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|---|--------------------------|---|
| <b>Module title</b>   |                          | <b>Abbreviation</b>                         |
| Drug design   |                          | o8-MCM3-152-m01                             |
| <b>Module coordinator</b>   |                          | <b>Module offered by</b>                    |
| lecturers Pharmazeutische Chemie (Pharmaceutical Chemistry)   |                          | Institute of Pharmacy and Food Chemistry    |
| <b>ECTS</b>   | <b>Method of grading</b> | <b>Only after succ. compl. of module(s)</b> |
| 5   | numerical grade          | --  |
| <b>Duration</b>   | <b>Module level</b>      | <b>Other prerequisites</b>                  |
| 1 semester  | graduate                 | --  |
| <b>Contents</b>   |                          |   |
| <p>Fundamentals: drug targets (types and classification), target validation, effect mechanisms, protein-ligand interactions, lead finding; lead optimisation. Experimental methods: bioassays, HTS, combinatorial chemistry, naturally occurring substances. Theoretical methods: molecular modelling, structure-based drug design, pharmacophore models, docking, virtual screening, simulation methods, de novo design. Ligand-based drug design. QSAR. Predictions of pharmacokinetic and toxicological components (ADME). Case examples, prodrug strategies, bioisosterism, SAR.</p>  |                          |   |
| <b>Intended learning outcomes</b>   |                          |   |
| Students master the theoretical and experimental methods and aspects of drug design.  |                          |   |
| <b>Courses</b> (type, number of weekly contact hours, language – if other than German)  |                          |   |
| S (2) + Ü (1)<br>Module taught in: German or English  |                          |   |
| <b>Method of assessment</b> (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)  |                          |   |
| presentation with discussion (approx. 30 minutes)<br>Language of assessment: German and/or English  |                          |   |
| <b>Allocation of places</b>   |                          |   |
| 20 places. 4 places for students of the Master's degree programme Chemie (Chemistry): Places will be allocated according to the same number of subject semesters; students who have chosen Medizinische Chemie (Medicinal Chemistry) as their focus will be given preferential consideration; among applicants with the same number of subject semesters, places will be allocated by lot.; 6 places for students of the Master's degree programme Biochemie (Biochemistry): Places will be allocated according to the number of subject semesters; among applicants with the same number of subject semesters, places will be allocated by lot; a waiting list will be maintained and places re-allocated by lot as they become available. |                          |   |
| <b>Additional information</b>   |                          |   |
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| <b>Workload</b>   |                          |   |
| 150 h   |                          |   |
| <b>Teaching cycle</b>   |                          |   |
| --  |                          |   |
| <b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)  |                          |   |
| --  |                          |   |
| <b>Module appears in</b>  |                          |   |
| Master's degree (1 major) Biochemistry (2015)<br>Master's degree (1 major) Chemistry (2016)<br>Master's degree (1 major) Biochemistry (2017)  |                          |   |