

**SEMESTER II**  
**LSM4229 THERAPEUTIC AND DIAGNOSTIC AGENTS FROM ANIMAL TOXINS**

**Prerequisite: LSM3211 or LSM3231**

**Workload: 28 lecture hours + 8 practical hours + 14 tutorial hours**

Toxins are thought as villains as they cause death and debilitation. In reality, they have contributed more to improving our lives than cause death. This module will introduce the contributions of toxins to our knowledge in biomedical and pharmacological fields. Toxin research has helped in understanding molecular mechanisms of a number of processes such as neurotransmission, blood coagulation and platelet aggregation. Toxins have been useful in the development of therapeutic agents, diagnostic reagents and research tools. The module will examine the recent advances and future prospects in toxin research.

S/N	Topics	Lecture hours
1.	Module Introduction	2 h
2.	Sources of toxins	2 h
3.	Toxins and acetylcholine transmission	2 h
4.	Toxins in neurobiology and neuropharmacology	2 h
5.	Toxins affecting thrombosis and hemostasis	2 h
6.	Toxins and blood pressure	2 h
7.	Toxins and Chemistry	2 h
8.	From toxins to therapeutics	2 h
9.	Toxin-based diagnostic agents	2 h
10.	Future prospects in toxin research	2 h
11.	Tutorials and Discussions	6 h
12.	Mid-term and Final CAs	4 h
13.	Student Presentations	14 h
14.	Preparation time for students (Two term papers and Presentation)	6 h
<b>Total Lectures/Tutorial: 50 h</b>		

**MODE OF ASSESSMENT:**

Tutorials/Seminars: 20%

Test: Mid-term and final written CAs –MCQ, short-answers, essays (2 X 25%)

Essays: 30%

Total: 100% (No Exam)

**MODULE CO-ORDINATOR & LECTURER:**

Prof R Manjunatha Kini (Tel: 6516-5235, E-mail: dbskinim@nus.edu.sg)

Updated: July 2017