Module title	**Compound Profiling in Pharmaceutical Drug Discovery**
Code	BP1
Degree Programme	Master of Science in Life Sciences
Group	Bio/Pharma
Workload	3 ECTS (90 student working hours: 42 lessons contact = 32 h; 58 h self-study)
Module Coordinator	**Name**: Dr. Laura Suter-Dick **Phone**: +41 (0)61 228 56 59 **Email**: laura.suterdick@fhnw.ch **Address**: Hochschule für Life Sciences FHNW, Institut für Chemie und Bioanalytik, Gründenstrasse 40, 4132 Muttenz
Lecturers	• Dr. Laura Suter-Dick, FHNW • Dr. Eric Kübler, FHNW • Dr. Johannes Mosbacker, FHNW • Guest lecturers (Industry)
Entry requirements	• Bachelor Degree in Life Sciences • Course on bioanalytics, pharmacology, drug discovery, biochemistry, molecular biology and pharmacokinetics • Self-test on Moodle
Learning outcomes and competences	The focus of the course lies on the characterization of small molecules in drug discovery, from the identification of a "drugable" target to the selection of a clinical candidate. After completing the module, students will be able to: • explain the process of identifying and characterizing a new drug target • apprehend the value of screening systems to identify bioactive compounds on the level of hits • recognize the use of in vitro and in vivo models for drug efficacy and early ADME • understand toxicological studies in view of drug safety • plan experiments clarifying pharmacological and toxicological findings • understand the concept of translational research (Bench to Bedside) • describe and explain profiling activities of a selected compound from literature
Module contents	From target identification to clinical candidate selection: Concepts and Processes • The process of identification of a target • Overview on high-throughput-systems • The concept of iterative compound optimization • Concept, relevance and implementation of ADME in drug screening • Regulatory requirements in toxicology and safety assessment • Extrapolation from animal and in vitro studies to man • Determination of a safe dose to start clinical trials • Decision making: if, when and how should clinical Phase 1 studies be performed
Teaching / learning methods	• Lectures, self-study, invited speakers from the pharmaceutical industry • Team based learning using case studies • Short group presentations

Assessment of learning outcome	1. Group work (15%) 2. Closed book exam (85%)
Format	7-weeks
Timing of the module	Autumn semester, CW 38-44
Venue	Olten and/or online
Bibliography	Current publications Drug Discovery and Development. Edited by H.P. Rang. 2006. Churchill Livingstone Real World Drug Discovery. Robert M. Rydzewski. ELSEVIER, Amsterdam 2008. Toxicology: The Basic Science of Poisons. Klaassen, C.D. (Ed), McGraw-Hill, New York 2008 FDA Guideline M3(R2) "Nonclinical Safety Studies for the Conduct of Human Clinical Trials and Marketing Authorization for Pharmaceuticals" www.fda.gov Drug Discovery and Evaluation: Pharmacological Assays, H.G. Vogel, 2008, Springer Verlag FDA Guidelines for Industry: Guidance for metabolism and drug interactions studies – study design, data analysis, and recommendations for dosing and labeling, 2012. www.fda.gov
Language	English
Links to other modules	
Comments	
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