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## Doctor of Philosophy in Biomedical Toxicology (Full Time)

## About the course

The Ph.D. programme in toxicology is designed to train students to become independent scholars capable of conducting independent, creative and original research.  Students benefit from the cohesiveness of the programme structure (weekly seminar, journal club, faculty-student and student-student interactions etc.) and from the interdisciplinary nature of the program. Doctoral students elect either the General Toxicology, Environmental Toxicology, or Molecular and Cellular Toxicology Concentration. The research in Ph.D. programme will develop the control system and application of herbal medicines in the region with adequate information on their safety. In addition, this programme will provide training opportunities in conducting state-of-the-art approaches in basic research in toxicology, and closely related subdisciplines, in order to prepare the students for careers in independent research or related careers in academia, industry or government.

The aim of the programme is to train and build human capacity in the development and maintenance of standards for protecting and preserving human health while the specific objectives are:

* To identify, maintain and foster standards for professional competency in the field of Toxicology.
* To offer training on a broad range of career options and employment opportunities in academics, the industry and regulatory agencies.
* To promote the establishment of regulations and policies at national, regional and international levels for production of safe drugs and herbal medicines.

The programme will train expert professionals that upon graduation will have learnt and be able to:

* identify, create and maintain standards protocol in the field of Toxicology for drug research and development.
* design and conduct cutting edge research that are publishable in reputable international peer reviewed journals and will advance the knowledge frontier of Biomedical Toxicology globally.
* build a career and/or employment in industrial, academic, government, non-governmental and other organizations toward contribution to national and regional development and excellent healthcare delivery.
* provide a breach for the skill gaps by giving services in applications fundamental principles as well as current concepts related to mechanisms of toxicity for the investigation of biomedical toxicity of various classes of natural, environmental and synthetic chemical substances such as drugs.

### **Admission Requirements**

Candidates for the Ph.D. Biomedical Toxicology programme shall possess any of the following qualifications:

* An M.Sc. Biomedical Toxicology Degree with a minimum CGPA of 4.00 out of 5.00 from this University or an equivalent qualification from any other accredited university.
* An M. Phil. Biomedical Toxicology Degree with a minimum CGPA of 4.00 from this University or an equivalent qualification from any other accredited university.
* At least a CGPA of 4.00 in 1 of M.Phil. coursework courses at the end of the stipulated minimum duration for the M. Phil. programme.
1. All candidates in the aforementioned three categories shall be subjected to a selection process by the center involving proposal writing and an oral interview.
2. Satisfy all other requirements of the School of Postgraduate Studies.

###  **Graduation Requirement**

A. A candidate admitted with an M. Sc. Degree (herein referred to as regular candidate) shall carry a minimum workload of 30 units which must include the following:

1. 6 units of M.Phil. Term paper Coursework
2. 6 units Ph.D. Term papers
3. 6 Units of Research Seminars
4. 12 Units of Research Thesis

 B. A student admitted into the Ph.D. programme via M. Phil. conversion or M. Phil. degree shall carry a minimum workload of 2 made up as follows:

1. 6 units Ph.D. Term papers
2. 6 Units of. Research Seminars

iii 12 Units of Research Thesis

### **List of Courses for Ph.D in Biomedical Toxicology**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course Code** | **Course Title** | **Status** | **Units** |
| **TOX 951** | Recent Advances in Genetic Toxicology | Compulsory | 2 |
| **TOX 952** | Recent advances in Environmental Toxicology | Compulsory | 2 |
| **TOX 953** | Recent Advances in Forensic Toxicology | Compulsory | 2 |
| **TOX 991** | Research Seminar I | Compulsory | 3 |
| **TOX 992** | Research Seminar II | Compulsory | 3 |
| **TOX 999** | Research Thesis | Compulsory | 12 |
|  | **Total units** |  | **24** |

### Summary of number of units compulsory and elective courses to be taken/available at each Level

|  |  |  |  |
| --- | --- | --- | --- |
| Level | Units of Compulsory Courses  | Units of Elective Courses Available | Total of Compulsory Courses |
| 900 | 24 | 0 | 24 |

## Course Contents/Description

**TOX 951: Recent Advances in Advances in Genetic Toxicology**

Review of recent standard research articles and textbooks on recent advances in Genetic Toxicology by student. Students will be required to make seminar presentation and submit a term paper.

**TOX 952: Recent advances in Environmental Toxicology**

Review of recent standard research articles and textbooks on recent advances in Environmental Toxicology by student. Students will be required to make seminar presentation and submit a term paper

**TOX 953: Recent Advances in Forensic Toxicology**

Review of recent standard research articles and textbooks on recent advances in Forensic Toxicology by student. Students will be required to make seminar presentation and submit a term paper

**TOX 991: Research Seminar I**

Presentation and review of proposal of Research Project

**TOX 992: Research Seminar II**

Presentation of final Report on Research Findings.

**TOX 999: Research Thesis**

Thesis title presentation and write up (research on environmental, forensic and systemic toxicology on issues of national or sub-regional interest). The student is expected to present a seminar in line with the prevailing School of Postgraduate Studies Academic Planning Committee (APC) format, highlighting the project’s contribution to knowledge.