

This Postgraduate (PG) Diploma offers numerous benefits for both individuals and society. It will provide you with specialized knowledge and skills in Medical Toxicology. Compared to full-fledged master's programs, the PG diploma is shorter in duration and stretches over 18 months.

This Diploma offers a flexible learning option and is available online and you can learn in your own time. This flexibility allows working professionals to improve or switch careers without having to leave their jobs. During the course, there is one compulsory week where all students must be on campus. Students need to take study leave and budget for this contact session.

For those who want to further specialize or transition their career path, this PG diploma can complement their existing degree and provide a competitive edge in the healthcare job market.

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Hybrid Learning and application link: https://hybridlearning.sun.ac.za/pgdiptox/

Course code: 112079 NQF Level 08 120 credits HPCSA (CPD) accredited

### **Program content**

You must complete all five modules listed below.

- Introduction to Toxicology
- Poisoning Management and Prevention
- Poisoning with Non-drug Chemicals
- Poisoning with Pharmaceuticals
- Poisoning with Biological Toxins

# 1. Post Graduate Diploma in Medical Toxicology

Medical Toxicology is a field of medicine dedicated to the evaluation and treatment of poisoned and envenoming patients. It is a scientific area with a growing demand in academia as well as the private and public health sector.

There is an increasing interest of Medical Doctors, Pharmacists, and other healthcare providers to gain more knowledge in this field. This program in Toxicology would therefore cater for a training need for the country as a whole and for Africa in general. Currently there is a shortage of trained staff with knowledge of poisonings, especially of poisoning with chemicals that is unique to the African continent.

The proposed program will provide an essential step in the training of scientists in Medical Toxicology and provide them with a higher academic qualification. Candidates completing the course will have the skills to assist in the diagnosis and management of patients exposed to poisonous chemicals. They will be able to work in medical facilities where they will be able to advise other health care professionals on the management of poisoned patients.

Given the critical shortage of Toxicology experts, the health services of South Africa will tremendously benefit from the program.

The course is in consistence with the HEQC's Program Accreditation criteria and has been approved and re-accredited at all required levels within the university.

#### 1.1. Admission and selection requirements

- A Medical bachelor's degree (e.g., MBChB, BPharm or B.Nurs) or another relevant qualification on at least NQF level 7 for medical related degrees or NQF level 8 and 9 for Science related degrees, as approved by the Faculty of Medicine and Health Sciences, Stellenbosch University.
- If you are an international student who did not use English as medium of instruction for your undergraduate studies, you may be required to provide evidence of your oral and academic writing proficiency in English.

The program committee selects students based on their academic (achievements), motivation from employees and might include a short interview. No fixed number of students are selected as it is subject to the teaching capacity.

### 1.2. Program structure and contents

The program embraces a period of 18 months designed to equip the trainee to work in the field of Medical Toxicology. After 18 months, all assessments should be completed, and the student will graduate at the next graduation ceremony.

## 1.2.1. Aims of the program

On completion of this program successful candidates will be more proficient in the following:

- The early diagnosis and management of the poisoned patient.
- Identifying toxicology problems and solving these problems through taught methods.
- Understanding the importance of continued self-study and of staying abreast of new developments in the field of Medical Toxicology.
- Personal self-development with emphasis on insight, responsibility, accountability, continued learning, self-criticism, acceptance of criticism from others, and the ability to work independently at an elevated level.
- Critically review and interpret the literature relating to publications in toxicology.
- Understand the set-up, importance, and management of Poison Information Centre's nationally and internationally.
- The ability to work in a team and to add value to the larger group through constructive collaboration and cooperation.
- Development of a comprehensive approach to problem solving within the context of respect and sensitivity for other people, the community, and the environment.
- Understanding the importance of Toxicology in general, particularly to the community through the communication of knowledge and the transfer of relevant information.
- Establish a smaller poison Centre unit in his/her environment that will network with the National Poisons Centre of South Africa.

#### 1.2.2. Duration of program

The program extends over **18 months** and consists of two separate weeks of synchronist teaching. There will be an online lecture week at the beginning of the first year of this course, and a face-to-face contact week at Tygerberg Campus in the second year of the course. The rest of the course will be asynchronous online.

During the 18 months it is expected that the student to complete a 24-hour practical work placement.

Location of the placement: Poisons Centre or Trauma Unit

#### 2.2.4 For estimated cost of the course for SADC and non-SADC countries

Postgraduate Diploma Medical Toxicology (2026 Fees TBA)				
South Africa	SADC	From Africa	Rest of the World	
	(incl. Namibia,	(Beyond SADC)	(Outside of Africa)	
	Rwanda)			
TBC	TBC	TBC	TBC	

See NIHR Grant regarding bursaries and funding opportunities, <a href="https://cardiovascular-science.ed.ac.uk/nihr-acute-poisoning/poison-information-centres">https://cardiovascular-science.ed.ac.uk/nihr-acute-poisoning/poison-information-centres</a>
 Contact candacevp@sun.ac.za for more information

#### 1.2.3. Course Assessment - Module details

The module outline and contribution of the different components contributing to the final performance mark can be summarized as follows:

Completion of 2 years as a registered student for the PG Diploma in Toxicology. The final assessment will take place 18 months (about 1 and a half years) after enrollment and graduation at the end of the second year.

Each module will receive a mark out of 100. The final mark of the student will be calculated as follows:

- 1. Online quizzes = 13 % of final mark (taking place throughout the course)
- 2. Written assignments= 12% of final mark (taking place throughout the course)
- 3. Reflection on e-portfolio= 15 % of final mark (taking place throughout the course)
- 4. Written examination = 36 % of final mark (3hr examination on campus in February 2025)
- 5. Oral examination = 24 % of final mark (30 minutes on-line examination in June 2025)

The pass mark will be 50% for each module. If a mark of 50% was not achieved for a specific module, the student will have to reregister for that module.

A mark of 75% will be required to pass with distinction. Students need to repeat only those modules where they have been unsuccessful.

#### What is communicated to students:

There will be a module framework for each module. This module framework will be loaded onto the online SUNLearn platform. This module framework will indicate to the students the following:

- Module name, credit value, NQF level
- Outcomes Division of work Prescribed material Types of assessment
- How the mark for the module is calculated
- Any other relevant information that the student will need.

# **Module 1: Introduction to Toxicology 14182-775**

Contact time: 1 week in January 2026: Contact sessions via MS TEAMS platform (virtual).

Thereafter - 3 hrs. / week contact session x 12 weeks (36hr) (virtual)

Compulsory - Theoretical - Credits: 24

Assessment:

# Module 1 calculation of marks:

Type of assessment	Number of assessments	Total module mark
Online quizzes	Students must complete 12 quizzes and each quiz's point carries equal weight.	20%
Written assignment	2 written tasks and each carries equal weight	20%
Reflection in e-portfolio	12 reflections, 1 per week	10%
Written examination	MCQ and short questions	50%

## Module 2: Poisoning management and prevention 14183-775

Contact time: contact sessions via MS TEAMS platform.

Thereafter - 3 hrs. / week contact session x 12 weeks (36hr) (virtual)

Compulsory - Theoretical - Credits: 24

Assessment:

#### Module 2 calculation of marks:

Type of assessment	Number of assessments	Total module mark
Online quizzes	Students must complete 12 quizzes and each quiz's point carries equal weight.	20%
Written assignment	2 written tasks and each carries equal weight	20%
Reflection in e-portfolio	12 reflections, 1 per week	10%
Written examination	MCQ and short questions	50%

## **Module 3: Poisoning with Pharmaceuticals 14185-775**

Contact time: contact sessions via MS TEAMS platform.

Thereafter - 3 hrs. / week contact session x 12 weeks (36hr) virtual

Compulsory - Theoretical - Credits: 24

Assessment:

#### Module 3 calculation of marks

module 5 calculation of marks			
Type of assessment	Number of assessments	Total module mark	
Online quizzes	Students must complete 12 quizzes and each quiz's point carries equal weight.	20%	
Written assignment	2 written tasks	20%	
Reflection in e-portfolio	12 reflections, 1 per week	10%	
Written examination	MCQ and short questions	50%	

# Module 4: Poisoning with Non-drug Chemicals 14186-775

Contact time: contact sessions via MS TEAMS platform. Thereafter - 3 hrs. / week contact session x 12 weeks (36hr)

Compulsory - Theoretical - Credits: 24

Assessment:

#### Module 4 calculation of marks

Type of assessment	Number of assessments	Total module mark
Online quizzes	Students must complete 12 quizzes and each quiz's point carries equal weight.	20%
Written assignment	2 written tasks	20%
Reflection in e- portfolio	12 reflections, 1 per week	10%
Written examination	MCQ and short questions	50%

# **Module 5: Poisoning with Biological Toxins 14187-775**

Contact time: contact sessions in 2nd year (2026): face to face at Tygerberg campus. Thereafter

- 3 hrs. / week contact session x 12 weeks (36hr) virtual

Compulsory - Theoretical / practical - Credits: 24

Assessment:

#### **Module 5 calculation of marks**

Type of assessment	Number of assessments	Total module mark
Online quizzes	Students must complete 12 quizzes and each quiz's point carries equal weight.	20%
Written assignment	1 written task	10%
Reflection in e- portfolio	12 reflections, 1 per week	30%
Oral Examination		40%

# 2. Division of Clinical Pharmacology, Faculty of Medicine and Health Sciences, Stellenbosch University

## 2.1. Division of Clinical Pharmacology - overview

The Division of Clinical Pharmacology is housed on the 7<sup>th</sup> floor of the Clinical Building at the Faculty of Medicine and Health Sciences, Tygerberg Campus, Stellenbosch University. Professor Eric Decloedt holds the position of Head of Department (HOD).

See the **Division's web page** for more detail:

http://www.sun.ac.za/english/faculty/healthsciences/Clinical%20Pharmacology/Pages/default.aspx

# 2.2. Tygerberg Poison Information Centre (TPIC)

The TPIC is part of the Poison Information Helpline for the Western Cape that provides a 24-hour Toxicology consultation service to health care professionals (at all levels), industry, and the lay public and is under the directorship of Mrs. Carine Marks.

They provide expert advice on the following:

- The presentation and management of medicine-related overdoses and drugs of abuse
- General information on poisons
- General information on biological toxins, with special reference to poisonous and venomous creatures, poisonous plants, and micro-organisms
- See the Tygerberg Poisons Information Centre webpage for more information; www.sun.ac.za/poisoncentre

#### 2.3. SUNLearn\_E-learning platform

Course material, quizzes and other relevant information will be made available on SUNLearn which is the university e-learning platform. Login details will be obtained upon registration. Your student number will become your email address to which all university-related matters will be communicated to. E.g. 1234567@sun.ac.za.

Program

(Scheduled timeslots and facilitators may be changed due to unforeseen circumstances)

Week	Date	Item/Module	Facilitator
1	18-24 Jan 2026	Lectures and workshop via MS TEAMS platform	Ms. CJ Marks
			Ms. A Du
			Plessis
2	25 - 31 Jan 2026	Environmental Toxicology	Dr G Verdoorn
3	1 - 7 Feb 2026	Environmental Toxicology	Dr G Verdoorn
4	8 - 14 Feb 2026	Risk Assessment	Ms. van Pletzen
5	15 - 21 Feb 2026	Occupational and Nano Toxicology	Prof M Gulumian
6	22 - 28 Feb 2026	Analytical Toxicology	Dr T Kellerman
7	1 - 7 Mar 2026	Forensic Toxicology	Ms. J Mader
8	8 – 14 Mar 2026	Mechanism and pathology of drug toxicity	Prof W Cordier
9	15 – 21 Mar 2026	Dose response	Prof W Cordier
10	22 - 28 Mar 2026	Basic principles of Pharmacodynamics and Pharmacokinetics	Mrs. S Dames
	29 Mar – 4 Apr 2026	HOLIDAY	
11	5 - 11 Apr 2026	Drug-drug Interactions	Dr R Van Rensburg
12	12 – 18 Apr 2026	Poison Information Centre's and International Program on Chemical Safety (IPCS)	Mrs. C Marks
13	19 - 25 Apr 2026	ABCs Resuscitation	Dr Niel van Hoving
14	26 Apr – 2 May 2026	Symptomatic and supportive care (including initial management)	Dr Niel van Hoving
15	3 – 9 May 2026	Decontamination and enhanced elimination	Dr Niel van Hoving
16	10 – 16 May 2026	Toxidromes	Ms. J Jones
17	17 - 23 May 2026	Antidotes	Ms. A Du Plessis
18	24 – 30 May 2026	Drugs of Abuse	Ms. C Marks
19	31 May – 6 Jun 2026	Toxicology laboratory and Drug screening	Mrs. A van der Merwe
20	7 – 13 Jun 2026	Drug use in Pregnancy / Lactation and the Neonate	Mrs. S Dames

21	14 – 20 Jun 2026	Non-toxic exposures and multiple chemical sensitivity syndrome	Ms. A Du Plessis
22	21 – 27 Jun 2026	Childhood poisoning	Dr K Balme

	28 Jun – 11 July 2026	HOLIDAY	
23	12 -18 Jul 2026	The unknown poison including cyanide and arsenic poisoning	Dr G Muller
24	19 - 25 Jul 2026	Psychiatric evaluation for the poisoned patient	Mr. Colin Mitchell
25	26 Jul - 1 Aug 2026	Complementary and alternative medicine	Ms. C Golding
26	2 - 8 Aug 2026	Paracetamol	Dr Pillay-Fuentes Lorente
27	9 – 15 Aug 2026	Non-steroidal anti-inflammatory drugs and DMARDS	Ms. C Marks
28	16 – 22 Aug 2026	Antidepressants and Lithium	Dr C Banda
29	23 – 29 Aug 2026	Neuroleptics	Dr Pillay-Fuentes Lorente
30	30 Aug - 5 Sep 2026	Sedative hypnotics	Dr C Stephen
31	6 - 12 Sep 2026	Anticonvulsants	Dr H Gunter
32	13 - 19 Sep 2026	Antihistamine, sympathomimetic (cold and flu meds)	Ms. C Marks
33	20 - 26 Sep 2026	Theophylline / Bronchodilators	Ms. C Marks
34	27 Sep - 3 Oct 2026	Cardiovascular drugs	Dr C Banda
35	4 - 10 Oct 2026	Antidiabetic drugs	Dr M Gambu
36	11 - 17 Oct 2026	Antimicrobials (INH, ARV's)	Dr Pillay-Fuentes Lorente
37	18 - 24 Oct 2026	Irritants and Corrosives	Dr K Balme
38	25 - 31 Oct 2026	Chemicals that cause Methemoglobinemia (Naphthalene, Nitrites and Nitrates etc.)	Dr Pillay-Fuentes Lorente
39	1 - 7 Nov 2026	Toxic Alcohols	Dr C Banda
40	8 – 14 Nov 2026	Hydrocarbons	Dr K Balme
41	15 - 21 Nov 2026	Iron	Dr R van Rensburg
42	22 – 28 Nov 2026	Carbon Monoxide	Dr M Alghamdi
43	29 Nov - 5 Dec 2026	Cholinesterase inhibitors	Dr R Van Rensburg
44	6 - 12 Dec 2026	Herbicides	Ms. A Du Plessis

	13 Dec – 2 Jan 2027	HOLIDAY	
45	3 – 9 Jan 2027	Rodenticides	Dr C Stephen
46	10 – 16 Jan 2027	Amitraz, pyrethrins and pyrethroids.	Dr J Veale
47	17 – 23 Jan 2027		Ms. A Du Plessis
		Insect repellents (DEET) and attractants (AnTrap)	
48	24 - 30 Jan 2027	Lead and mercury poisoning	Dr C Stephen
	31 Jan – 6 Feb 2027	Revision week	
49	8 Feb 2027	EXAMINATION	Ms. C Marks
			Ms. A du Plessis
49	9 – 12 Feb 2027	Traditional face to face lectures	Ms. C Marks
			Ms. A du Plessis
	14 – 20 Feb 2027	RECUPERATION	
50	21 – 27 Feb 2027	Scorpions	Ms. C Marks
51	28 Feb – 6 Mar 2027	Cytotoxic snakes and hemotoxic snakes	Ms. C Marks
52	7 - 13 Mar 2027	Neurotoxic snakes and the Berg Adder	Ms. C Marks
53	14 – 20 Mar 2027	Neurotoxic spiders	Ms. A Du Plessis
54	21 - 27 Mar 2027	Cytotoxic spiders	Ms. A Du Plessis
	28 Mar – 10 Apr 2027	HOLIDAY	
55	11 – 17 Apr 2027	Marine envenomation	Ms. C Marks
56	18 – 24 Apr 2027	Marine poisoning	Ms. C Marks
57	25 Apr – 1 May 2027	Plant poisoning	Ms. A Du Plessis
58	2 – 8 May 2027	Mushroom Poisoning	Ms. A Du Plessis
59	9 – 15 May 2027	Insects and Bee stings	Ms. A Du Plessis
60	16 - 22 May 2027	Poisoning in animals	Dr G Verdoorn
		Revision period	
	June 2027	ORALS	