



ENSURING THE
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SOUTH AFRICA

Training Academy Self-Study Requirements

A-04-GL

REVISION 2: 01 September 2020

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DEFINITIONS

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 ECSA Act that has a distinctive purpose, characteristic competencies, defined principal routes to registration and designated educational requirements.

Certification: Formal recognition awarded to an education or training programme through a quality assurance procedure specifying that it meets the criteria laid down for the type of programme.

Certification criteria: Statements of requirements that must be satisfied by a programme in order to receive certification.

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

Final Visit: Visit held at a time within the cycle stated by the Central Registration Committee relating to the decision on the findings of the previous visit.

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

Level: A measure of learning demands expressed in terms of level descriptors for types of problems, knowledge required, skills and responsibility.

Interim Report: An evaluation of the aspects of a training programme as required by the Central Registration Committee in making the decision on the findings of the previous visit; this may require a further visit.

Interim Visit: Visit held at a time within the cycle stated by the Central Registration Committee in the decision regarding the findings of the previous visit.

Mentor: A professionally registered person who guides the competency development of a candidate in an appropriate category.

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Programme: A structured, integrated teaching arrangement with a defined purpose and pathway leading to a qualification.

Qualification: The formal recognition of a specified learning achievement usually awarded on successful completion of a programme.

Regular Visit: A visit that is held on a four-year cycle after the Training Academy has been certified by the ECSA.

Standards: Statements of outcomes to be demonstrated, level of performance, and content baseline requirements in the context of engineering training programmes.

Supervisor: A person who oversees and controls engineering work performed by a candidate

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ABBREVIATIONS

ECSA	Engineering Council of South Africa
EM	ECSA Education Manager

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DOCUMENT CUSTODIAN

The custodian of this document is the Research Policy and Standards Division. The Regulatory Functions Division is responsible for its implementation.

BACKGROUND

The documents that define the Engineering Council of South Africa (ECSA) system for certification of engineering training programmes meeting the professional competency requirements for registration are shown in Figure 1 which also locates the current document.

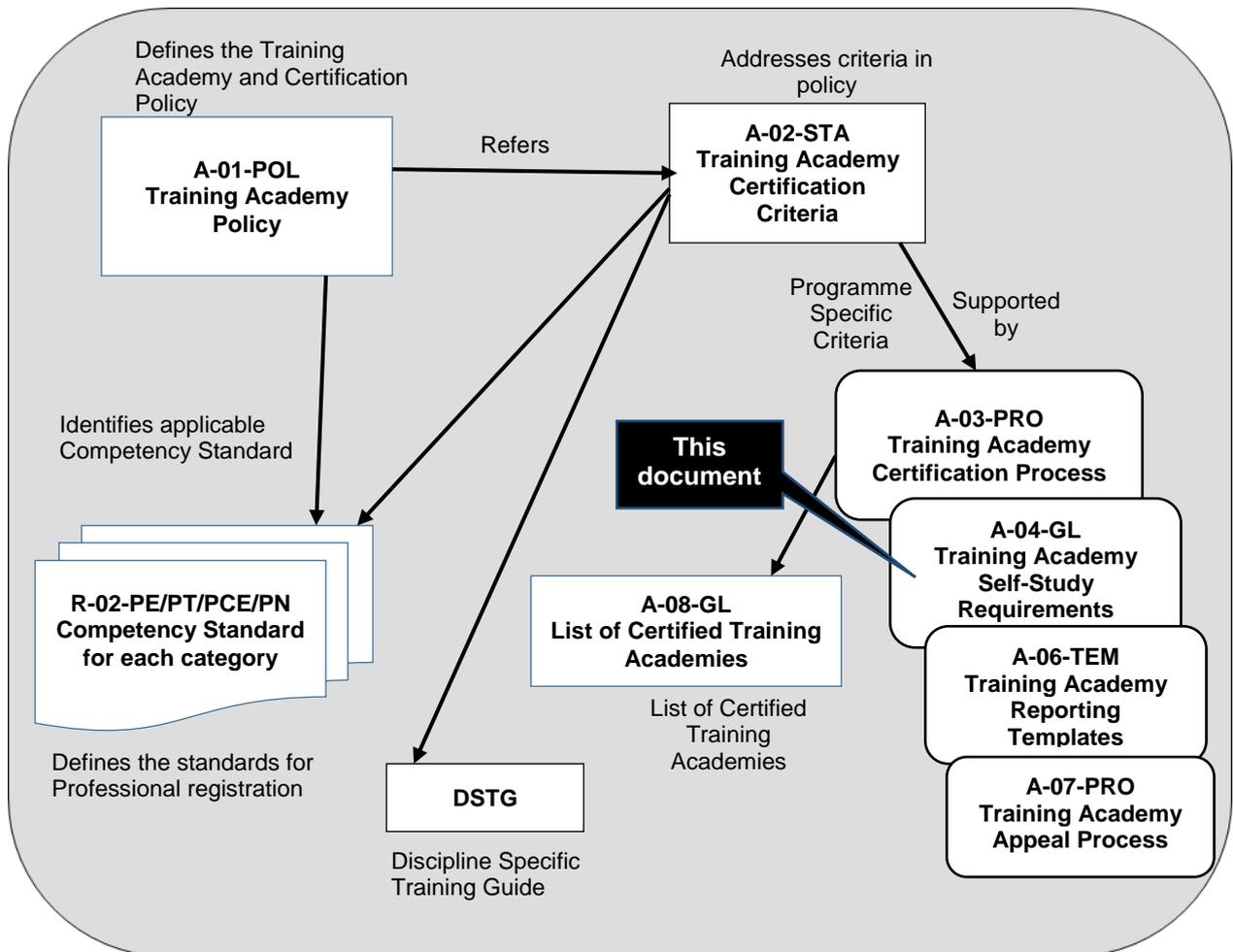


Figure 1: Documents defining the ECSA Training Academy System

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1. PURPOSE OF THIS DOCUMENT

This document specifies the responsibilities, timing, format and required content of the training programme self-study documentation to be submitted by an organisation prior to a certification visit. These requirements apply to training programmes contemplated in the certification criteria defined in document **A-02-STA**.

2. RESPONSIBILITY

In arranging a certification, ECSA deals with a single point of contact in the organisation, the Coordinator. The Coordinator is therefore responsible for ensuring that the necessary documentation is submitted to ECSA prior to the certification visit as may be required. The Coordinator is required to identify to ECSA the persons responsible for preparing the self-study documentation and coordinating the detailed arrangements for the training programme. ECSA's single point of contact is the Education Manager. Closer to the visit, other points of contact are as defined in **A-03-PRO**.

3. AVAILABILITY OF DOCUMENTATION

Documentation must reach ECSA's office not later than six weeks before the visit. ECSA reserves the right to cancel a certification visit if the documentation is not received in time.

Attention is drawn to the requirements of section 7 for documentation to be readily available during the visit. Failure to produce on-site documentation or undue delay may jeopardise a favourable team recommendation.

The Coordinator is expected to ensure that involved staff have access to the documentation as the team may raise matters from the documentation during interviews.

4. PROGRAMME SELF-STUDY DOCUMENTATION REQUIREMENTS

The following programme self-study documentation requirements are designed to provide the certification team with the information needed to make the evaluation. The documentation consists of four parts:

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1. Initial information provided by the Coordinator at the start of planning the visit, as specified in section 4.1
2. Submission by the Coordinator, as specified in section 5
3. Self-contained self-study submission for the training programme to be evaluated as specified in section 6
4. Information to be available during the visit as specified in section 7.

Five bound copies of the self-study, with its Appendix 1 bound separately, must be submitted. An electronic submission of the documents in items 1, 2 and 3 is also required. This may be on compact disk, memory stick or by arrangement, uploaded to an ECSA server.

Items 2 and 3 are to be submitted to ECSA at least six weeks prior to the visit. (The certification policy requires documentation as a **prerequisite** for a visit to take place and provides for cancellation of the visit should documentation not be submitted in time.)

4.1 Initial information to be submitted

When a certification visit is initiated, the Coordinator must submit the following information to ECSA for use in determining the team selection.

1. Training programmes that are offered or are planned for the period of certification.
2. For each programme:
 - (a) The person responsible for the programme
 - (b) The category and discipline of the training programme
 - (c) Major programme changes in progress or planned
 - (d) Degree of commonality of the assessment methodology with the other programmes.

5. VISIT DOCUMENTATION

5.1 General

To restrict the physical volume of pre-visit documentation, **double-sided printing** and a ring-binder that permits the volumes to be opened flat must be used.

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5.2 Submission by the Coordinator

Prior to each certification evaluation, the Coordinator is required to prepare and submit to ECSA a self-study statement encompassing the following:

- (a) Strategic objectives of the organisation, which is home to engineering training programmes, together with an assessment of the extent to which the training programmes are consistent with organisational objectives. These should be drawn from the company business plan or other approved documentation.
- (b) The organisation's objectives and commitment to the outcomes-based programme objectives and the graduates in training's training and experience assessment.
- (c) The provider and company's policy and practice for quality assurance and continuous quality improvement of the training programmes and assessment of the graduates in training.
- (d) Programme finances, capital and operating, for the present and four previous years: staffing, running, equipment, computing and networking funding.
- (e) Common facilities to support programmes.
- (f) Perceived strengths and weaknesses of the programmes.
- (g) Any other matters considered relevant.

6. VISIT DOCUMENTATION: SELF-STUDY SUBMISSION FOR EACH TRAINING PROGRAMME

Prior to each regular certification visit, the Coordinator is required to prepare and submit to ECSA a self-study statement encompassing the elements defined in sections 6.1 to 6.6.

These per-programme documentation requirements are written primarily for a Regular Visit, Interim Visit or Final Visit. In the case of an Interim Report, the assessment committee must specify the scope of the required documentation. In the case of a submission for Provisional Evaluation, the documentation must address all issues detailing the entire programme and

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plans or commitments for stages not implemented. In the case of a submission for Initial Evaluation, Simplified Initial Evaluation or Desktop Evaluation, items identified in **Table 1** must be addressed. In the case of Initial Evaluation, items identified in **Table 1** must be addressed at least at a planning level.

Table 1: Self Study documentation requirements

Type of evaluation	Self-study: Sections of E-12-P to be completed							
	6.1	6.2	6.3	App1	6.4	6.5	6.6	7
Initial Desktop	*		*	*	*	*	*	-
Provisional	*		*	-	-	-	-	-
Regular/Interim/Final	*	+	*	*	*	*	*	7.1,2,3,8

Key: *: Required, +: required for re-submission

Any major item of documentation not listed in section 5.2 that is common to all programmes may be included in the Coordinator's documentation and cross-referenced from the per-programme documents.

The Programme Coordinator designated by the Coordinator is responsible for the correctness and completeness of all documentation, both pre-visit and on-site; this responsibility may not be delegated to other staff members.

Persons responsible for preparing the self-study and on-site documentation must ensure that the documentation presents the evidence that allows the team to evaluate the programme against the criteria in **A-01-POL** (Training Academy and Certification Policy) using the framework in document **A-06-TEM** (reporting templates).

The section headings in section 6 may be used as section headings in the self-study submission.

6.1 Programme identification and responsibility

(a) Name of organisation.

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- (b) Name of section/department.
- (c) The person responsible for the programme.
- (d) Summarise any major changes, giving dates of implementation and cohorts of graduates in training affected, that have occurred since the last certification visit (if applicable).
 - Training and experience objectives, structure and content of training programme
 - Assessment of Competency Outcomes
 - Work horizon
 - Learning and mentoring
 - Quality assurance
 - Resourcing.
- (e) Describe plans for changes to the programme, outcomes, assessment and resources that can come into effect during the next certificate cycle. For every change, identify the cohort of graduates in training that will complete the programme under each identified variant discipline and the range of years over which graduates in training are expected to complete the programme.

6.2 Follow up on previous visit

Depending on the decision of the previous certification visit, provide statements on the following.

- (a) In the case of an Interim Report, Interim Visit, or a Final Visit:
 - A statement indicating how the deficiencies identified at the previous visit have been remedied
 - A statement of major changes to the programme unrelated to the deficiencies to be remediated.
- (b) If concerns were expressed in the previous visit decision letter, the training provider's response to those concerns must be detailed.

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6.3 Programme and course information

A statement of the training objectives (purpose) of the programme and the outcomes of the programme. The provider's format for stating objectives and outcomes to its graduates in training and constituency should be used:

- (a) A description of the structure of the programme, in terms of the outcomes to be achieved and the years to complete.
- (b) Analysis of the programme content.
- (c) Identification and description of the design of the core of the programme. This must be more than a mere list of the tasks: rather the logic underlying the construction of the core and arguments for its coherence must be presented.
- (d) A summary of the criteria for awarding credit, allowing re-assessment, allowing progression of graduates in training from one year to next and exclusion from the programme.

6.4 Assessment of outcomes and assessment system

In this section, the programme coordinator responsible for the programme is required to provide evidence the evaluation team can use to answer the following questions:

Questions 2.1 and 2.2. Does the assessment within the programme:

1. ensure that all graduates in training satisfy each 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?
 - (a) Each outcome specified in the relevant standard must be explicitly addressed in terms of the means of assessment and the criteria for satisfaction of each outcome and the required level. Evidence must be presented, with rows under each outcome, showing:

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- the tasks/problems in which assessment of the outcome takes place at the required level
 - the assessment criteria and the method of assessment
 - the level of performance required of the graduate in training
 - the consequences for the graduate in training of not satisfying the outcome.
- (b) Describe the internal policies and procedures to validate the assessment of the outcomes through internal processes.
- (c) Provide evidence of internal administrative checks and balances in the assessment system.
- (d) A concise analysis of the strengths and weaknesses of the system of assessing outcomes.

Note: Assessment material is to be made available on site as specified in section 7.

6.5 Mentoring and learning process

Provide evidence of the effectiveness of the mentoring and learning process within the programme addressing at least the following aspects:

1. Taking the graduate-in-training entry level into account, how does the programme:
 - (a) demonstrate the use of the fundamental and core disciplinary knowledge?
 - (b) demonstrate the use of the specialist knowledge?
 - (c) develop the student towards satisfying the outcomes?
2. How does the programme develop independent learning?
3. How is the programme co-ordinated?
4. How and at what stages is the progress of the graduates-in-training monitored?
5. List the mentors etc. together with their affiliations, qualification and the duties assigned to each.
6. Describe the processes used by the department/section for assessing and continuously improving the quality of the training and assessment for the programme. Provide

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specimen paper trails for quality assurance and improvement aspects of the programme.

7. Provide a brief description of administrative procedures for programme review and development, including external secondment if required.
8. What is the throughput of the programme and how does it vary by gender and race? What measures are taken to monitor and improve/maintain throughput?
9. Provide a concise analysis of the strengths and weaknesses of the training, assessment process and of the quality assurance and continuous improvement process.

6.6 Sustainability factors for the programme

6.6.1 Graduates in training

- (a) What are the entry routes to the programme, including academic development programmes, and what are the entry requirements for each route? Any admission rating formulas must be explained. What is the distribution of graduates in training entering by the various routes? What is the distribution of students by admission rating for recent graduates in training?
- (b) Describe the capacity of the organisation to conduct the programme for the enrolled number of graduates in training, considering other commitments the unit may have.

6.6.2 Staff

- (a) Provide a list of staff involved as supervisors in the programme with their academic and professional qualifications and experience, specialties. The registration status, with ECSA or other body, of each member of engineering staff must be shown.
- (b) Provide a description of strategies for staff recruitment, development and retention.
- (c) Provide a support staff list showing overall responsibilities and contributions to the programme.

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6.6.3 Resources

- (a) Budget allocations to the programme's host department over a five-year period under the headings: equipment, computing, operating, library books and journals. Headings may vary depending on provider budget categories used.
- (b) List of the laboratories etc. that support the programme with a short description of the facilities and function of each and the support provided for the programme.
- (c) Computing and networking facilities available both to the graduates in training in the programme, and to staff of the departments.

6.6.4 Impact of programme

Describe measures to assess the impact of the programme and how the results are used to improve the programme.

7. DOCUMENTATION TO BE AVAILABLE DURING VISIT

The following materials are to be available in the Team Conference Room during the certification visit. Alternatively, material may be presented in a properly indexed file system on a server accessible to the team.

- (a) Assessment Materials for each graduate in training, including assignments and project statements, designs and solutions (memoranda) and assessment against the outcome criteria for the last three years. Materials must be provided in a central venue for all graduates in training.
- (b) Examples of design and/or laboratory/investigational projects for the most recent year.
- (c) CVs of all involved staff. These may be full CVs or summarised in about two pages.
- (d) Documentation on the assessment process and signed examples.

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REVISION HISTORY

Revision number	Revision date	Revision details	Approved by
Concept A	September 2017	Adapted E-12-P for new A-05-P	John Cato
Concept B	17 September 2017	Various changes	RAH
Concept C	28 September 2017		28 September 2017
Concept C	9 October 2017	Approved	PDSGC
Rev 1.	16 November 2017	Ratification	Council
Rev 2	04 August 2020	Alignment to the Policy and Standards Framework on ECSA Policies.	EL Nxumalo
Rev 2	01 September 2020	Approval	RPSC

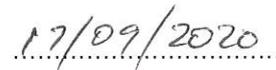
The Process for

Training Academy Self-Study Requirements

Revision 2 dated 01 September 2020 and consisting 15 pages reviewed for adequacy by the Business Unit Manager and is approved by the Executive: Research, Policy and Standards (RPS).



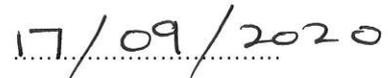
Business Unit Manager



Date



Executive: RPS



Date

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