ENSURING THE EXPERTISE TO GROW SOUTH AFRICA

Accreditation Team Report and Recommendation

E-14-TEM-P

Revision 5: 10 February 2021
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DEFINITIONS

Accreditation: Formal recognition awarded to an education or training programme through a quality assurance procedure that ensured it met the criteria laid down for the type of programme

Accredited programme: A programme that has been evaluated and recognised by ECSA as meeting stated criteria

Accreditation criteria: Statements of requirements that must be satisfied by a programme in order to receive accreditation

Assessment: The process of determining the capability or competence of an individual by evaluating performances against standards

Category: A mode of registration defined in or under the Engineering Profession Act, 46 of 2000, that has a distinctive purpose, characteristic competencies, educational requirements and defined principal routes to registration

Course: A building block of a programme with defined prerequisites, content and learning objectives with assessment, which if completed successfully provides credit towards a qualification

Credit: A measure of the volume of learning attached to a course or module calculated according to the procedure defined in the relevant standard for the type of programme; a level may be associated with a number of credits

Critical: Describes a factor, component, process, issue or decision in an engineering activity from which other consequences follow; an entity or operation that must be successfully implemented or completed to ensure that a more complex operation or system can function – failure of the critical entity or operation compromises the whole.

Complementary studies: Studies that cover disciplines other than engineering sciences, natural sciences and mathematics, which are relevant to the practice of engineering and include engineering economics, management, the impact of technology on society, effective communication, the humanities, social sciences and other areas that support an understanding of the world in which engineering is practised.
Dublin Accord: is an agreement for the mutual agreement of engineering programmes that provide the educational foundation for professional engineering technicians.

Education Committee: The committee established by Council to address all education matters.

Engineering education programme: An educational programme that aims to satisfy criteria prescribed by the ECSA

Engineering fundamentals: Engineering sciences that embody a systematic formulation of engineering concepts and principles based on mathematical and natural sciences to support applications

Engineering management: The generic management functions of planning, organising, leading and controlling, which are applied together with engineering knowledge in contexts that include the management of projects, construction, operations, maintenance, quality, risk, change and logical approach that relies on the application of engineering knowledge and skills and generic competencies business

Engineering sciences: Have roots in the mathematical and physical sciences and where applicable, in other natural sciences; extend knowledge and develop models and methods in order to lead to engineering applications and to solve engineering problems

Engineering speciality: A generally recognised practice area or major subdivision within an engineering discipline (e.g. Structural and Geotechnical Engineering within Civil Engineering); the extension of engineering fundamentals to create theoretical frameworks and bodies of knowledge for engineering practice areas

Evaluation: Determination of the compliance of a result with prescribed criteria based on documentation, inspection and the application of judgement supported by reasoning.

Exit Level Course: A course that is offered for the last time in the engineering programme and generally is used to assess graduates attributes

External moderation: A moderation process in which the moderator(s) are not in the employ of the provider, they make no input into the programme and they have no prior contact with the students.
Final Accreditation: Accreditation of a programme that was given notification of termination of accreditation by the Education Committee after the previous interim accreditation.

Graduate: A qualifying learner, irrespective of whether the qualification is a degree or a diploma.

Graduate Attribute: A statement of the learning outcomes that a student must demonstrate at the exit-level to qualify for an award of a qualification; these actions.

International Engineering Alliance (IEA): is a global organisation, which comprises members from 41 jurisdictions within 29 countries, across seven international agreements. These international agreements govern the recognition of engineering educational qualifications and professional competence.

Interim Accreditation: Accreditation held at a time within the regular cycle stated by the Education Committee in the decision on the findings of the previous regular accreditation.

Knowledge area: A classification of curriculum content into defined types.

Knowledge profile: A description of the knowledge of a graduate in terms of the type and balance of knowledge in defined areas.

Module: Synonymous with course.

Mathematical sciences: An umbrella term embracing the techniques of mathematics, applied mathematics, numerical analysis, statistics and aspects of computer science cast in an appropriate mathematical formalism.

Natural sciences (formerly basic sciences): These comprise physics (including mechanics), chemistry, Earth sciences and the biological sciences that focus on understanding the physical world as applicable to the engineering context.

Online Accreditation: Remote accreditation conducted using videoconferencing or other virtual technologies.

Online programme: Education programme offered over any virtual network, predominantly the internet.
Standards: Comprise statements of outcomes to be demonstrated and the levels of performance and content baseline requirements in the context of engineering educational programmes

Sydney Accord: is an agreement for the mutual recognition of engineering programmes that provide the educational foundation for professional engineering technologists.

Washington Accord: is an agreement for the mutual recognition of engineering programmes that provide the educational foundation for professional engineers.
ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>Accreditation Committee</td>
</tr>
<tr>
<td>Adv Cert</td>
<td>Advanced Certificate</td>
</tr>
<tr>
<td>Adv Cert (EP)</td>
<td>Advanced Certificate in Engineering Practice</td>
</tr>
<tr>
<td>Adv Dip</td>
<td>Advanced Diploma</td>
</tr>
<tr>
<td>Adv Dip Eng</td>
<td>Advanced Diploma in Engineering</td>
</tr>
<tr>
<td>BEng</td>
<td>Bachelor of Engineering</td>
</tr>
<tr>
<td>BSc(Eng)</td>
<td>Bachelor of Science in Engineering</td>
</tr>
<tr>
<td>BEng Tech</td>
<td>Bachelor of Engineering Technology</td>
</tr>
<tr>
<td>BEng Tech (Hons)</td>
<td>Bachelor of Engineering Technology Honours</td>
</tr>
<tr>
<td>BTech</td>
<td>Bachelor of Technology</td>
</tr>
<tr>
<td>CHE</td>
<td>Council on Higher Education</td>
</tr>
<tr>
<td>DA</td>
<td>Dublin Accord</td>
</tr>
<tr>
<td>Dip</td>
<td>Diploma</td>
</tr>
<tr>
<td>Dip Eng</td>
<td>Diploma in Engineering</td>
</tr>
<tr>
<td>Dip Eng Tech</td>
<td>Diploma in Engineering Technology</td>
</tr>
<tr>
<td>EC</td>
<td>Education Committee</td>
</tr>
<tr>
<td>ECSA</td>
<td>Engineering Council of South Africa</td>
</tr>
<tr>
<td>GA</td>
<td>Graduate Attribute</td>
</tr>
<tr>
<td>HCert</td>
<td>Higher Certificate</td>
</tr>
<tr>
<td>HEQC</td>
<td>Higher Education Quality Committee</td>
</tr>
<tr>
<td>HEQSF</td>
<td>Higher Education Qualifications Sub-Framework</td>
</tr>
<tr>
<td>IEA</td>
<td>International Engineering Alliance</td>
</tr>
<tr>
<td>LMS</td>
<td>Learning Management System</td>
</tr>
<tr>
<td>MEng</td>
<td>Master of Engineering</td>
</tr>
<tr>
<td>ND</td>
<td>National Diploma</td>
</tr>
<tr>
<td>NQF</td>
<td>National Qualifications Framework</td>
</tr>
<tr>
<td>PGDip Eng Tech</td>
<td>Post Graduate Diploma in Engineering Technology</td>
</tr>
<tr>
<td>RPSC</td>
<td>Research, Policy and Standards Committee</td>
</tr>
<tr>
<td>SA</td>
<td>Sydney Accord</td>
</tr>
<tr>
<td>SADC</td>
<td>Southern African Development Community</td>
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CONTROLLED DISCLOSURE
When downloaded for the ECSA Document Management System, this document is uncontrolled and the responsibility rests with the user to ensure that it is in line with the authorised version on the database. If the ‘original’ stamp in red does not appear on each page, this document is uncontrolled.
BACKGROUND

Figure 1 below defines the documents that comprise the Engineering Council of South Africa (ECSA) system for accreditation of programmes that meet the educational requirements for professional categories. The illustration also locates the current document.

Figure 1: Documents defining the ECSA Requirements for Accreditation

1. POLICY STATEMENT

ECSA develops and operates a quality assurance system that leads to the accreditation of various engineering education programmes. The standards, criteria, policies and procedures that define the accreditation system are defined in this set of documents.

The accreditation system assures the public, students, employers, funders and other stakeholders that firstly, the programme fulfils its key purpose of providing the graduate with
the educational foundation for engineering in a stated role at the professional level; and secondly, the teaching, learning and assessment processes are effective.

2. PURPOSE

The Accreditation Team Report consists of the elements defined in this document. The accompanying template is provided in electronic form and should be completed using MS-Word. Instructions to rapporteurs are italicised.

This form is to be used for Regular, Interim, Final, Provisional Accreditation and Initial types of evaluation but not Simplified Initial. In cases where the programme has not produced graduates, the evaluation is based on implementation already completed (if any) and planning information; the team must evaluate the actual factor if already implemented or the plans for satisfying each criterion. The team must choose wording to indicate whether an actual or a planned aspect is evaluated.

3. REPORT

The accreditation team is required to report on the programme holistically, including the evaluation against the accreditation criteria and any issues of concern and deficiency. In the case of a Provisional Evaluation or Initial Evaluation, the team must comment on the prognosis of the programme meeting the criteria when fully implemented.

The report must be suitable for the various audiences that may engage with its findings such as the education committee, the Dean, the Head of Department and the staff responsible for the programme. In addition, the audience may include university executives outside the faculty who are also responsible for the programme. These reports are also submitted to the Accreditation Directorate of the Council on Higher Education.

A Prescribed Evaluation form template for the programmes is available:

**E-14-TEM-P**: Annexure 1 to **E-14-TEM-P**: Template for Accreditation Reports on engineering type programmes
The template requires reporting under the following headings:

3.1 Institution, programme and team details
Use template provided below. Details including the name of the university, department, degree title (plus branch/option designators) and the abbreviation must correspond exactly to the official form, for example, as reflected in the relevant university rule book.

3.2 Background to the accreditation
For relevant background or contextual information, refer to previous accreditation decisions.

3.3 Criteria and procedures applied
List policies, criteria, standards and applied processes, referring to relevant documents and giving the revision number and date. This should be in a table format.

3.4 General observations of the programme and its provider
Provide holistic observations of the programme and the provider responsible for the programme (e.g. department or school, faculty or university level).

3.5 Follow-up on previous accreditation
List the deficiencies (if any) and concerns (if any) arising from previous accreditation(s) and summarise the provider's response to each and the team's evaluation of whether each issue has been resolved or not.

3.6 Structure, content and knowledge breakdown (Criterion 1)
- comment on the evidence (extent, adequacy, etc.) presented against this criterion in self-study and other material;
- present further information elicited during the accreditation (if relevant);
- comment on the team's evaluation of the evidence against this criterion (reasoning of the team, leading to the recommendation that is to be given);
- comment on the team's conclusion regarding compliance of programme with this criterion;
- introduce any deficiencies and concerns (Formal statement of concerns and
3.7 Assessment of graduate attributes (Criterion 2)
Follow approach detailed in section 3.6 above.

3.8 Quality of teaching and learning (Criterion 3)
Follow approach detailed in section 3.6 above.

3.9 Resources and sustainability and capacity for improvement (Criterion 4)
Follow approach detailed in section 3.6 above.

3.10 Response to previously identified deficiencies and concerns, capacity for improvement and programme review (Criterion 5)

In the case of deficiencies and concerns identified during the previous accreditation, such deficiencies and concerns must be adequately addressed.

3.11 Recommendation
- Preamble: Overall reasoning of the team leading to the recommendation
- Recommendation using one of the standard forms in Appendix A
- A clear, complete statement of any deficiencies and concerns in the format prescribed in Appendix B must be given

3.12 Acknowledgements

3.13 Signatures
The Accreditation Team Leader and the Accreditation Panel Leader must sign and date the final version of the report.
<table>
<thead>
<tr>
<th>Revision Number</th>
<th>Revision Date</th>
<th>Revision Details</th>
<th>Approved By</th>
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<td>25 Aug 2006</td>
<td>Adapted from PE-75 Rev. 4</td>
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<td>Rev. 3 Draft A</td>
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<td>22 May 2018</td>
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Template for:

Accreditation Team Report and Recommendation

Revision 5 dated 10 February 2021 and consisting of 38 pages has been reviewed for adequacy by the Business Unit Manager and is approved by the Executive: Research Policy and Standards (RPS).

[Signature]
Business Unit Manager

[Signature]
Executive: RPS

11/02/2021
Date

11/02/2021
Date

This definitive version of this policy is available on our website.
APPENDICES

Appendix A: Evaluation Support Forms

The Evaluation Support Forms lead the team through the accreditation criteria 1 to 4 and provide spaces for recording judgements and supporting notes against criteria and their sub-items. While Appendix A is attached to the report, the body of the report must stand alone.

Appendix A1: Possible recommendation formats

The Accreditation Team recommends to the Education Committee (EC) that … (Choose one of the following recommendations and delete the others.)

D1: At any type of accreditation or evaluation by an Interim Report (If the programme has no deficiencies)

The ........ degree/diploma programme is accredited until the year ........, that is, until the year of the next regular accreditation.

D2(a): At a Regular Accreditation (If the programme is deficient and an Interim Accreditation within one, two or three years is appropriate)

The ........ degree/diploma programme is accredited until the year ......... . Deficiencies identified in this report are to be addressed. An Interim Accreditation is required in ........(year) to evaluate the results of actions to overcome the deficiencies.

D2(b): At a Regular Accreditation (If the programme is deficient and an Interim Report within one year is appropriate)

The ........ degree/diploma programme is accredited until the year ......... . Deficiencies identified in this report are to be addressed. An Interim Report is required by ........(year), detailing actions undertaken to overcome the deficiencies and objective measures that indicate the success of these actions.
D3: In the case of evaluation by an Interim Report (Deficiencies persist from the previous accreditation or new deficiencies appear)

The ............ degree/diploma programme is accredited until the year ....... . Deficiencies identified in this report are to be addressed. Notice is given that an Interim Accreditation must be initiated within ..... months.

D4: During an Interim Accreditation (Deficiencies persist from the previous accreditation or new deficiencies appear)

The ............ degree/diploma programme is accredited until the year ....... . Deficiencies identified in this report are to be addressed. Notice is given that accreditation will be withdrawn if the deficiencies are not satisfactorily remedied. A final accreditation is required not later than ........(date) to evaluate the results of actions undertaken to overcome the deficiencies.

D5: During a Final Accreditation (Deficiencies persist from the previous accreditation or new deficiencies appear)

Accreditation of the ............ degree/diploma programme is to be withdrawn with effect from .......(date).

D6. During any of the above accreditations (Current or previously declared deficiencies for which there is a demonstrable lack of commitment and lack of capacity to improve)

Notice is hereby issued that accreditation of the programme will be terminated if deficiencies identified in this report are not remedied within six (6) months of the decision being communicated to the provider. A Final Accreditation must be conducted within this period. The provider must provide a plan for teaching out or transferring students registered in the programme should accreditation be withdrawn.
D7: For a programme not currently accredited *(Programme is judged to be deficient)*

The degree/diploma programme is not accredited due to the deficiencies identified in this report.

D8: For a programme evaluated for provisional accreditation *(Programme is judged likely to receive accreditation if implementation continues according to documented plans)*

The ……… degree/diploma programme is provisionally accredited until the year ……… . The first Regular Accreditation must take place the year after the first graduates are produced.

D9: For a programme that demonstrates actual or potential deficiencies *(Deficiencies make accreditation unlikely if implementation continues according to documented plans)*

Provisional accreditation will not be granted to the …. programme.

*In the case of a programme submitted for initial evaluation, the opinion on the planned programme is one of the following or a combination of items O2 and O3:*

O1: The planned programme for ……… as reflected in the documentation is free from deficiencies and concerns.

O2: Aspects of the planned programme for ……. as reflected in the documentation are potentially deficient in the criteria listed above.

O3: Aspects of the planned programme for ….. as reflected in the documentation are cause for concern regarding the criteria listed above.

*If necessary, for any type of accreditation, add:*

Concerns recorded in this report must be addressed and will be reviewed at the next regular accreditation.
Appendix B: Format for recording deficiencies or concerns

The programme is deficient in relation to Criterion X [item Y] in that … <Insert what was found and state why it does not meet the criterion.>

The team is concerned that the programme … <Describe the condition that is cause for concern and that relates to possible future non-compliance with criteria.>

The team comments that … <Describe the condition that is good or bad in the programme.>

ANNEXURE

Annexure 1 to E-14-P: Template for Accreditation Reports on Engineering Programmes

1. Institution, programme and team details

1.1 University

1.2 Department

1.3 Qualification: Full title, including branch/option

Qualification abbreviation

1.4 Person responsible for programme

1.5 Date of accreditation

1.6 Team

Leader

Member

Member

Member

1.7 Observers: Name and affiliation

1.8 Type of evaluation: Regular Accreditation, Interim Accreditation/Report or Final
See main document, E-14-P for instructions on completing the Report.

1. Background to the accreditation
2. Criteria and procedures applied
3. Follow-up on previous accreditation
4. General observations of the programme and its provider
5. Structure, content and knowledge breakdown (Criterion 1)
6. Assessment graduate attributes (Criterion 2)
7. Quality of teaching and learning (Criterion 3)
8. Resources and sustainability and capacity for improvement (Criterion 4)
9. Response to previously identified deficiencies and concerns, capacity for improvement and programme review (Criterion 5)
10. Recommendation
11. Acknowledgements

As Accreditation Team Leader, I certify that this report has been approved by the Team.

Accreditation Team Leader Date:

Report noted:
Deputy Accreditation Panel Leader: Date:

Report Noted:

Accreditation Panel Leader

Date
Annexure 2: Evaluation Support Forms

*Instruction:* In the right-hand column, insert a word or words that indicate the team’s judgement of the programme against the criterion or item. For example:

Yes/No Complies Concern exists Partly compliant Non-compliant No evidence
Not Applicable

Comment as required or use the spaces marked with < > to insert prose notes on potential deficiencies or concerns. Such entries support but do not remove the need for a properly reasoned account in the main body of the report.

*xx* refer to the credits defined for the qualification,

**Criterion 1: Structure, content and knowledge breakdown**

<table>
<thead>
<tr>
<th>Question 1.1: Does the programme purpose statement indicate the primary purpose of meeting the educational requirements for &lt;Category&gt;?</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; &gt;</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 1.2: Does the programme comprise a minimum of &lt;required credits&gt; (as defined in the relevant standard document with at least 120 credits at the exit level)?</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; &gt;</td>
<td></td>
</tr>
</tbody>
</table>

<p>| Question 1.3: Does the programme breakdown by knowledge area conform to the minima specified in the relevant standard? Use columns three and four in the table below for reporting |
|-------------------------------------------------------------------------------------------------|--------|
|                                                                                                 |        |</p>
<table>
<thead>
<tr>
<th>Knowledge area</th>
<th>Minimum Credits per Standard</th>
<th>Actual Credits</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>xx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>xx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering Sciences</td>
<td>xxx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design and Synthesis</td>
<td>xx</td>
<td></td>
<td></td>
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<tr>
<td>Complementary studies</td>
<td>xx</td>
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<tr>
<td>Subtotal</td>
<td>xxx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For reallocation</td>
<td>≥xxx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>≥xxx</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Question 1.4:** Does the programme have a coherent core consistent with the Level Descriptor and Range Statement of GA 2?  

Yes/No

**Question 1.5:** Does the programme have specialised study as described in the relevant standard document.  

Yes/No

**Question 1.6:** Does the programme (qualifier/s) that is consistent with the programme’s purpose and the engineering science content?  

Yes/No
Question 1.7: Does the programme have explicit rules of combination and progression?

Yes/No

Question 1.8: Does the programme have explicit horizontal and vertical articulation options?

< >

Criterion 2: Assessment of graduate attributes

Questions 2.1 and 2.2: Does the assessment process within the programme ensure that all graduates satisfy each graduate attributes defined in the relevant standard document?

use a documented set of assessment criteria and processes, which taken together demonstrate that the outcomes are satisfied at the level indicated by the range statement?

< >

Team's Evaluation

Complies Concern exists
Partly compliant Non-compliant No evidence
Not applicable

Exit-Level Outcomes

2.1: Problem-solving

Learning outcome: Identify, formulate, analyse and solve complex/broadly defined/well defined engineering problems. (See the relevant standard document for level descriptor)

< >
### 2.2: Application of scientific and engineering knowledge

**Learning outcome:** Apply knowledge of mathematics, natural sciences, engineering fundamentals and an engineering speciality to solve complex/broadly defined/well defined engineering problems. 
(See the relevant standard document for Level Descriptor and Range Statement)

< >

### 2.3: Engineering design

**Learning outcome:** Perform creative, procedural and non-procedural design and synthesis of components, systems, engineering works and products or processes. (See Range Statement for GA 3)

< >

### 2.4: Investigations, experiments and data analysis

**Learning outcome:** Demonstrate competence to design and conduct investigations and experiments. (See Range Statement for GA 4)

< >
### 2.5: Engineering methods, skills and tools, including information technology

**Learning outcome:** Demonstrate competence to use appropriate engineering methods, skills and tools, including those based on information technology. (See Range Statement for GA 5)

< >

### 2.6: Professional and technical communication

**Learning outcome:** Demonstrate competence to communicate effectively, both orally and in writing, with engineering audiences and the community at large. (See Range Statement for GA 6)

< >

### 2.7: Sustainability and impact of engineering activity

**Learning outcome:** Demonstrate critical awareness of the sustainability and impact of engineering activity on the social, industrial and physical environment. (See Range Statement for GA 7)

< >

### 2.8: Individual, team and multidisciplinary work

**Learning outcome:** Demonstrate competence to work effectively as an
individual, in teams and in multidisciplinary environments. (See Range Statement for GA 8)

< >

### 2.9: Independent learning ability

*Learning outcome:* Demonstrate competence to engage in independent learning through well-developed learning skills. (See Range Statement for GA 9)

< >

### 2.10: Engineering professionalism

*Learning outcome:* Demonstrate *critical awareness* of the need to act professionally and ethically and to exercise judgement and take responsibility within own limits of competence. (See Range Statement for GA 10)

< >

### 2.11: Engineering management

*Learning Outcome:* Demonstrate knowledge and understanding of engineering management principles and economic decision-making. (See Range Statement for GA 11)

< >
### 2.12: Work Integrated Learning (where applicable)

**Learning Outcome:** Demonstrate an understanding of workplace practices to solve engineering problems consistent with academic learning achieved.

(See range statement for GA 12)

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### Criterion 3: Quality of teaching and learning

#### Question 3: What is the team’s assessment of the programme in providing an effective teaching and learning process towards achievement of the outcomes as evidenced by the following?

**Evaluation**

- Complies
- Concern exists
- Partly compliant
- Non-compliant
- No evidence
- Not Applicable

#### 3.1: The content, learning objectives, expected outcomes and method of assessment for each module of the programme are defined and documented and are available to staff and students.

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#### 3.2: For each graduate, the information considered in 3.1 clarifies the modules in which the graduate attribute assessment takes place, the method of assessing the graduate attribute, the level of achievement required of the students and the consequences for the student of not satisfying the graduate attribute.

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#### 3.3: The teaching and learning strategy and methodology is designed to achieve the outcomes of the programme with students who meet the stated admission criteria.

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3.4: Suitable learning opportunities are provided to facilitate the acquisition of knowledge and skills specified in the programme outcomes.

3.5: The programme is effectively coordinated.

3.6: The learning process encourages independent learning attitudes and abilities, and an appropriate mix and balance between different teaching and learning methods is maintained to encourage active participation of students in the teaching and learning process.

3.7: The learning progress of students is appropriately monitored and where necessary, academic development support is provided to students through structured and monitored interventions.

3.8: Assessment practices and procedures provide feedback to students at regular intervals.

3.9: An internal process including moderation ensures that all forms of summative assessment of student performance within the programme are effective, fair and rigorous and address the stated learning objectives and outcomes.

3.10: Graduate attribute assessment is subject to external moderation.

3.11: The teaching and learning process
is monitored by an effective quality assurance process that supports continuous improvement.

3.12: Student retention and throughput rates are monitored, and measures are taken to identify and address factors that adversely affect throughput both overall and for distinct groups.

3.13: Where the rules of the programme require work-based learning for credit towards the qualification, the academic provider ensures that such learning is executed effectively and includes the following:

- a) The learning objectives and outcomes to be achieved are defined and agreed upon with the workplace provider.
- b) Effective placement of students and ongoing communication in the workplace takes place.
- c) Suitably qualified mentors who are technically competent in the discipline and the art of mentoring are available in the workplace.
- d) Students are mentored in the workplace, and their performance is monitored and recorded in relation to specified objectives.
- e) The student's performance and competence are assessed through a rigorous process; this assessment is the responsibility of the academic provider.

Quality assurance of work-based learning processes by the academic provider.
ensures achievement of the objectives defined in (a) above.
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3.14: Additional accreditation criteria required for online programmes.

3.14.1 All online material is available to students on a stable and affective network connection.
< >

3.14.2 The dedicated LMS makes provision for consultation, async and sync collaboration, communication, and feedback.
< >

3.14.3 The LMS makes provision for virtual simulation and WIL where required.
< >

3.14.4 The multipliers used for calculation of credits also account for async interaction with the learning material
< >

3.14.5 The virtual contact in async lecturing mode is clearly specified and is verifiable through the timetable, learning guides and LMS records.
< >

3.14.6 The learning progress of students is appropriately monitored for success, and where necessary academic development support is provided through structured and monitored online interventions.
< >

3.14.7 The method of assessment for each module is defined and documented in order to achieve and ensure assessment integrity.
< >

3.14.8 Method of identity verification for each student is defined and documented to achieve and ensure assessment integrity.
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Compiler: MB Mtshali
Approving Officer: EL Nxumalo
Next Review Date: 10/02/2025

| 3.14.9 | The complexity of assessment making use of continuous evaluation is at the correct NQF level and the evaluation can be externally moderated. |

| 3.14.10 | The integrity of assessment of Graduate Attributes conducted online, is demonstrated. |

| 3.14.11 | Institutional assistance with computer literacy is provided to students where required. |

| 3.14.12 | Institutional intervention with data availability and internet access is provided for students where necessary. |

| 3.14.13 | The academic staff responsible for the programme are IT literate and competent to offer the programme using the LMS and Proctoring software available at the engineering education provider. |

| 3.14.14 | The evidence of the online interaction between students and academic staff is provided. |

Criterion 4: Resources and sustainability and capacity for improvement

| Question 4. | What is the team's assessment of the programme in regard to the programme being adequately planned, resourced, led and executed to ensure that it is sustainable over the period of accreditation as evidenced by the statements below? |

| Evaluation | Complies Concern exists Partly compliant Non-compliant No evidence Not applicable |

<p>| 4.1: | The level of selection of students is commensurate with the programme's academic requirements. |</p>
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<tbody>
<tr>
<td><strong>4.2:</strong> The number of students admitted takes into account the capacity of the programme to offer quality education and to meet professional requirements.</td>
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<td><strong>4.3:</strong> The selection and admission of students is linked to the institution’s equity and diversity plans.</td>
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<td>&lt; &gt;</td>
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<tr>
<td><strong>4.4:</strong> The staff members responsible for leadership, planning and assessment at the exit level are professionally and technically competent in the respective disciplines. Registration with the ECSA in the appropriate professional category provides the norm for professional standing.</td>
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<td><strong>4.5:</strong> A strategy for recruitment, development and retention of academic staff is in place and is aligned with the diversity plan of the institution.</td>
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<tr>
<td><strong>4.6:</strong> The academic staff responsible for the programme are suitably qualified and have sufficient relevant experience and teaching and assessment competence.</td>
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<tr>
<td><strong>4.7:</strong> The number of academic and support staff is sufficient for the programme.</td>
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<td>&lt; &gt;</td>
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<td><strong>4.8:</strong> The academic staff members possess a range of specialities and abilities to teach at the fundamental and specialist levels required by the programme.</td>
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<tr>
<td><strong>4.9:</strong> Staff members have research profiles relevant to the</td>
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</table>
programme (See document E-03-CRI-P, Research ethos and university attitude to research and funding).

4.10: Appropriate research development opportunities and programmes for staff members are in place.

4.11: The allocation of funds and necessary resources to the school or department where the programme is located together with the appropriate utilisation of these resources by the school or department forms part of the institutional planning and quality assurance processes.

4.12: Budgetary allocations for the programme are adequate and are effectively utilised:
- Staffing budgets and resulting packages
- Laboratory equipment
- Computing and networking
- Hybrid learning requirements
- Running expenses
- Library facilities
- Work-based learning where applicable

4.13: Office, teaching and laboratory accommodation and equipment are adequate.

4.14: Studies on the effectiveness of the programme in meeting its objectives are undertaken at regular intervals. The results are used to improve programme design, delivery and resourcing and where necessary are used for staff
<table>
<thead>
<tr>
<th>development and student support.</th>
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<tbody>
<tr>
<td><strong>4.15:</strong> Where academic development students are offered within or are associated with the programme, the following are fulfilled:</td>
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<tr>
<td>a) The programme is designed to meet student state of preparation and progression towards the main programme.</td>
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<tr>
<td>b) Staff responsible for the academic development programme are adequately qualified, experienced and skilled.</td>
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<tr>
<td>c) Funding for the programme is adequate.</td>
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<tr>
<td>d) Realistic criteria are applied for acceptance of students into the academic development programme.</td>
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The academic development programme is quality assured.

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### 4.16 Additional Resource requirements for online programmes

#### 4.16.1 Is the following ICT infrastructure available and suitable for the task

- Computing
- Networking
- Security and integrity
- Software
- Licenses
- Suitability
- Invigilation
- Maintenance

#### 4.16.2 Are the budgetary allocations for capital and maintenance for the programme adequate and effectively used for;

- Computing
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</tbody>
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- Networking

- Software

- Licenses

- Updates and replacements

- Maintenance

4.16.3 Logistical requirements for remote Accreditation of online programmes,

- Access to the internet through a fast and reliable internet connection is provided for use by the Team members.

- Access to IT support is available, at all times, to assist Team members.

- Access to all online teaching platforms (LMS) in use is provided for Team members where required.
• Access to suitable video conferencing/communication software and network is provided for stable communication between Team members, staff and students when necessary.

• Communication between Team members, and Dean and HOD’s, is available at all times, during the remote Accreditation. Staff are available for remote interview purposes as far as possible during the accreditation, where required.

• Live online video and pre-recorded videos are available to provide evidence of activities during the accreditation.

• If applicable, live on-line video tours of students in action in laboratories are available during the accreditation, preferably allowing interaction between students, staff, and team members.

• Pre-recorded video evidence of layout and equipment in the laboratory’s is provided.
### Criteria 1–4

**Question 1–4:** If the programme is free from the deficiencies covered in Questions 1–4, is the programme capable of sustaining acceptable outcomes until the next regular accreditation?

If deficiencies are identified in Questions 1–4, is the provider judged to be capable of and committed to remedying the deficiencies to the required level within one, two or three years?

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<thead>
<tr>
<th>Criteria</th>
<th>Yes/No</th>
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<tr>
<td>1–4</td>
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<tr>
<td>Deficiencies identified</td>
<td>Yes/No</td>
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<tr>
<td>Capability to remediate</td>
<td>Yes/No</td>
</tr>
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### Criterion 5: Response to previously identified deficiencies and concerns, capacity for improvement and programme review

**Question 5.1:** In the case of concerns identified at the previous accreditation, have these been addressed by the university?

If not, does any previously identified concern rank as a deficiency?

If not, identify the unresolved concerns here and assess the consequences of lack of resolution.

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<tr>
<th>Question</th>
<th>Yes/No</th>
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<tr>
<td>5.1</td>
<td></td>
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<tr>
<td>Concerns</td>
<td></td>
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<tr>
<td>Addressed</td>
<td>Yes/No</td>
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**Question 5.2:** In the case of an Interim Report, Interim Accreditation or Final Accreditation, are there outstanding deficiencies from the previous accreditation report?

If present, identify the unresolved concerns here and assess the consequences of lack of resolution.

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<tr>
<th>Question</th>
<th>Yes/No</th>
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<tr>
<td>5.2</td>
<td></td>
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<tr>
<td>Deficiencies</td>
<td>Yes/No</td>
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