

CH-332 **Medicinal chemistry**

| Cursus | Sem. | Type |
|-----------|------|------|
| Chemistry | BA6 | Obl. |
| HES - CGC | E | Opt. |

| | |
|----------------------------|-----------------|
| Language of teaching | English |
| Credits | 2 |
| Session | Summer |
| Semester | Spring |
| Exam | Written |
| Workload | 60h |
| Weeks | 14 |
| Hours | 2 weekly |
| Courses | 2 weekly |
| Number of positions | |

Remark

pas donné en 2019-20

Summary

The course tends to provide fundamentals to the following question: why and how a chemical compounds become a drug?

Content

The identification of hit compounds and their transformation to lead compounds with pharmacodynamic and pharmacokinetic properties that have to be optimized are the main subjects of the course.

Discussed aspects:

- Physicochemical and structural properties relevant to medicinal chemistry: ionisation, solubility, lipophilicity, conformation and configuration, stereoelectronic properties, intermolecular interaction forces, pharmacophore, molecular modeling, drug design, SAR, QSAR, linear and multilinear relations.
- Natural products as source of hit compounds.
- Drug metabolism: activation, inactivation, detoxification, toxification, enzyme catalysis, biochemical reaction mechanisms, enzyme induction and inhibition, pharmacogenetics, drug interactions.
- Combinatorial chemistry of focalized libraries of chemical compounds.