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	Blended learning format. Presence sequences take place in Olten
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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