water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

LEARNING ACADEMY

GRADUATE TRAINEE LOGBOOK

QUALIFICATION

BEng. MECHANICAL ENGINEERING

INITIALS AND SURNAME

Name

YEAR OF COMMENCEMENT

Year

PERSAL NUMBER

PN

Table of Contends

SECTION 1

DEFINITIONS, GENERAL INFORMATION AND ROLES AND RESPONSIBILITIES

1. DEFINITIONS

TERM	DEFINITION
Learning academy	A departmental institution initiated and supported by government to address development of skills in the various disciplines
Professional bodies	A structured body controlling the competence of a candidate member in the respective field of qualification in accordance with the relevant legislation and applicable requirements
Program manager	The head of the Learning Academy ensuring compliance of training and workplace exposure of Graduate Trainees with professional body requirements
Project Coordinator	A person facilitating, co-ordinating and supporting all Learning Academy activities
Stream leader	A person facilitating and co-ordinating the management of mentors
Mentor	A person overseeing the training and workplace exposure of the Graduate Trainee
Supervisor	A person undertaking daily supervision and training in accordance with a structured training program
Graduate Trainee	A candidate undertaking relevant training and workplace exposure with the intention of registering as a professional with the relevant professional body when applicable
Structured training program	A time bound program designed by professionals complying with professional body requirements and standards

2. GENERAL INFORMATION

The Graduate Trainee is contractually appointed for a maximum duration of 5 years to undertake a structured training program in order to obtain professional status.

A stream leader will be allocated by the Project Coordinator in the specific field of qualification.

A mentor, in addition to the supervisor, will be allocated to the Graduate Trainee by the stream leader for specific time frames on a rotational basis. The mentor will ensure implementation of the relevant structured training program. The mentor may in turn appoint a supervisor.

Proper *lines of communication* must be adhered to i.e.

- Graduate Trainee ⇔ Supervisor/ Mentor ⇔ Stream Leader ⇔ Project Coordinator ⇔ Program Manager

3. ECSA POLICY STATEMENT R2/1C - ENGINEER

(a) **Professional Engineers** are concerned primarily with the progress of technology through innovation, creativity and change. Their work involves the application of a significant range of fundamental principles, enabling them to develop and apply new technologies, promote advanced designs and design methods, introduce new and more efficient production techniques, marketing and construction concepts, and pioneer new engineering services and management methods. They may be involved with the management and direction of high risk and resource intensive projects. Professional Engineers undertake and lead varied work that is essentially intellectual in nature, requiring discretion and judgement. Such work has its base in proficiencies and competencies derived from and extended by experience and research. It is concerned with cost effective, timely, reliable, safe, aesthetically pleasing and environmentally sustainable outcomes.

(b) Candidate Engineers are people who have passed an accredited programme(s) and/or examination recognised by Council is eligible for registration in the candidate engineer category in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000).

3.1. Significance of registration as a Professional Engineer

The significance of registration as a Professional Engineer is that:

(a) It is a commitment to subscribe to the ***standards*** set by ECSA and to work within the ECSA Code of Conduct.
(b) It is ***proof of competency*** in terms of the standards of a Professional Engineer, measured by peers.

These features contribute to the protection of the public with respect to the work of a Professional Engineer and lend confidence in appointing such a person to carry out engineering work.

3.2. Criteria for Registration

(a) In the case of a person applying for registration as a **candidate** [engineer] has satisfied the relevant educational outcomes determined by the council for this purpose, by:

(i) *having **passed** accredited or recognised **examinations** at any educational institution offering educational programmes in engineering;* **and**
*(ii) having **passed** any **other examination** that may be determined by the council;* **or**
*(iii) presenting **evidence of prior learning** in engineering.*

(b) In the case of a person applying for registration as a **professional** [engineer]:

*(i) has demonstrated his or her **competence** as measured against standards determined by the council for the relevant category of registration;* **and**

*(ii) has **passed any additional examinations** that may be determined by the council.*

3.3. Scope and Level of Engineering Work for Candidate Engineers

Acceptable practical training must provide satisfactory experience to candidate engineers in the application of engineering principles and methods and must include the practical training elements as stated in § 3.1 to § 3.3, at the level of responsibility stated in § 3.4.

(3.1) **Problem Investigation**

The work must be aimed at investigating engineering problems and for which engineering judgement is required. The following practical engineering functions are contained in such work to a greater or lesser degree:

(a) problem identification and formulation;
(b) finding and selecting relevant information;
(c) evaluating, investigating, testing and research;
(d) analysis of all factors that influence the solution like relevant engineering and scientific principles;

(3.2) **Problem Solution**

The work must be aimed at the full development of the suggested solution to the problem through a process of synthesis, with the application of all information acquired during the problem investigation, also using design, development and communication. This includes but is not limited to the drawing up of plans, detailed designs, reports, specifications, adjudication of tenders taking into account all practical, economic, social, environmental, quality assurance, safety and statutory factors.

(3.3) **Execution / Implementation**

The work must be aimed at the execution of engineering tasks or projects (for example construction, manufacturing, transformation, processing, production, commissioning, testing, certification, quality assurance, operation, maintenance and closure) encompassing the efficient utilisation of people, materials, machines, equipment, means and funding with due regard for their interaction, to achieve the end result within the set parameters.

(3.4) **Responsibility**

The work must be aimed at increasing engineering and managerial responsibility until candidate engineers are clearly able to accept professional responsibility for taking engineering decisions. Part of their responsibility should also be to ensure that sufficient cognisance is taken of economic considerations, social circumstances, environmental factors, quality assurance, safety and legal aspects as well as of the code of professional conduct.

3.4. Duration of Practical Training

The *minimum* duration of practical training is *three years*.

Council will consider experience and training prior to obtaining an educational qualification on merit when assessing competence.

3.5. Documentation for the Recording of Training

Documentation is part of the practical training process. As such it is understood that the Candidate Engineer is responsible for preparing and keeping documentation that is necessary to manage the training process.

Portfolio of Learning

(a) A portfolio of learning is an individual's record of knowledge and skills acquired during his or her career.

(b) Council does not prescribe documentation for a training programme or that a portfolio is a compulsory part of practical training.

(c) It is recommended that Candidate Engineers keep records of their training. An adequately compiled portfolio of learning, kept up to date with ones learning, contains the evidence necessary to submit an application for registration when the required standard is reached.

This makes the preparation of an application for registration far easier than it would be if evidence must be collected some years after the learning took place.

(d) It is strongly recommended that Candidate Engineers include the following in their portfolios:

(i) Copies of training programmes and records of compliance with programmes
(ii) Records of achievements
(iii) Assessment results
(iv) Documentation from supervisors, coaches, assessors and mentors
(v) Examples or evidence of work done

In addition it is recommended that training and experience reports (as found in the application form for registration, available from ECSA – at www.ecsa.co.za) are completed and signed by supervisors when relevant sections of work (such as projects) are completed. This will save having to recreate reports and find individuals who can vouch for authenticity some time after the work has been completed.

4. ROLES AND RESPONSIBILITIES

4.1. Project Coordinator

The **Project Coordinator** is responsible for:

- Ensuring that a relevant structured training program is in place
- Compliance with the structured training program by the stream leader
- Compliance with the administrative functions of the stream leader
- Collating and consolidating Graduate Trainees' progress/ reports
- Feedback on training and administrative matters to the Programme Manager
- Quality control on the process.

4.2. Stream Leader

The **Stream Leader** is responsible for:

- The design and review of a relevant structured training program
- Provide the Mentor with a logbook for further distribution to the Graduate Trainee
- Compliance with the structured training program by the mentor
- Compliance with the administrative functions of the mentor
- Regular overall assessments on Graduate Trainees
- Coordinate quarterly probation reports
- Graduate Trainee interventions
- Graduate Trainee rotations

- Feedback on training and administrative matters to the Project Coordinator
- Quality control on structured training programs.

4.3. Mentor

The **Mentor** is responsible for:

- The implementation of a detailed structured training program, attached to time frames
- Provide the Graduate Trainee with a logbook and oversee the proper update thereof
- Ensuring compliance with the structured training program by the supervisor
- Assuring that the day-to-day supervision and training is carried out by the supervisor
- Providing guidance and encouragement other than 'day-to-day' supervision and training
- Ensuring that the Graduate Trainee receives fair opportunity to develop
- Acting as a role model
- Quarterly assessments on Graduate Trainees
- Quarterly probation reports
- Signing off of the quarterly technical reports
- Feedback on training and administrative matters to the Stream Leader.
- Being an ECSA Referee.

4.4. The Graduate Trainee

The **Graduate Trainee** is responsible for:

- Committed and dedicated undertaking of the structured training program;
- Displaying professionalism;
- Register with the professional body ECSA as a candidate;
- Acting responsibly in undertaking the structured training;
- Recording and updating daily activities;
- Updating the logbook;
- Submitting on a quarterly basis (no later than one month after the relevant quarter) :
  - Log of detailed exposure (extract of logbook);
  - Summary of workplace exposure (extract of logbook);
  - Evaluation (person & engineering);
  - Probation report;
  - Technical report (including feedback on courses attended);
  - ECSA status.

SECTION 2

PERSONAL INFORMATION; SUMMARY OF WORKPLACE EXPOSURE, EVALUATION OF TRAINING & AND COMMENTS

PERSONAL INFORMATION

SURNAME	
FULL NAMES	
CALL NAME	
RACE	
GENDER	
PERSAL NUMBER	
DATE APPOINTED (GRADUATE TRAINEE)	
IDENTITY NUMBER	
ECSA NUMBER & DATE OF REGISTRATION	
PHONE NUMBERS **LANDLINE** **MOBILE**	
POSTAL ADDRESS	
HOME ADDRESS	
NEXT OF KIN: NAME **CONTACT NUMBER**	
WORKPLACE 1 & DATE	
WORKPLACE 2 & DATE	
WORKPLACE 3 & DATE	
WORKPLACE 4 & DATE	
WORKPLACE 5 & DATE	
WORKPLACE 6 & DATE	
WORKPLACE 7 & DATE	
WORKPLACE 8 & DATE	

SUMMARY OF WORKPLACE EXPOSURE

	WORKPLACE & SHORT DESCRIPTION OF RESPONSIBILITY (Categorise from DETAILED LOG – section 3) Eg DRAWING OFFICE Pretoria: Editing drawings, Design drawings (outlet) De Hoop, Design WRM: Durban: Dam Safety inspections, Licence applications HYDRO: Boskop: Inspection of weirs, Installation of instrumentation	PERIOD OF ATTENDANCE (Day, Month & Year) FROM	TO	MONTHS Exposure	AVERAGE RESULT (%) (If applicable)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
		TOTAL AMOUNT OF MONTHS			

SUMMARY OF WORKPLACE EXPOSURE CONTINUED

	WORKPLACE & SHORT DESCRIPTION OF RESPONSIBILITY (Categorise from DETAILED LOG – section 3) Eg DRAWING OFFICE Pretoria: Editing drawings, Design drawings (outlet) De Hoop, Design WRM: Durban: Dam Safety inspections, Licence applications HYDRO: Boskop: Inspection of weirs, Installation of instrumentation	PERIOD OF ATTENDANCE (Day, Month & Year)		MONTHS Exposure	AVERAGE RESULT (%) (If applicable)
		FROM	TO		
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
		TOTAL AMOUNT OF MONTHS			

EVALUATION YEAR 1: QUARTER 1 PERIOD:

Training and workplace exposure

Detail of workplace exposure with reference to the structured training program:

Elements of workplace exposure	Duration (weeks/months)

Evaluation must be conducted in accordance with the following guidelines and rating table:

1	**Poor**	< 40 %	**2**	**Not Satisfactory**	40 – 49 %
3	**Satisfactory**	50 – 59 %	**4**	**Good**	60 – 74 %
5	**Excellent**	75 – 100 %			

General behaviour

EVALUATION:	TICK THE RELEVANT BOX WITH AN X				
	Poor	**Non-satisfactory**	**Satisfactory**	**Good**	**Excellent**
1. Responsibility					
2. Independence					
3. Voluntary overtime service					
4. Attendance					
5. Professional Conduct					
6. Driving-force					
7. Planning					
8. Thoroughness & Exactness					
9. Purposefulness					
10. Leadership					
11. Enthusiasm					
12. Self-confidence					
13. Friendliness & Helpfulness					
14. Appearance & Dress					
15. Willingness to learn					

Workplace exposure

EVALUATION: ENGINEERING WORK	TICK THE RELEVANT BOX WITH AN X				
	Poor	Not satisfactory	Satisfactory	Good	Excellent
1. APPLICATION OF THEORETICAL KNOWLEDGE					
2. APPLICATION OF SKILLS					
3. ORGANISATIONAL ABILITIES					
4. LEVEL OF UNDERSTANDING					
5. ACCURACY OF CALCULATIONS					
6. PROBLEM SOLVING ABILITIES					
7. PRODUCTIVITY					
8. GROWTH					
9. LEVEL OF RESPONSIBILITY AND ACCOUNTABILITY (as Technician)					
10. OVERALL PERFORMANCE					
11. OVERALL RATING (General behaviour & Workplace exposure)					

Comments
Mentor / Instructor:

……
Signature: Mentor / Instructor & Date

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Mentor's / Instructor's Surname & Rank & ECSA no

……
Noted signature Graduate Trainee & Date

……
Graduate Trainee's Surname & ECSA no.

EVALUATION YEAR 1: QUARTER 2 PERIOD:

Training and workplace exposure

Detail of workplace exposure with reference to the structured training program:

Elements of workplace exposure	Duration (weeks/months)

Evaluation must be conducted in accordance with the following guidelines and rating table:

1	**Poor**	< 40 %	**2**	**Not Satisfactory**	40 – 49 %
3	**Satisfactory**	50 – 59 %	**4**	**Good**	60 – 74 %
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Signature: Mentor / Instructor & Date

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Mentor's / Instructor's Surname & Rank & ECSA no

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Noted signature Graduate Trainee & Date

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Graduate Trainee's Surname & ECSA no.

EVALUATION YEAR 2: QUARTER 1 PERIOD:

Training and workplace exposure

Detail of workplace exposure with reference to the structured training program:

Elements of workplace exposure	Duration (weeks/months)

Evaluation must be conducted in accordance with the following guidelines and rating table:

1	**Poor**	< 40 %	**2**	**Not Satisfactory**	40 – 49 %
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Signature: Mentor / Instructor & Date

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Mentor's / Instructor's Surname & Rank & ECSA no

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Graduate Trainee's Surname & ECSA no.

EVALUATION YEAR 2: QUARTER 2 PERIOD:

Training and workplace exposure

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Elements of workplace exposure	Duration (weeks/months)

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Noted signature Graduate Trainee & Date

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Graduate Trainee's Surname & ECSA no.

EVALUATION YEAR 2: QUARTER 3 PERIOD:

Training and workplace exposure

Detail of workplace exposure with reference to the structured training program:

Elements of workplace exposure	Duration (weeks/months)

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1	**Poor**	< 40 %	**2**	**Not Satisfactory**	40 – 49 %
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Mentor's / Instructor's Surname & Rank & ECSA no

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Noted signature Graduate Trainee & Date

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EVALUATION YEAR 2: QUARTER 4 PERIOD:

Training and workplace exposure

Detail of workplace exposure with reference to the structured training program:

Elements of workplace exposure	Duration (weeks/months)

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Mentor's / Instructor's Surname & Rank & ECSA no

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Noted signature Graduate Trainee & Date

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Graduate Trainee's Surname & ECSA no.

EVALUATION YEAR 3: QUARTER 1 PERIOD:

Training and workplace exposure

Detail of workplace exposure with reference to the structured training program:

Elements of workplace exposure	Duration (weeks/months)

Evaluation must be conducted in accordance with the following guidelines and rating table:

1	**Poor**	< 40 %	**2**	**Not Satisfactory**	40 – 49 %
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Workplace exposure

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EVALUATION YEAR 3: QUARTER 2 PERIOD:

Training and workplace exposure

Detail of workplace exposure with reference to the structured training program:

Elements of workplace exposure	Duration (weeks/months)

Evaluation must be conducted in accordance with the following guidelines and rating table:

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Mentor / Instructor:

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Signature: Mentor / Instructor & Date

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Mentor's / Instructor's Surname & Rank & ECSA no

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Noted signature Graduate Trainee & Date

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Graduate Trainee's Surname & ECSA no.

EVALUATION YEAR 3: QUARTER 3 PERIOD:

Training and workplace exposure

Detail of workplace exposure with reference to the structured training program:

Elements of workplace exposure	Duration (weeks/months)

Evaluation must be conducted in accordance with the following guidelines and rating table:

1	**Poor**	< 40 %	**2**	**Not Satisfactory**	40 – 49 %
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Workplace exposure

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1. APPLICATION OF THEORETICAL KNOWLEDGE					
2. APPLICATION OF SKILLS					
3. ORGANISATIONAL ABILITIES					
4. LEVEL OF UNDERSTANDING					
5. ACCURACY OF CALCULATIONS					
6. PROBLEM SOLVING ABILITIES					
7. PRODUCTIVITY					
8. GROWTH					
9. LEVEL OF RESPONSIBILITY AND ACCOUNTABILITY (as Technician)					
10. OVERALL PERFORMANCE					
11. OVERALL RATING (General behaviour & Workplace exposure)					

Comments
Mentor / Instructor:

……
Signature: Mentor / Instructor & Date

……
Mentor's / Instructor's Surname & Rank & ECSA no

……
Noted signature Graduate Trainee & Date

……
Graduate Trainee's Surname & ECSA no.

EVALUATION YEAR 3: QUARTER 4 PERIOD:

Training and workplace exposure

Detail of workplace exposure with reference to the structured training program:

Elements of workplace exposure	Duration (weeks/months)

Evaluation must be conducted in accordance with the following guidelines and rating table:

1	**Poor**	< 40 %	**2**	**Not Satisfactory**	40 – 49 %
3	**Satisfactory**	50 – 59 %	**4**	**Good**	60 – 74 %
5	**Excellent**	75 – 100 %			

General behaviour

EVALUATION: PERSON	TICK THE RELEVANT BOX WITH AN X				
	Poor	**Non-satisfactory**	**Satisfactory**	**Good**	**Excellent**
1. Responsibility					
2. Independence					
3. Voluntary overtime service					
4. Attendance					
5. Professional Conduct					
6. Driving-force					
7. Planning					
8. Thoroughness & Exactness					
9. Purposefulness					
10. Leadership					
11. Enthusiasm					
12. Self-confidence					
13. Friendliness & Helpfulness					
14. Appearance & Dress					
15. Willingness to learn					

Workplace exposure

EVALUATION: ENGINEERING WORK	TICK THE RELEVANT BOX WITH AN X				
	Poor	Not satisfactory	Satisfactory	Good	Excellent
1. APPLICATION OF THEORETICAL KNOWLEDGE					
2. APPLICATION OF SKILLS					
3. ORGANISATIONAL ABILITIES					
4. LEVEL OF UNDERSTANDING					
5. ACCURACY OF CALCULATIONS					
6. PROBLEM SOLVING ABILITIES					
7. PRODUCTIVITY					
8. GROWTH					
9. LEVEL OF RESPONSIBILITY AND ACCOUNTABILITY (as Technician)					
10. OVERALL PERFORMANCE					
11. OVERALL RATING (General behaviour & Workplace exposure)					

Comments
Mentor / Instructor:

……
Signature: Mentor / Instructor & Date

……
Mentor's / Instructor's Surname & Rank & ECSA no

……
Noted signature Graduate Trainee & Date

……
Graduate Trainee's Surname & ECSA no.

EVALUATION YEAR 4: QUARTER 1 PERIOD:

Training and workplace exposure

Detail of workplace exposure with reference to the structured training program:

Elements of workplace exposure	Duration (weeks/months)

Evaluation must be conducted in accordance with the following guidelines and rating table:

1	**Poor**	< 40 %	**2**	**Not Satisfactory**	40 – 49 %
3	**Satisfactory**	50 – 59 %	**4**	**Good**	60 – 74 %
5	**Excellent**	75 – 100 %			

General behaviour

EVALUATION: PERSON	TICK THE RELEVANT BOX WITH AN X				
	Poor	**Non-satisfactory**	**Satisfactory**	**Good**	**Excellent**
16. Responsibility					
17. Independence					
18. Voluntary overtime service					
19. Attendance					
20. Professional Conduct					
21. Driving-force					
22. Planning					
23. Thoroughness & Exactness					
24. Purposefulness					
25. Leadership					
26. Enthusiasm					
27. Self-confidence					
28. Friendliness & Helpfulness					
29. Appearance & Dress					
30. Willingness to learn					

Workplace exposure

EVALUATION: ENGINEERING WORK	TICK THE RELEVANT BOX WITH AN X				
	Poor	Not satisfactory	Satisfactory	Good	Excellent
12. APPLICATION OF THEORETICAL KNOWLEDGE					
13. APPLICATION OF SKILLS					
14. ORGANISATIONAL ABILITIES					
15. LEVEL OF UNDERSTANDING					
16. ACCURACY OF CALCULATIONS					
17. PROBLEM SOLVING ABILITIES					
18. PRODUCTIVITY					
19. GROWTH					
20. LEVEL OF RESPONSIBILITY AND ACCOUNTABILITY (as Technician)					
21. OVERALL PERFORMANCE					
22. OVERALL RATING (General behaviour & Workplace exposure)					

Comments
Mentor / Instructor:

……
Signature: Mentor / Instructor & Date

……
Mentor's / Instructor's Surname & Rank & ECSA no

……
Noted signature Graduate Trainee & Date

……
Graduate Trainee's Surname & ECSA no.

EVALUATION YEAR 4: QUARTER 2 PERIOD:

Training and workplace exposure

Detail of workplace exposure with reference to the structured training program:

Elements of workplace exposure	Duration (weeks/months)

Evaluation must be conducted in accordance with the following guidelines and rating table:

1	**Poor**	< 40 %	**2**	**Not Satisfactory**	40 – 49 %
3	**Satisfactory**	50 – 59 %	**4**	**Good**	60 – 74 %
5	**Excellent**	75 – 100 %			

General behaviour

EVALUATION: PERSON	TICK THE RELEVANT BOX WITH AN X				
	Poor	**Non-satisfactory**	**Satisfactory**	**Good**	**Excellent**
31. Responsibility					
32. Independence					
33. Voluntary overtime service					
34. Attendance					
35. Professional Conduct					
36. Driving-force					
37. Planning					
38. Thoroughness & Exactness					
39. Purposefulness					
40. Leadership					
41. Enthusiasm					
42. Self-confidence					
43. Friendliness & Helpfulness					
44. Appearance & Dress					
45. Willingness to learn					

Workplace exposure

EVALUATION: ENGINEERING WORK	TICK THE RELEVANT BOX WITH AN X				
	Poor	Not satisfactory	Satisfactory	Good	Excellent
23. APPLICATION OF THEORETICAL KNOWLEDGE					
24. APPLICATION OF SKILLS					
25. ORGANISATIONAL ABILITIES					
26. LEVEL OF UNDERSTANDING					
27. ACCURACY OF CALCULATIONS					
28. PROBLEM SOLVING ABILITIES					
29. PRODUCTIVITY					
30. GROWTH					
31. LEVEL OF RESPONSIBILITY AND ACCOUNTABILITY (as Technician)					
32. OVERALL PERFORMANCE					
33. OVERALL RATING (General behaviour & Workplace exposure)					

Comments
Mentor / Instructor:

……
Signature: Mentor / Instructor & Date

……
Mentor's / Instructor's Surname & Rank & ECSA no

……
Noted signature Graduate Trainee & Date

……
Graduate Trainee's Surname & ECSA no.

EVALUATION YEAR 4: QUARTER 3 PERIOD:

Training and workplace exposure

Detail of workplace exposure with reference to the structured training program:

Elements of workplace exposure	Duration (weeks/months)

Evaluation must be conducted in accordance with the following guidelines and rating table:

1	**Poor**	< 40 %	**2**	**Not Satisfactory**	40 – 49 %
3	**Satisfactory**	50 – 59 %	**4**	**Good**	60 – 74 %
5	**Excellent**	75 – 100 %			

General behaviour

EVALUATION: PERSON	TICK THE RELEVANT BOX WITH AN X				
	Poor	**Non-satisfactory**	**Satisfactory**	**Good**	**Excellent**
46. Responsibility					
47. Independence					
48. Voluntary overtime service					
49. Attendance					
50. Professional Conduct					
51. Driving-force					
52. Planning					
53. Thoroughness & Exactness					
54. Purposefulness					
55. Leadership					
56. Enthusiasm					
57. Self-confidence					
58. Friendliness & Helpfulness					
59. Appearance & Dress					
60. Willingness to learn					

Workplace exposure

EVALUATION: ENGINEERING WORK	TICK THE RELEVANT BOX WITH AN X				
	Poor	Not satisfactory	Satisfactory	Good	Excellent
34. APPLICATION OF THEORETICAL KNOWLEDGE					
35. APPLICATION OF SKILLS					
36. ORGANISATIONAL ABILITIES					
37. LEVEL OF UNDERSTANDING					
38. ACCURACY OF CALCULATIONS					
39. PROBLEM SOLVING ABILITIES					
40. PRODUCTIVITY					
41. GROWTH					
42. LEVEL OF RESPONSIBILITY AND ACCOUNTABILITY (as Technician)					
43. OVERALL PERFORMANCE					
44. OVERALL RATING (General behaviour & Workplace exposure)					

Comments
Mentor / Instructor:

……
Signature: Mentor / Instructor & Date

……
Mentor's / Instructor's Surname & Rank & ECSA no

……
Noted signature Graduate Trainee & Date

……
Graduate Trainee's Surname & ECSA no.

EVALUATION YEAR 4: QUARTER 4 PERIOD:

Training and workplace exposure

Detail of workplace exposure with reference to the structured training program:

Elements of workplace exposure	Duration (weeks/months)

Evaluation must be conducted in accordance with the following guidelines and rating table:

1	**Poor**	< 40 %	**2**	**Not Satisfactory**	40 – 49 %
3	**Satisfactory**	50 – 59 %	**4**	**Good**	60 – 74 %
5	**Excellent**	75 – 100 %			

General behaviour

EVALUATION: PERSON	TICK THE RELEVANT BOX WITH AN X				
	Poor	**Non-satisfactory**	**Satisfactory**	**Good**	**Excellent**
61. Responsibility					
62. Independence					
63. Voluntary overtime service					
64. Attendance					
65. Professional Conduct					
66. Driving-force					
67. Planning					
68. Thoroughness & Exactness					
69. Purposefulness					
70. Leadership					
71. Enthusiasm					
72. Self-confidence					
73. Friendliness & Helpfulness					
74. Appearance & Dress					
75. Willingness to learn					

Workplace exposure

EVALUATION: ENGINEERING WORK	TICK THE RELEVANT BOX WITH AN X				
	Poor	Not satisfactory	Satisfactory	Good	Excellent
45. APPLICATION OF THEORETICAL KNOWLEDGE					
46. APPLICATION OF SKILLS					
47. ORGANISATIONAL ABILITIES					
48. LEVEL OF UNDERSTANDING					
49. ACCURACY OF CALCULATIONS					
50. PROBLEM SOLVING ABILITIES					
51. PRODUCTIVITY					
52. GROWTH					
53. LEVEL OF RESPONSIBILITY AND ACCOUNTABILITY (as Technician)					
54. OVERALL PERFORMANCE					
55. OVERALL RATING (General behaviour & Workplace exposure)					

Comments
Mentor / Instructor:

……
Signature: Mentor / Instructor & Date

……
Mentor's / Instructor's Surname & Rank & ECSA no

……
Noted signature Graduate Trainee & Date

……
Graduate Trainee's Surname & ECSA no.

SECTION 3

DETAILED LOG OF EXPOSURE

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

LEARNING ACADEMY

DETAILED LOG OF EXPOSURE 1

Name
Mentor
185 Schoeman Street
Sedibeng Building 332
Department
Division

Date	Type of exposure	Duration	%

water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

LEARNING ACADEMY

DETAILED LOG OF EXPOSURE 2

Name
Mentor
185 Schoeman Street
Sedibeng Building 332
Department
Division

Date	Type of exposure	Duration	%

water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

LEARNING ACADEMY

DETAILED LOG OF EXPOSURE 3

Name
Mentor
185 Schoeman Street
Sedibeng Building 332
Department
Division

Date	Type of exposure	Duration	%

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

LEARNING ACADEMY

DETAILED LOG OF EXPOSURE 4

Name
Mentor
185 Schoeman Street
Sedibeng Building 332
Department
Division

Date	Type of exposure	Duration	%

SECTION 4

PROBATION REPORTS

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

PROBATION ASSESSMENT INSTRUMENT FOR NON-SMS MEMBERS
LEVEL 1 - 12

C O N F I D E N T I A L

Period under review:

Surname and initials:

Job title/Rank: Engineering Graduate Trainee

Remuneration level: 9

Persal no:

Component: Learning Academy / Mechanical & Electrical Engineering

Date of appointment to current remuneration level: Age

Designated group

African	Coloured	Male	Disabled
☐	☐	☐	☐
Indian	**White**	**Female**	
☐	☐	☐	

Probation	Extended probation	Permanent	Contract
☐	☐	☐	☐

PART 1 – PERFORMANCE APPRAISAL

Standard Rating Schedule for Key Performance Areas:

Term	Description
Level 5: Outstanding performance	Performance far exceeds the standard expected of a member at this level. The appraisal indicates that the member has achieved above fully effective results against all performance criteria and indicators as specified in the Work plan and maintained this in all areas of responsibility throughout the year.
Level 4: Performance significantly above expectations	Performance is significantly higher than the standard expected in the job. The appraisal indicates that the member has achieved above fully effective results against more than half of the performance criteria and indicators and fully achieved all others throughout the year.
Level 3: Fully effective	Performance fully meets the standard expected in all areas of the job. The review/assessment indicates that the member has achieved fully effective results against all the performance criteria and indicators as specified in the Work plan.
Level 2: Performance not fully effective	Performance is below the standard required for the job in key areas. Performance meets some of the standards expected for the job. The review/assessment indicates that the member has achieved below fully effective results against more than half the key performance criteria and indicators as specified in the Work plan
Level 1: Unacceptable performance	Performance does not meet the standard expected for the job. The review/assessment indicates that the member has achieved below fully effective results against almost all of the performance criteria and indicators as specified in the Work plan. The member has failed to demonstrate the commitment or ability to bring performance up to the level expected in the job despite management efforts to encourage improvement.

PART 2 – SELF ASSESSMENT REPORT (To be completed by Employee)

2.1 Key Result Areas

Key Performance Area	Outputs	Outputs Achieved	Outputs not Achieved

2.2 Behavioural Assessment by Supervisor

Insert X in appropriate column	Satisfactory	Unsatisfactory	
(i) Attendance			(xi) Is the officer in your view placed correctly? If not, what do you propose? …… …… …… ……
(ii) Zeal			
(iii) Thoroughness			
(iv) Willingness to learn			
(v) Conduct			
(vi) Friendliness and helpfulness			(xii) Do you anticipate that the officer upon expiry of his/her probationary period will be suitable for a permanent appointment? …… …… ……
(vii) General progress			
(viii) Language proficiency measured against post requirements			
(ix) Sobriety			
(x) Appearance and dress			

PART 3 - DEVELOPMENT, TRAINING, COACHING, GUIDANCE AND EXPOSURE NEEDED BY THE EMPLOYEE

(To be completed by Supervisor in consultation with the employee)

SIGNATURE EMPLOYEE: _____ SIGNATURE SUPERVISOR: _____

DATE: _____ DATE: _____

PART 4 - CONFIRMATION/ EXTENSION/ TERMINATION OF PROBATION

EMPLOYEE'S COMMENTS:

_____

_____

_____

_____

EMPLOYEE SIGNATURE:_____

SUPERVISOR COMMENTS:

_____

_____

_____

_____

1. I recommend the confirmation of the probation of Mr/Mrs _____ in view of the member's diligence and as his/her conduct has been uniformly satisfactory.

OR

2. I recommend that the probation of Mr/Ms _____ be extended for a period of _____ months for the reasons/comments noted above.

OR

3. I recommend that _____ probation be terminated for the reasons/comments noted above.

----------	----------	----------
Signature	**Name**	**Date**

SECTION 5

DETAILED STRUCTURED TRAINING PROGRAM

1. BASIC TRAINING (1 year)

1. Introduction – 3 months

1.1. Computer literacy

- MSExcel
- MSWord
- MSOutlook
- Filing with MSExplorer

1.2. Induction course

Introduction to the structures, systems and administration within the Department and the public service.

1.3. Internal Mechanical / Electrical Engineering administration procedures

Introduction to the administration procedures used by the Directorate.

1.4. Structure of the National Water Resource Infrastructure branch and the Directorate: Mechanical / Electrical

Introduction to the structure and functions of the National Water Resource Infrastructure branch and the Directorate: Mechanical / Electrical

1.5. Report writing

The Graduate Trainee gets guidelines on technical report writing

1.6. Water supply schemes

Types of dams and their uses, overall view on water supply schemes, environmental and social issues.

1.7. Field trip/s

1.7.1. The **Graduate Trainee** accompanies senior engineers to site/s for practical experience on water **supply schemes.**

1.8. Workshop training – 3 weeks

The Graduate Trainee gets practical experience with the basic manufacturing processes and machines involved, i.e. turning, milling, welding, cutting, bending.

1.9. Quality Control

The **Graduate Trainee** is introduced to the departmental Quality Control system. Methods of Non Destructive Testing, ie. die penetrating, ultrasonic and radiographic testing are explained, as well as common pitfalls and points of interest during inspections.

1.10. Occupational Health and Safety and First Aid

Responsibilities for Health and Safety at the workplace and introduction to the OHS ACT. Practical experience in First Aid.

1.11. Corrosion protection

The principles of corrosion, the cost thereof and its prevention.

2. MECHANICAL SPECIFIC (3 months)

During this period the Graduate Trainee is tutored on the general electrical equipment used in the Department. This will take the form of one week work sessions, presented by the various disciplines, where equipment and basic principles applicable are discussed and exercised with practical examples. Each of these sessions will be followed up with a field trip/s to introduce the Graduate Trainee to the practical application of the above.

2.1. Gates

Types of gates used on dams and weirs, their design principles.

2.2. Field trip

The Graduate Trainee accompanies senior engineers to site/s for practical experience of the above.

2.3. Valves and pipes

Types of valves and their uses.

2.4. Field trip

The Graduate Trainee accompanies senior engineers to site/s for practical experience of the above.

2.5. Pumps

Pumping principles, types of pumps, pump stations, pumping systems and process flow diagrams (PFD).

2.6. Field trip/s

The Graduate Trainee accompanies senior engineers to site/s for practical experience of the above.

2.7. Outlet works

Types of outlet works in use, their principles and design.

2.8. Field trip/s

The Graduate Trainee accompanies senior engineers to site/s for practical experience of the above.

2.9. Maintenance of equipment

Maintenance principles, pump test, vibration test, dam safety reports

2.10. Field trip/s

The Graduate Trainee accompanies senior engineers to site/s for practical experience of the above.

2.11. Hydraulics

The basic principles of hydraulic systems and design are learnt with practical examples as used in the Department.

3. DRAWING – 3 MONTHS

3.1. CAD Training

The Graduate Trainee is instructed in the use of drawing packages, learns the drawing standards and does drawings of components and/or equipment.

4. DESIGN PHASE – 12 MONTHS

4.1. Design of equipment

The Graduate Trainee does designing of components and equipment under supervision of professional engineers. This includes design reports and preparation of manufacturing drawings. The responsibility level is steadily increased.

4.2. Cost estimates / Budgeting

Introduction to the budget system and practical experience in cost estimation.

4.3. Writing of specifications

The Graduate Trainee writes up specifications for equipment to be designed, procured, manufactured or supplied.

4.4. Compilation of tenders

The Graduate Trainee compiles tender documents for design, manufacture ,supply and delivery to site of equipment.

4.5. Planning / programs

The Graduate Trainee compiles Gantt charts for projects adjudicated to him / her using computer software.

4.6. Management of Contracts

The Graduate Trainee manages contracts with increased responsibility. This includes all financial, technical and programming matters. During this time it is expected that the Graduate Trainee will be supervising the installation of equipment on site for at least 2-3 weeks.

5. MAINTENANCE PHASE (6 months)

5.1. Compile maintenance contract

Introduction to uses and format of a maintenance contract with practical experience in compiling this contract.

5.2. Manage maintenance contract

The Graduate Trainee manages maintenance contract with increased responsibility. This includes all financial, technical and programming matters. During this time it is expected that the Graduate Trainee will be supervising the installation of equipment on site for at least 2-3 weeks.

5.3. Inspection of equipment

Installed equipment is inspected and reports with recommendations produced.

5.4. Dam Safety inspections

All the Mechanical / Electrical equipment on dams are inspected and a dam Safety report produced per dam.

5.5. System analysis

Installed systems are analysed for performance. Report with recommendations produced.

5.6. Pump tests

The Graduate Trainee is introduced and trained in pump testing under supervision of a qualified person. Report with recommendations produced.

5.7. Vibration tests

The Graduate Trainee is introduced and trained in vibration testing under supervision of a qualified person. Report with recommendations produced.

5.8. Emergency Repair and preparation

The Graduate Trainee is required to investigate catastrophic failures and put in place emergency repair procedures.

5.9. Plant Refurbishment and Repair

The Graduate Trainee is required to investigate outdated installations and to carry out the necessary refurbishments, replacements or upgrades.

5.10. Diving Work

The Graduate Trainee must conduct under water repairs and refurbishment or replacement of plant with the aid of divers.

6. TRAINING REPORT

A detailed report on each completed task shall be prepared in the format required for ECSA registration. The pro-forma example as per the ECSA web site shall be used.

6.1. The detailed information in the report must give a clear indication of the following aspects:
6.2. Kinds of work performed which require the application of basic engineering principles, together with appropriate dates.
6.3. Expenditure on projects undertaken.
6.4. Qualification, nature and number of personnel controlled.
6.5. Design specimens and relevant calculations of any major project undertaken by you.
6.6. A diagram of responsibility.
6.7. Further elaboration and analysis of your experience as far as it relates to Categories 2.1 to 2.4 of the Statement of Policy of the SA Council for Professional Engineers.
6.8. Supervisors and mentors to write their comments on the appropriate report).

The proposed programme is endorsed by the Engineering Council of South Africa (ECSA)

SECTION 6

SUPPORTING DOCUMENTS