A Strategic Framework for the development and monitoring of Academies for candidate training

Academy Framework

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E C S A

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1. Introduction

1.1 **Background**

1.1.1 The Engineering Council of South Africa (ECSA) is a Statutory Body established in terms of <u>Section 2 of the Engineering Professions Act No. 46 of 2000</u> (the Act). This Council operates within the ambit of the Built Environment Profession.

1.1.2 In terms of <u>Section 13 (i)</u> of the Act, ECSA states the following:
"give advice or render assistance to any educational institution, voluntary association or examining body with regard to educational facilities for and the training and education of registered persons and prospective registered persons."

1.1.3 ECSA has, through its Council-approved Annual Performance Plan, developed key strategic objectives targeted at the following thrusts:

1.1.3.1 Growing and retaining registered engineering practitioners by increasing the number of engineering practitioners to meet existing and future demands;

1.1.3.2 Creating public awareness of the engineering profession and its standards through public education, information and awareness programmes;

1.1.3.3 Protection of the health, safety and interests of the public through effective regulation of the profession;

1.1.3.4 Become responsive to the decision-makers through excellent stakeholder relationships; and

1.1.3.5 Develop proposals for specific projects and funding in partnership with Government and other stakeholders.

1.1.4 As part of its continuous review and improvement of its value proposition to the engineering profession and the effective execution of its legislative mandate, ECSA embarked on national roadshows during 2015 and 2016 which provided constructive feedback to ECSA on its role and its continued relevance and effectiveness. The engineering profession also communicated their expectations of ECSA.

1.1.5 It was during these nation-wide public consultation roadshows where ECSA gained insight into the lack of training for candidates in the Engineering profession. Many employers of engineering practitioners as well as institutions that procure engineering services do not have adequate training, development and mentoring programmes that provide support and exposure to aspirant engineering professionals to be equipped for professional registration with ECSA.

1.1.6 As a direct response to that stakeholder engagement and feedback, ECSA is taking active steps to reduce the number of engineers being lost in the engineering skills pipeline from graduation stage to full professional registration stage, by embarking on a number of projects.

1.1.7 This Academy Framework details one [1] of the projects, namely the establishment of Academies for training Candidates, and is in effect ECSA's response to the concerns and expectations raised by its stakeholders, in particular the area regarding Candidate Training.

This Academy Framework is intended to give effect to ECSA's strategic objectives (as articulated herein) and respond to stakeholder expectations regarding Candidate Training.

In addition, it seeks to define ECSAs role in Candidate Training by providing guiding principles in establishing & accrediting Academies

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1.2 **The Role of the Engineering Training in South Africa in context**

1.2.1 In the past, formal structured training was available in most state owned organisations, where candidates were taken through various programmes that ensured the candidate received the relevant training for their discipline.

1.2.2 However these training facilities did not continue, and were disbanded. This Academy Framework is to re-establish the vital part of engineering training by introducing a formal structured programme that is accredited by ECSA.

2. The Objective of an Academy Framework

2.1 As already stated above: ECSA is at the epicentre of engineering profession in South Africa. By law, ECSA is the only authority entrusted with the regulation of the engineering profession in South Africa. The engineering profession requires ECSA to provide the much-needed direction and leadership in a myriad engineering-related matters of national and international interest.

2.2 The idea of the Academy is to up skill the Engineering Profession and address the Scarce and/or Critical Skill shortage in the country, by ensuring appropriate training is given at the correct level.

2.3 The objective of this framework is to define the relevant aspects associated with the establishment and accreditation of an Academy.

3. Employer and Candidate Benefits

3.1   Employer Benefits

(i)   Registration is quicker
(ii)   Candidates trained by experienced mentors
(iii)   Employer has sight of graduates' progress

3.2   Candidate Benefits

(i)   Well rounded registered candidates
(ii)   Addresses Stage 1 of the professional registration process
(iii)   Incrementally log training and view percentage complete

4. The Academy Criteria

4.1 Some of the terms and requirements of an Academy are explained below.

4.2 To establish an Academy within an organisation, the organisation must make application to ECSA and complete the relevant documentation for ECSA to assess the feasibility of such an Academy.

    4.2.1 The Organisation must have the following:

- Infrastructure – Computers, Relevant Software, Desks

- Work – Live projects of relevant complexity must be available for candidates

- Mentors – Internal or External Mentors must be made available to all candidates at a feasible mentor to candidate ratio, the ideal ratio is no more than 1:4 (internal) 1:10 (external)

- Developmental Program in line with ECSA and the Skills Development Act Requirements.

4.3 The Academy on application will be endorsed by ECSA and will have not more than two [2] years to establish such an Academy as per the criteria set out in the Policy document.

4.4 After the first two [2] year establishment period, ECSA will carry out the organisation's first accreditation to ensure that the training programme is meeting the relevant criteria and may thereafter be accredited for another full three [3] year cycle.

4.5 If there are deficiencies noted, the organisation will require an interim visit after one [1] year to check if deficiencies have been fully addressed. If the deficiencies are fully addressed the organisation will receive full accreditation till the end of that cycle. However, if the deficiencies are not fully addressed the organisation will require a further final visit to check deficiencies.

4.6 If deficiencies are not fully addressed by the final visit the organisation will lose accreditation, and will need to reapply to ECSA to act as an Academy thereafter.

4.7 Candidates will be required to submit their training reports to the academy on an annual basis.

4.8 Candidates training reports will be assessed annually to determine their level of completion as defined in the Policy document.

4.9 The following questions and answers will also provide some guidance for the Policy document.

4.10 **What is Academy?**

    4.10.1 An Academy is an organisation that aims to promote and maintain standards in the engineering field through a structured training programme evaluated to meet the relevant criteria.

4.11 **What is an Accredited Academy?**

    4.11.1 An accredited Academy is an academy whereby ECSA have assessed its structured training programme and have found the Academy meeting all the relevant criteria for an academy and resources.

4.12 **Who is to be trained?**

4.12.1 All Candidates that have an accredited, recognized or assessed equivalent qualification and have registered with ECSA as a Candidate.

4.12.2 Graduates that require Work Integrated Learning (WIL) to complete their relevant qualification.

4.12.3 Experienced "Engineers" who are not professionally registered.

4.13 **What is the desired outcome to be achieved by the Academy?**

4.13.1 The desired outcome is to achieve all eleven [11] professional competency outcomes as defined in the relevant standards document for the appropriate level, as indicated below:

- Professional Engineer [R-02-PE]

- Professional Engineering Technologist [R-02-PT]

- Professional Certificated Engineer [R-02-PCE]

- Professional Engineering Technician [R-02-PN]

4.14 **What are the key training areas?**

4.14.1 The key training areas are defined in the competency standards and are in principle broken into six groups as follows:

- Engineering Problem Solving

- Managing Engineering Activities

- Impacts of Engineering Activities

- Exercise judgment, take responsibility and act ethically

- Initial Professional Development

- Relevant Legislation, Standards & Codes of Practice.

4.15 **Who will provide the training?**

4.15.1 The training can be provided by any organisation that is able to provide t h e candidate opportunities in each area of training through **actual work** of the organisation or pre-arranged with other relevant organisations.

4.15.2 The organisation will ensure **suitable mentors** are available to guide the candidates through the training programme and ensure the candidate receives relevant exposure to the necessary training areas as defined above.

4.15.3 Organisations must have at least one member that is trained as per the requirements of the Skills Development Act.

4.16 **How will the training be done?**

4.16.1 Training must be guided by the Mentor.

4.16.2 Bi-monthly meetings between the Candidate and Mentor must be recorded.

4.16.3 Candidates must work on current projects.

4.16.4 The organization and Mentor must facilitate Candidates' rotation to maximize training and minimize project impacts.

4.16.5 The Candidates must complete the relevant ECSA Training and Experience Reports (TER) and have them signed and submitted annually.

4.17 **How will the effectiveness of the training be assessed?**

4.17.1 The effectiveness of the training will be calculated by determining the percentage of Candidates that progress to professional registration after completion of the training programme.

4.18 **The Award Ceremony**

4.18.1 The Award Ceremony will be an annual event where those candidates who have gone through the training programme and made application for professional registration and became professionally registered will be issued their professional registration certificate.

4.18.2 The ceremony will also be a platform for selected candidates to present interesting or innovative projects, as selected by an ad-hoc assessment committee.

4.18.3 Top achievers will also receive prizes for the following categories:

- Best Mentor
- Best Candidate
- Best Academy

5. **ECSA's approach to translating the contents of this Framework into action:**

5.1 Policy Development

5.1.1 ECSA develop the necessary Policies to support this Framework which include but not limited to the following:
5.1.1.1　Academy Policy (A-01-P)
5.1.1.2　Academy Application Procedure (A-02-P)
5.1.1.3　Academy Accreditation Policy (A-03-P)
5.1.1.4　Academy Accreditation Process (A-04-P)
5.1.1.5　Academy Reporting Templates (A-05-P)
5.1.1.6　Academy Appeal Process (A-06-P)
5.1.1.7　List of Accredited Academies (A-07-P)

5.1.2 Obtain Council approval of the relevant documents as may be required.

5.1.3 ECSA establish an online platform to facilitate incremental logging of training experience of Candidates from, but not limited to these Academies.

5.2 Memorandum of Understanding (MoU)

5.2.1 ECSA identifies a potential organisation that would to establish an Academy and sign a MoU articulating the principles contained herein.

5.2.2 This organisation will be used as a Pilot Project to determine the effectiveness of such an Academy.

5.3 Appoint a Project Leader

5.3.1 The project leader shall be a person with training experience that will assist the organisation to establish an Academy at the organisation.

5.3.2 The project leader will ensure that the Academy is established according to the guiding principles in the appropriate Policy documentation established by ECSA.

5.3.3 The project leader will be remunerated by the organisation establishing the academy.

5.4 <u>Funding Proposal</u>

5.4.1 ECSA in cooperation with all relevant stakeholders shall develop a sustainable funding model that will assist in the role out of these proposed Academies.

5.4.2 The funding model must address the direct costs associated with the remuneration of the Project Leaders, Mentors, Skills Development Facilitators, ECSA volunteers as defined below:

5.4.2.1 Project Leaders – The project leader must facilitate the establishment of a new academy as per the requirements of ECSA. A project leader will preferably be a registered Skills Development Facilitator.

5.4.2.2 Mentors – The mentors will coordinate the candidates training within the Academy as may be required to achieve the necessary training.

5.4.2.3 Skills Development Facilitators – The Skills Development Facilitator is to ensure the training programme maintains its accreditation status with ECSA.

5.4.2.4 ECSA Volunteers – The ECSA volunteers need to ensure each TER is assessed as per the policy. This assessment process will cost more than the normal process for professional assessment. Each volunteer

for Experience Appraisal currently gets remunerated at approximately R200 for each assessment; hence with the incremental assessment approach could be remunerated around R360 per complete assessment, which is approximately 180% more than the current process.

5.5 <u>Collaboration</u>

5.5.1 In this regard, the successful retention of the spirit and content of this Framework hinges on cooperation between ECSA and all the relevant stakeholders.

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