ENGINEERING COUNCIL OF SOUTH AFRICA *Standards and Procedures System*	
Criteria for Accreditation of **Engineering Programmes Meeting Stage 1 Requirements**	ECSA
Status: Approved by Council	

Document : E-03-P	**Rev-1**	**7 February 2008**

1. Purpose

This document defines the criteria for accrediting the following engineering programmes:

- BSc(Eng)/BEng programmes meeting Stage 1 requirements toward registration as a Professional Engineer and registration as a Candidate Engineer;
- BTech programmes meeting Stage 1 requirements toward registration as a Professional Engineering Technologist and registration as a Candidate Engineering Technologist; and
- National Diploma programmes meeting Stage 1 requirements toward registration as a Professional Engineering Technician and registration as a Candidate Engineering Technician.

These programme accreditation criteria are generic and are applied to the different qualifications by reference to the relevant standard, norm, code or by using peer judgement. The standards applicable to each type of programme are identified in Schedule 1.

Accreditation criteria are defined for three stages in the lifecycle of a programme. The criteria that must be satisfied by an existing programme that has produced a cohort of graduates are defined in section 3. Section 4 defines the requirements on an already implemented programme that has not yet produced graduates but has students who have completed half the credits toward the qualification. Section 5 defines the manner in which the criteria are applied to a proposed new programme. Proposed and developing programmes must be planned to meet the accreditation criteria.

2. Definitions

Definitions of terms are given in document E-01-P.

3. Criteria for Accreditation of Programmes that Have Produced Cohorts of Graduates

Criterion 1: Credits, Knowledge Profile and Coherent Design

The programme must be planned and executed to have:

1: Total credits specified in the relevant standards;
2: A knowledge profile defined in the relevant standard;
3: A coherent core appropriate to the purpose of the programme defined in the relevant standard;
4: Specialist study as required in the relevant standard;
5: A designation (qualifier) consistent with the programme's purpose and engineering sciences content;
6: Explicit rules of combination and explicit horizontal and vertical articulation options.

The relevant standards referred to in Criteria 1 and 2 are listed in Schedule 1.

Criterion 2: Assessment of Exit Level Outcomes

The assessment process within the programme must:
1. ensure that all graduates satisfy each exit level outcome defined in the relevant standard;
2. use a documented set of assessment criteria and processes that, taken together, demonstrate that the outcomes are satisfied at the level indicated by the range statement; and
3. use appropriate policies and procedures to validate assessment through internal and external moderation of assessment tasks by appropriately qualified and experienced personnel.

Note: Providers are accorded flexibility to use either the set of specified assessment criteria in the relevant standard or an alternative fully documented set that demonstrates achievement of the learning outcomes at the specified level.

Criterion 3: Quality of Teaching and Learning

The programme must provide an effective teaching and learning process toward achievement of the outcomes as evidenced by the following:
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.
2: The information in 1 makes clear, for each exit level outcome, the modules in which exit level assessment takes place, the method of assessing the exit level outcomes and the level of achievement required of the students.
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.
4: Suitable learning opportunities are provided to facilitate the acquisition of knowledge and skills specified in the programme outcomes.
5: The programme is effectively co-ordinated.
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
7: The learning progress of students is appropriately monitored and where necessary, academic development support is provided to students through structured and monitored interventions.
8: Assessment practices and procedures provide feedback to students at regular intervals.
9: An internal process including moderation ensures that all forms of summative assessment of student performance within programme are effective, fair, rigorous and address the stated learning objectives and outcomes.
10: Exit level assessment is subject to external moderation.
11: The teaching and learning process is monitored by an effective quality assurance process that supports continuous improvement.
12: Student retention and throughput rates are monitored and measures are taken to identify and address factors that adversely affect throughput.
13: The race and gender profile of the qualifying class increasingly resembles that of the entering class
14: Where work-based learning is required for credit toward the qualification, the academic provider ensures that learning is executed effectively including:
    a) The learning objectives and outcomes to be achieved are defined and agreed with the workplace provider;
    b) Effective placement, of students in the workplace and ongoing communication takes place;
    c) Suitably qualified mentors, 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 objectives;
    e) The student's performance and competence are assessed through a rigorous process: this assessment is the responsibility of the academic provider;

f) Quality assurance of work-based learning processes by the academic provider ensures achievement of objectives in (a).

Note: The Exit Level Outcomes defined for the qualification include those of work-based learning, where applicable.

Criterion 4: Resourcing and Sustainability of the Programme

The programme must be adequately planned, resourced, led and executed to ensure that it is sustainable over the period of accreditation.

1: The level of selection of students is commensurate with the programme's academic requirements.
2: The number of students admitted takes into account the capacity of the programme to offer good quality education and to meet professional requirements.
3: The selection and admission of students is linked to the institution's equity and diversity plans.
4: The staff members responsible for leadership, planning and assessment at the exit level are professionally and technically competent in the respective disciplines. Registration with ECSA in the appropriate professional category provides the norm for professional standing.
5: A strategy for recruitment, development and retention of academic staff is in place and is aligned with the diversity plan of the institution.
6: Equity plans for improving the diversity profile of the unit exist and are aligned with the equity plans and the diversity strategy of the institution.
7: The academic staff responsible for the programme are suitably qualified, have sufficient relevant experience and teaching and assessment competence.
8: The number of academic and support staff is sufficient for the programme.
9: The academic staff members have the range of specialities and abilities to teach at specialist and fundamental level that is required by the programme.
10: Staff members have research profiles relevant to the programme. (See Schedule 2, research ethos & funding.)
11: Appropriate research development opportunities and programmes for staff members are in place.
12: The allocation of funds and necessary resources to the school or department and appropriate utilisation of these resources by the school or department where the programme is located forms part of the institutional planning and quality assurance processes.
13: Budgetary allocations for the programme are adequate and are effectively utilised:
    a) Staffing budgets and resulting packages;
    b) Laboratory equipment;
    c) Computing and networking;
    d) Operating expenses;
    e) Library facilities;
    f) Where applicable: work-based learning.
14: Office, teaching and laboratory accommodation and equipment are adequate.
15: User surveys, reviews and impact studies on the effectiveness of the programme are undertaken at regular intervals. The results are used to improve programme design, delivery and resourcing, and for staff development and student support, where necessary
16: Where academic development programmes for students are offered within or associated with the programme:
    a) The programme is designed to meet student state of preparation and progression toward the main programme;
    b) Staff responsible for the academic development programme are adequately qualified, experienced and skilled;
    c) Funding for the programme is adequate;
    d) Realistic criteria are applied for acceptance of students into the academic development programme;

e) The academic development programme is quality assured.
Note: Academic development programmes may take on various forms: foundational, that is before entry to the main programme, or extended, that is integrated with the main programme.

Criterion 5: Response to Previously Identified Deficiencies and Concerns, Capacity for Improvement and Programme Review

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

4. Criteria for Provisional Accreditation of Developing Programmes that Have Not Yet Produced a Cohort of Graduates

This criterion applies to programmes of 360 Credits or more that have not yet produced a cohort of graduates but have students who have achieved at least half the academic credits for the programme.

To be granted provisional accreditation, the programme must:
1: Satisfy Criterion 1 as judged by the programme as documented and implemented;
2: Present a detailed assessment plan that demonstrates how the programme intends satisfying Criterion 2;
3: Present evidence of teaching and learning effectiveness against the sub-criteria of Criterion 3 (a) drawn from the part of the programme already implemented and (b) in the form of a plan for achieving effective teaching and learning for the remainder of the programme;
4: Present evidence of adequate resourcing and sustainability of the programme against the sub-criteria of Criterion 4. In particular, resources, (once-off and ongoing) already available, committed and requested for the programme against the sub criteria of Criterion 4 must be adequate.
5: Demonstrate the effectiveness of measures taken to address concerns raised during the Initial Evaluation as in 3 below.

5. Criteria for New Programmes

A new programme must:
1: Satisfy Criterion 1, as judged from the fully detailed proposed programme;
2: Present a detailed assessment plan that demonstrates how the programme intends satisfying Criterion 2;
3: Present a detailed plan for achieving teaching and learning effectiveness against the sub-criteria of Criterion 3;
4: Present evidence of planning and institutional commitment to the programme and providing resources for both start-up of the programme and on an ongoing basis against the sub-criteria of Criterion 4.

6. Schedules

Schedule 1: Standards applicable to programmes accredited by ECSA

Programmes leading to:	ECSA Document	SAQA NLRD Number & Registration Date
BSc(Eng)/BEng	E-02-PE Rev 2	48694 7 Apr 2004
BTech	E-02-PT Rev 1	49509 13 May 2005
National Diploma	E-02-PN Rev 1	49744 12 Oct 2005

Schedule 2: Research Criteria

Programmes leading to:	Staff Research Achievement Benchmarks
BSc(Eng)/BEng	As Department of Education Guidelines
BTech	No requirement
National Diploma	No requirement

Appendix: Correspondence with HEQC Criteria

HEQC Criterion	ECSA Criterion
2	4.1, 4.2
3	4.10
4	4.8
5	3.3
7	4.`3
10	3.5
11	3.7
12	3.3, 3.4
13	3.1, 3.2, 3.8, 3.9
14	3.9
15	3.14
17	3.12, 3.13
19	4.15

Revision History

Version	Date	Revision Authorized by	Nature of revision
Draft-1	15 Oct 1999	Accreditation Policy Working Group	Initial draft
Draft-2	28 Nov 2005	Accreditation Policy Working Group	First working group revision
Rev 0-Concept A	16 Feb 2006	Accreditation Policy Working Group	Second working group revision Assigned provisional S&P number
Rev0-Concept B	22 Feb 2006	Accreditation Policy Working Group	
Rev0-Concept C	22 May 2006	Accreditation Policy Working Group	Comments of CHE incorporated
Rev 0: Concept D	22 Aug 2006	Accreditation Policy Working Group	Editorial changes, New document identifier inserted
Rev 0: Draft A	30 Oct 2006	Accreditation Policy Working Group	Minor editorial changes, converted to draft status for referral to EPAC and TPAC.
Rev-0: Draft B	30 Nov 2006	EPAC	Reorder subcriteria into logical groups, minor corrections
Rev 0: Draft C	24 May 2007	Accreditation Policy Working Group	Move reference to HEQC criteria to appendix
Rev 1	7 Feb 2008	Council	