

Medicinal Chemistry course planned to start on Oct 12



Introduction; Target Classes and Binding Planned on Oct 12 9:50am (Hetian Building 406) What is a drug and a medicine? What are Receptors and Enzymes, Agonists and Antagonists, Dose-Response Curves? What kind of targets are there and how do compounds bind to them?	Drug Metabolism and Pharmacokinetics (DMPK) Planned on Oct 19 9:50am (Hetian Building 406) What does the body do to the drug? Distribution in the body, metabolism by liver enzymes, blood protein binding, clearance processes, half-life. How can these parameters be measured?	Finding Leads: Screening and Hit-to-Lead process Planned on Oct 26 9:50am (Hetian Building 406) Finding a good starting point: screening types (High Throughput Screening, Fragment based drug discovery, Virtual Libraries, DNA-encoded libraries), exploration of hits to confirm them as leads	Lead optimization: Binding and DMPK Planned on Nov 2 9:50am (Hetian Building 406) How to improve binding for the target, how to decrease binding to off-targets, how to address PK issues by changing the structure of the molecule	1) Efficient optimization strategies 2) Patent example Planned on Nov 9 9:50am (Hetian Building 406) 1) How to use time and resources efficiently to arrive at a drug candidate, what type of chemistry is particularly helpful 2) Typical way a patent is written
Drugs that are not Small Molecules Planned on Nov 16 9:50am (Chemistry Building 216) Proteins, Antibodies, Antibody-Drug Combinations, Radioactive Compounds, Application Routes, Pharmacokinetics, Optimization Strategies	Oncology: Overview and Case Study Planned on Nov 23 9:50am (Hetian Building 406) Overview over oncology as therapeutic area, case study of sorafenib	Cardiovascular: Overview and Case Study Planned on Nov 30 9:50am (Hetian Building 406) Overview over cardiovascular as therapeutic area, Riociguat as case study	Antiinfectives: Overview and Case Study Planned on Nov 7 9:50am (Hetian Building 406) How to address targets of bacteria / viruses. Resistances. Overview and case study	1) Clinical Studies and 2) Process Chemistry Planned on Dec 14 9:50am (Hetian Building 406) What happens after the drug candidate is identified? How does clinical development work? How does process chemistry work?