

## Module Descriptor: Using Chemistry to Combat Disease I

The module aims to give students an overview on the chemical principles behind diseases and their treatment. Towards this end, examples from hereditary and acquired diseases will be used to illustrate medical problems at the molecular level and how they can be treated using chemical approaches. The module will cover aspects of pathway disorders, photomedicine, infectious diseases, inflammation, oncology and neurobiology. To illustrate current drug developments the module will utilize examples from combinatorial chemistry, chemical biology, bioorganic chemistry and drug design and will give a critical analysis of the drug development process and procedure.

### Learning Outcomes

On successful completion of this module, students should:

- Have a knowledge and understanding of diseases at the chemical level;
- be familiar with the principles of chemical biology;
- be able to critically analyse current drug developments;
- know the basics of contemporary techniques used in drug design.

<b>Title</b>	Using Chemistry to Combat Disease		
<b>Short Title</b>			
<b>Credits</b>	2.5		
<b>Module Places</b>	10		
<b>Elective Places</b>			
<b>Semester</b>	1		
<b>Level</b>	4		
<b>Coordinator</b>	Prof. Mathias Senge		
<b>Workload:</b>	50		
Lectures	10		
Tutorials	-		
Laboratories	-		
Specified Learning Activities (literature work + project)	20		
Autonomous Student learning (2 hours per lecture is usual)	20		
<b>Assessment</b>	type	% of marks	timing
Examination	Written exam	70	
Assignment	Project	30	
Students are required to:			
1. Analyse the literature for additional aspects of the topics covered in class.			

2. Prepare a short paper on a particular disease and its treatment based on a literature study.

<b>Prior Learning</b>	
Required	Basic biochemistry and chemistry
Excluded (courses that cover the same material)	
Recommended	Basic molecular biology