

Course Code & Title : **CM9082 Drug Design and Synthesis**
Academic Units : 3 AU
Pre-requisite : CM1051, CM2031, and CM9081 or by permission
Course Description :

CM9082 Drug Design and Synthesis

[Lectures: 39; Pre-requisite: CM1051, CM2031, and CM9081 or by permission; Academic Units: 3]

Learning Objectives

To show the chemistry behind the design and synthesis of drugs.

Content

Basic principles of drug discovery and design, fundamental molecular basis of drug action, discussion of target discovery and "drugability", structure-activity relationships, new design and high throughput screening methods to discover new drugs and classes of drugs.

Course Outline

S/N	Topics	Lecture Hours
1	Intro/preparation to write proposal	1.0
2	Fundamentals of Rational Design	4.25
3	Traditional Combi Chem and HTP Screening	2.0
4	Hybrid Techniques	2.5
5	Isosteres and peptido- and proteomimetics	6.0
6	Targeting DNA	3.0
7	Advanced Techniques	5.0
8	Assays	2.0
9	Intro/preparation to write proposal	1.0
10	Fundamentals of Rational Design	4.25

Learning Outcomes

Students will understand the new trends in drug design and synthesis. Combinatorial chemistry and diversity-based strategies will be discussed.

Student Assessment

- 2 hours written final examination (30%)
- Continuous assessment (70%)

The assessment of this class is set up to help you learn how to be a professional scientist as opposed to learning how to read text books and take exams. Therefore this class emphasizes critical reading of the primary literature, generating your own ideas, collaborating, writing, presenting, and thinking. The exam questions are mostly essay-type and you will be marked partially on how convincingly you make an argument.

Textbooks/References

Material will be selected from the primary literature.