

**TEMPLATE FOR THE DEVELOPMENT OF A FACILITY-  
BASED INTERN TRAINING PROGRAM:  
MEDICAL BIOLOGICAL SCIENTISTS  
(REPRODUCTIVE BIOLOGY)**

**MEDICAL AND DENTAL PROFESSIONS BOARD:  
MEDICAL SCIENCE**

The purpose of this document is to serve as a template to develop a facility-based intern training program which contains the minimum requirements as prescribed in the National Curriculum and must be read with the following documents:

- *The National Curriculum: Medical Biological Science – CMS 01 MBS*
- *Guideline for Submission and Assessment of Portfolio of Evidence: Medical Biological Science (Reproductive Biology) – CMS 02 MBS RB*
- *Policy regarding the Training of Intern Medical Scientists – CMS A*
- *Guidelines on Assessment and Moderation of the Portfolio of Evidence: Intern Medical Scientists – CMS I*

*The purpose of using a light grey font in this template is to guide on the content. Please replace by your content.*

# INTERN TRAINING PROGRAM FOR MEDICAL BIOLOGICAL SCIENTISTS IN THE PROFESSIONAL CATEGORY REPRODUCTIVE BIOLOGY

## TRAINING FACILITY

Head of Training Facility	
Telephone number	
Email	
Physical address	

## TRAINING DEPARTMENT

Head of Training Department	
Telephone number	
Email	
Physical address	

## TABLE OF CONTENTS

<b>1.</b>	<b>INTRODUCTION</b>	<b>4</b>
1.1	The training facility and training department	4
1.2	Satellite laboratories which forms part of this training program and accreditation	4
1.3	Rotation to other independently HPCSA accredited laboratories	4
<b>2.</b>	<b>ACCEPTANCE CRITERIA FOR INTERNSHIP TRAINING</b>	<b>4</b>
<b>3.</b>	<b>OVERALL COURSE OUTCOMES</b>	<b>4</b>
<b>4.</b>	<b>DISCIPLINE-SPECIFIC LEARNING OUTCOMES</b>	<b>5</b>
4.1	Professional Conduct and Ethical Rules	5
4.2	Good laboratory practice (GLP) and Assisted Reproductive Technologies (ART) Laboratory Safety	5
4.3	Management	6
	4.3.1 Quality Management and Control	
	4.3.2 Laboratory and Administrative Duties	
4.4	Scientific and Discipline-Specific Knowledge	8
4.5	Competency Training	9
4.6	Principles of Research	10
<b>5.</b>	<b>THE ROTATION ROSTER</b>	<b>11</b>
<b>6.</b>	<b>THE PORTFOLIO OF EVIDENCE</b>	<b>11</b>
<b>7.</b>	<b>THE FACILITY-BASED EXIT ASSESSMENT</b>	<b>11</b>
<b>8.</b>	<b>THE OUTCOME BY PRESCRIBED BOARD-APPROVED COMPETENCY-BASED ASSESSMENT</b>	<b>11</b>

## **1. INTRODUCTION**

### **1.1 The training facility and training department**

This facility-based internship-training program is based on The National Curriculum and must contain the minimum prescribed requirements.

### **1.2 Satellite laboratories which form part of this training program and accreditation**

Describe in detail the facility, conditions, equipment, staff and physical address of satellite facility. Which component(s) and duration of the training program will be conducted at this facility? Who will be responsible for training at this facility?

### **1.3 Rotation to other independently HPCSA accredited laboratories**

Provide period of accreditation of this facility. Under which professional category is the facility accredited by the HPCSA?

Provide the physical address of the facility.

Describe in detail the facility, conditions, equipment, staff and physical address of satellite facility.

Which component(s) and duration of the training program will be conducted at this facility?

Who will be responsible for training at this facility?

How many intern candidates are allowed at any given time at this facility?

## **2. ACCEPTANCE CRITERIA FOR INTERNSHIP TRAINING**

Prescribe the entrance level academic qualification, selection criteria or any other requirements

## **3. OVERALL COURSE OUTCOMES**

**At the end of this internship, you will be able to:**

- 3.1 *Recognise and apply* professional conduct and ethical principles (including discipline-specific academic knowledge).
- 3.2 *Perform the* administration and management of a laboratory in terms of maintaining the quality process, Good Laboratory Practice, laboratory safety and the quality management system.
- 3.3 *Apply* scientific and clinical principles (including discipline-specific academic knowledge).
- 3.4 *Perform* laboratory methods and techniques in accordance with standard operating procedures and the interpretation of results relevant to a laboratory diagnostic and clinical environment.
- 3.5 *Define and apply* research principles, compile a scientific report and present the findings. (Use of database/s and apply bioinformatics).

## 4. DISCIPLINE-SPECIFIC LEARNING OUTCOMES

Internship determines the overall competency by assessing all the specific learning outcomes. These include:

### 4.1 Professional Conduct and Ethical Rules

**At the end of this component, you will be able to:**

- 4.1.1 *State and apply* the HPCSA Guidelines on Ethical Rules (version available from the HPCSA website – Booklets 1 to 11) <https://www.hpcsa.co.za/Conduct/Ethics>.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

- 4.1.2 *State and apply* the Occupational Health and Safety Act, Compensation for Occupational Injuries and Diseases Act, National Health Act including the regulations of the HPCSA, Labour Relations Act especially the aspects regarding HIV/AIDS and the Human Tissue Act.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

- 4.1.3 *State and apply* the general guidelines for health researchers and Biotechnology research in South African dealing with patients and patient samples (version available from the HPCSA website – Booklets 13 and 14).

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

- 4.1.4 *State and apply* the Guidelines and Acts, including legalities surrounding surrogacy, donors, etc.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

- 4.1.4 Please include any other guidelines/rules specific to your professional category

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

### 4.2 Good Laboratory Practice (GLP) and Assisted Reproductive Technologies (ART) Laboratory Safety

**At the end of this component, you will be able to:**

- 4.2.1 *Define and practice* laboratory safety e.g. *the* correct use of personal protective equipment (PPE).

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.2.2 *Define and practice* the management of patients and traceability of reproductive cells.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.2.3 *Define and practice* safe handling, storage and disposal of biological samples and chemicals (including spills).

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.2.4 *Demonstrate and practise* knowledge and management of consumables.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.2.5 *Identify and practice* emergency contingency (plans for natural/man-made disasters e.g. power failures, floods, strikes etc).

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.2.6 *Identify and demonstrate risk management (incl. equipment, liquid, gases).*

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.2.7 *List and demonstrate* trouble-shooting in ART.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

## **4.3 Management**

**At the end of this component, you will be able to:**

### **4.3.1 Quality Management and Control**

4.3.1.1 *Relate to and participate in the* laboratory accreditation and audits.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.3.1.2 *Participate* in internal and external quality assurance programs.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.3.1.3 *Participate* in operation proficiency: diagnostic findings and clinical application (therapeutic procedures).

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.3.1.4 *List and apply the* Standard Operation Procedures (SOP's) and guidelines.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.3.1.5 *Record and perform* the operation and maintenance of laboratory equipment.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.3.1.6 *Demonstrate and conclude the* identification and resolution of non-conformances.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard).

4.3.1.7 *Recognise and conclude* the compilation, trouble-shooting and interpretation of data and clinical reports.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

#### **4.3.2 Laboratory and Administrative Duties**

4.3.2.1 *Participate* in personnel requirements, staffing and students/interns (incl. CPD, audits and performance indicators).

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.3.2.2 *Manage* premises and the laboratory environment.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.3.2.3 *Manage* equipment and materials (incl. reagents, media and disposables).

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.3.2.4 *Understand and implement* ergonomics, design and laboratory set-up.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.3.2.5 *Participate* in the information systems, databases, manuals and guidelines.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.3.2.6 *Participate* in laboratory accreditation – national and international programs.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.3.2.7 *Participate* in external and internal quality assessment programs.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.3.2.8 *Identify* ART laboratory performance indicators.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

## **4.4 Scientific and Discipline-Specific Knowledge**

**At the end of this component, you would have obtained the necessary academic knowledge to understand a diagnostic result in a health care facility:**

4.4.1 *List of appropriate textbooks used.*

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.4.2 *List of Journal clubs attended and presented.*

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)



4.4.3 List the lectures / seminars / workshops / conferences / courses attended and presented.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.4.4 List the assignments / case studies completed.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

## 4.5 Competency Training

**At the end of this component, you should have performed a minimum numbers of procedures (under supervision), i.e. observed, practised, and independently performed.**

### 4.5.1 Procedures

Categories	Procedures	*1	*2	*3
General	Patient interaction/consultation			
	Procedures, media and disposables preparation			
	Administrative reports and data management			
	Equipment maintenance, SOPs and QC/ QM			
Spermatology procedures	Semen analysis			
	Sperm processing			
	Sperm function assays			
	Other (specify)			
Embryology procedures	Gamete handling			
	Insemination (IVF/ICSI/etc.) and culture			
	Embryo evaluation			
	Cryopreservation and storage			
	Other (specify)			
Ability to interrelate and interpret diagnostic results and/or previous therapeutic outcomes for upcoming treatments				

\*1 – Procedures observed; 2 – Practiced; 3 – Independently performed interrelate

4.5.2 Interpret a finding in clinical practice and report result

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

## 4.6 Principles of Research

**At the end of this component, you will be able to write a scientific publication:**

4.6.1 Develop a protocol and apply appropriate published literature (literature review), in your research study.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.6.2 Apply research ethics, in your research study.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.6.3 Identify plagiarism, in the developing of your protocol and scientific report.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.6.4 Apply for funding and compile a budget, for performing your project.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.6.5 Select and apply biostatistics and / or databases (if applicable), in interpretation of your results/research.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.6.6 Compile a scientific report to be prepared in the following format:  
Abstract (250-300 words), Introduction, Methods, Results, Discussion, Conclusion, References.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

4.6.7 Present your research findings by using a Power Point presentation.

*Assessment:* Please indicate method of assessment and frequency (refers to The National Curriculum for minimum standard)

## **5. THE ROTATION ROSTER**

A schedule or planning roster (over the 24-month period) has to be included in the training program including all the various components of the program (please specify each component) with a period, supervisor and specific laboratory.

## **6. THE PORTFOLIO OF EVIDENCE**

Formal evidence-based continuous assessments must be performed on all components of the training program over the 24-month period.

The evidence of these components shall be used in a structured manner to compile your Portfolio of Evidence.

This is an evidence-based document and will not be accepted without original signatures and dates of each assessment.

The Guideline for Submission and Assessment of the Portfolio of Evidence (CMS 02) prescribe the components and structure of the self-assessment and must be completed by the intern candidate, supervisor and head of training program.

## **7. THE FACILITY-BASED EXIT ASSESSMENT**

**A formal outcome-based assessment will be conducted by the training department to ensure that the candidate has acquired the necessary skills, academic knowledge and practical competencies outlined in the syllabus. Prescribe the format of the assessment and assessors.** Refer to Policy regarding the training of Intern Medical Scientists (CMS A) for a definition of this examination.

The Intern Duty certificate, contained in this document shall be completed by the head of the training program and formally approved by the head of the training facility before the Portfolio of Evidence may be submitted to the HPCSA.

## **8. OUTCOME ASSESSMENT BY A PRESCRIBED BOARD-APPROVED COMPETENCY-BASED ASSESSMENT**

**This Portfolio of Evidence serves as a Board-approved competency-based examination.**

The assessment of the Portfolio of Evidence is outcome-based and will relies on the original evidence presented and the completed Guideline for the Submission and Assessment of the Portfolio of Evidence (CMS 02 MBS RB).

Refer to Guidelines on Assessment and Moderation of the Portfolio of Evidence: Intern Medical Scientists (CMS I) and Policy regarding the Training of Intern Medical Scientists (CMS A) for a detailed process on the assessment.