Sample marking (continued)	After sample marking for all (100%) instructional offerings, each marker received a sample of scripts from a range of centres to mark, an increase from 75% in the April 2021 examination.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 and N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3
	Markers for 94% of the instructional offerings adhered to the marking guidelines, an improvement of 2% from 92% in the April 2021 examination.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3
Marking	All anticipated scripts for 63% of the instructional offerings were received for marking at these centres, a drop from 83% in the April 2021 examination.	Bricklaying and Plastering N2 Building and Civil Technology N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Industrial Electronics N2 Logic Systems N3 Mathematics N2 Plating and Structural Steel Drawing N2 and N3
	All anticipated scripts for 37% of the instructional offerings were not received for marking.	Diesel Trade Theory N3 Engineering Science N2 Fitting and Machining Theory N2 Logic Systems N2 Mechanotechnology N3 Motor Trade Theory N2

Criteria	Findings	Instructional Offerings
Training for marking	Training was conducted for all markers (100%) of all instructional offerings. This was on par with the April 2021 examination.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 and N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3
Marking procedure	A question-wise marking approach to marking was followed by markers of 81% of the instructional offerings.	Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Bricklaying and Plastering N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 Logic Systems N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2
	Whole script marking by one marker was followed for 19% of instructional offerings.	Building Science N2 Plating and Structural Steel Drawing N2 and N3
Adherence to marking guidelines	Adherence to marking guidelines in 88% of instructional offerings was rated as good, an improvement of 30% from 58% in the April 2021 examination.	Bricklaying and Plastering N2 Building Science N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3

Criteria	Findings	Instructional Offerings
Adherence to marking guidelines (continued)	Adherence to marking guidelines in 12% of the instructional offerings was rated as average.	Electrotechnology N3 Logic Systems N2
Standard of marking	The standard of marking of 88% of the instructional offerings was rated as good, an improvement of 21% from 67% in the April 2021 examination.	Bricklaying and Plastering N2 Building Science N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3
	The standard of marking of 12% of the instructional offerings was rated as average.	Electrotechnology N3 Logic Systems N2
Administration	The prescribed procedure for the recording of marks on the front page of the script was followed by markers of 88% of the sampled instructional offerings. This was a drop of 12% from 100% in the April 2021 examination.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3
	Mistakes identified by moderators and/or examination assistants were clearly indicated in 100% of the instructional offerings, compared to 92% in the April 2021 examination.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 and N3 Mathematics N2

Criteria	Findings	Instructional Offerings
Administration (continued)		Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3
	Marks were transferred correctly to the cover pages and mark sheets by markers for 94% of the instructional offerings, a decrease from 100% in the April 2021 examination.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 and N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3
	Mark sheets for all (100%) instructional offerings were completed correctly, an improvement of 8% from 92% in the April 2021 examination.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 and N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3
	Markers and moderators for 94% of the instructional offerings kept notes throughout the marking period to facilitate report writing, a drop from 100% in the April 2021 examination.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3

Criteria	Findings	Instructional Offerings
Control	Markers for all (100%) instructional offerings indicated their codes/ names in red ink on the cover pages of each script. This was also the case in the April 2021 examination.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 and N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3
Internal moderation	There was evidence of internal moderation throughout the marking process for all (100%) instructional offerings, an improvement of 8% from the April 2021 examination.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 and N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3
	A sample of scripts with high, medium and low marks was randomly selected from a batch of scripts for internal moderation in all instructional offerings, as in the April 2021 examination.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 and N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3

Criteria	Findings	Instructional Offerings
Internal moderation (continued)	Samples of examination scripts from all (100%) instructional offerings from all examination centres were moderated.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 and N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3
	A whole-script moderation approach was followed during the internal moderation of 63% of the instructional offerings.	Bricklaying and Plastering N2 Building Science N2 Diesel Trade Theory N3 Electrical Trade Theory N2 Engineering Science N2 Industrial Electronics N2 Logic Systems N2 Mathematics N2 Mechanotechnology N3 Plating and Structural Steel Drawing N2
	Only certain questions for 31% of the instructional offerings were moderated.	Building and Civil Technology N3 Electrotechnology N3 Logic Systems N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N3
	The standard of internal moderation of 88% of the instructional offerings was rated as good, an improvement of 13% from 75% in the April 2021 examination.	Building Science N2 Electrical Trade Theory N2 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Mathematics N2 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 Building and Civil Technology N3 Diesel Trade Theory N3 Logic Systems N3 Mechanotechnology N3 Plating and Structural Steel Drawing N3
	The standard of internal moderation of 12% of the instructional offerings was rated as average.	Bricklaying and Plastering N2 Logic Systems N2 Electrotechnology N3

Criteria	Findings	Instructional Offerings
Candidate responses	Candidates' performance ranged from poor to average in most instructional offerings.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 and N3 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3
Prevention and handling of irregularities	Evidence of irregularities was found in 56% of the instructional offerings, a decrease from 58% in the April 2021 examination.	Building Science N2 Diesel Trade Theory N3 Electrical Trade Theory N2 Engineering Science N2 Fitting and Machining Theory N2 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2
Reports	The marking reports for 94% of the instructional offerings were completed.	Bricklaying and Plastering N2 Building and Civil Technology N3 Diesel Trade Theory N3 Electrical Trade Theory N2 Building Science N2 Electrotechnology N3 Engineering Science N2 Fitting and Machining Theory N2 Industrial Electronics N2 Logic Systems N2 Mathematics N2 Mechanotechnology N3 Motor Trade Theory N2 Plating and Structural Steel Drawing N2 and N3
	The marking reports for 6% of the instructional offerings had not yet been completed by the time of Umalusi's visit.	Logic Systems N3

6.4 Areas of Improvement

The findings of the verification of marking revealed the following areas of improvement from the April 2021 examination:

a. Markers for all (100%) of the instructional offerings received a sample of scripts to mark from a range of examination centres. This was 25% more than 75% in the April 2021 examination;
b. Markers for 94% of the instructional offerings adhered to the marking guidelines, an improvement of 2%;
c. The standard of marking in 88% of instructional offerings was rated as good, an improvement of 21%;
d. In all (100%) instructional offerings, mistakes picked up by the moderator and/or examination assistants were clearly indicated; likewise, marksheets were completed correctly by all markers, an improvement of 8% from 92% in the April 2021 examination;
e. There was evidence of internal moderation throughout the marking process in all (100%) instructional offerings, an improvement of 8%; and
f. The standard of internal moderation in 88% of instructional offerings was rated as good, an improvement of 13% from 75% in the April 2021 examination.

6.5 Areas of Non-Compliance

The findings of the verification of marking revealed the following instances of non-compliance that might hinder future marking processes:

a. Thirty-seven percent of the complement of scripts had not yet been received at the time of marking;
b. The prescribed procedure for the recording of marks on the front page of a script was not followed in 12% of the sampled instructional offerings;
c. Marks for 6% of instructional offerings were not transferred correctly to the cover pages; and
d. Evidence of irregularities was found in 56% of the instructional offerings.

6.6 Directives for Compliance and Improvement

In order to improve the standard and quality of marking, the DHET is requested to:

a. Revise current processes to ensure that all scripts are received in good time by marking centres;
b. Ensure that markers exercise care when recording and transferring marks; and
c. Adopt more stringent measures during invigilation to curb irregularities during the writing of examinations.

6.7 Conclusion

The adherence to set practices in the marking process proved beneficial in achieving consistency across all marking centres. The marking and moderation of scripts for the April 2023 NATED Report 190/191: Engineering Studies N2–N3 examination was regarded as fair, consistent and reliable.

CHAPTER 7
STANDARDISATION AND VERIFICATION OF RESULTING

7.1 Introduction

Standardisation of examination results is a process informed by qualitative and quantitative evidence. Its primary aim is to achieve an optimum degree of uniformity in specific contexts by considering possible sources of variability other than students' ability and knowledge. In general, performance variability may be a result of the standard of question papers, the standard of administering the examination, the quality of marking and other related factors. It is for these reasons that Umalusi standardises examination results. Umalusi derives this function from section 17A (4) of the General and Further Education and Training Quality Assurance (GENFETQA) Act, 2001 (Act 58 of 2001), as amended in 2008, which stipulates that Umalusi may adjust raw marks during the standardisation process.

In broad terms, standardisation involves the verification of instructional offerings structures, mark capturing, and the computer system used by an assessment body. It also involves the development and verification of norms and the quality assurance of datasets, culminating in the production and verification of standardisation booklets in preparation for standardisation meetings.

Standardisation decisions are informed by, amongst others, principles of standardisation, qualitative inputs compiled by internal and external moderators, examination monitors and intervention reports presented by assessment bodies and other related information that may be available at the time. The process is concluded with the approval of standardisation decisions per instructional offering, statistical moderation of internal continuous assessment (ICASS) and the resulting process.

7.2 Scope and Approach

The Department of Higher Education and Training (DHET) presented 55 instructional offerings linked to April 2023 NATED Report 190/191: Engineering Studies N2–N3 examinations for standardisation. In turn, Umalusi verified the historical averages, the standardisation datasets and electronic booklets before standardisation, the adjustments, statistical moderation and the resulting datasets.

7.2.1 Calculation of Historical Averages (Norms)

Umalusi adopts norm referencing to ensure comparability of standards. Norms are calculated using the results of the previous six examination sessions. Once that has been done, as per policy requirements, the DHET submits historical averages or norms to Umalusi for verification. Where a distribution contains outliers, the historical average is calculated excluding data from the outlying examination session. Finally, Umalusi considers historical averages during the standardisation process.

The DHET submitted standardisation datasets and electronic booklets earlier than expected as per the Umalusi management plan. The datasets were verified and approved before the standardisation meeting.

7.2.2 Pre-standardisation and Standardisation

The pre-standardisation and standardisation meetings for the April 2023 NATED Report 190/191 Engineering Studies N2–N3 examinations were held on 16 May 2023. Umalusi was guided by several

factors, including the consideration of the qualitative and quantitative information, in reaching its standardisation decisions. Qualitative inputs included reports by DHET chief markers, Umalusi external moderators and monitors of the conduct, administration, and management of examinations. As for quantitative data, Umalusi considered historical averages and pairs analysis, together with standardisation principles.

7.2.3 Post-standardisation

After the standardisation meeting, the DHET uses the final captured standardisation decisions and processes and submits the final adjustments and candidates' resulting files to Umalusi for verification and final approval.

7.3 Findings and Decisions

This section presents the most important results and discusses the findings of the standardisation and resulting processes for the April 2023 NATED Report 190/191 Engineering Studies N2–N3 examination.

7.3.1 Development of Historical Averages (Norms)

The norms for the April 2023 NATED Report 190/191 Engineering Studies N2–N3 examinations were developed using the previous six examination sittings. In instances where there were limited previous examination sittings, the available examination sittings were used to develop the historical averages. Where outliers were found, the principle of exclusion was applied; as a result, the norm was calculated excluding data from the outlying examination sitting. Table 7A below indicates the instructional offerings with outliers:

Table 7A: Instructional offerings with outliers

Level	Code	Instructional offering	Outlying year
N2	11040572	Motor Bodywork Theory	202208
	11041572	Refrigeration Trade Theory	202211
	11041852	Rigging Theory	202211
N3	11040343	Electro-Technology	202208
	11041263	Electrical Trade Theory	202108

7.3.2 Verification of Datasets and Standardisation Booklets

The standardisation datasets and electronic booklets submitted for the April 2023 NATED Report 190/191: Engineering Studies N2–N3 examination adhered to Umalusi's Requirements and Specifications for Standardisation, Statistical Moderation and Resulting document. Once verified, datasets and electronic booklets were approved on second submission prior to the standardisation meeting.

7.3.3 Pre-Standardisation and Standardisation

Standardisation decisions were informed by qualitative inputs derived from external moderator reports, chief marker reports and internal moderator reports, as well as the quantitative data in the standardisation booklet. Table 7B summarises the standardisation decisions taken:

Table 7B: Summary of standardisation decisions

Description	Total
Number of instructional offerings presented	55
Raw marks accepted	27
Adjusted (mainly upwards)	20
Adjusted (mainly downwards)	8
Provisionally standardised	0
Number of standardised subjects	**55**

All 55 instructional offerings were standardised, taking into consideration the available trends in student performance (historical averages), pairs analysis and qualitative inputs provided.
Umalusi highlighted the upward trend in absenteeism and irregularities across N2–N3 instructional offerings. The lack of chief marker and internal moderator reports for instructional offerings that were not moderated by Umalusi was highlighted as a concern, as the Assessment Standards Committee (ASC) could not be given information on candidates' performance other than that provided in the statistical data in the booklets.
Umalusi further highlighted the need for external moderators to intensify their oversight to prevent errors in question papers. In addition, the high failure rate in Radio Theory N2 caused by a very difficult paper was highlighted as requiring intervention by the assessment body.

7.3.4 Post-standardisation

After the standardisation meeting, the adjustments, statistical moderation and candidates' files were submitted for verification and approval. The adjustments and statistical moderation files were approved at first submission.

7.4 Areas of Improvement

a. The DHET submitted the datasets and standardisation booklet for verification within the stipulated timeframes.
b. The submission of a comprehensive evidence-based report was highly informative.
c. The DHET capture rate for most instructional offerings exceeded 90%, which was an improvement from previous years.

7.5 Areas of Non-compliance

a. The DHET failed to submit all chief marker and internal moderator reports.

7.6 Directives for Compliance and Improvement

a. The DHET must ensure that chief marker and internal moderator reports for all instructional offerings are submitted in future.

7.7 Conclusion

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

Physical Address: 37 General Van Ryneveld Street, Persequor Technopark, Pretoria

Postal Address: P.O. Box 151 Persequor Technopark, Pretoria, 0020

Telephone: +27 12 349 1510

Toll Free Fraud Line: 0800 000 889

Email: info@umalusi.org.za | Web: www.umalusi.org.za

Facebook: Umalusi_RSA

Twitter: @UmalusiSA

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