



CHULABHORN
ROYAL ACADEMY
Chulabhorn Graduate Institute

Course Syllabus Medicinal Chemistry (0402602)

Course Description:

Various classical and modern synthetic techniques for natural and synthetic drugs, total synthesis as well as semi-synthesis of drugs and drug candidates, structural modifications of some natural products leading to compounds with better biological profiles, principles and mechanisms of drug actions, applications of computational chemistry to establish quantitative structure-activity relationship (QSAR), and investigation of the structure of active site of biological targets, as well as determination of ligand-receptor interactions

Grading:

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|---|-------------|
| PART I: Midterm examination (L1-L8, 24h) | 57% |
| PART II: Final examination (L9-L14, 18h) | 33% |
| Assignment | 10% |
| *TOTAL | 100% |

*If the total score is equal to or higher than 60.00%, the letter grade of either A, B+ or B will be assigned.
If the total score is LOWER than 60.00%, the letter grade of either C+, C, D+, D or F will be assigned.

Course Director: Watthanachai Jumpathong, Ph.D.

Time: Tuesday and Thursday, 9:00 am-12:00 pm

| Date | Topics | Lecturers |
|------------------|---|-----------|
| 4 February | L1: Lead optimization I | PP |
| 6 February | L2: Lead Optimization II | PP |
| 11 February | L3: Drug targets I | WJ |
| 13 February | L4: Drug targets II | WJ |
| 18 February | L5: Drug-like properties | WJ |
| 20 February | L6: Reactive intermediates of drugs | WJ |
| 25 February | L7: Drug transporters | WJ |
| 27 February | L8: Receptor-ligand interactions | WJ |
| 3 March | L9: CNS disorders and antipsychotic drugs | CE |
| 5 March | -----Midterm examination (L1-L8 by PP and WJ)----- | |
| 10 March | L10: Computational chemistry I: Chemoinformatics | CE |
| 12 March | L11: Computational Chemistry II: QSAR | CE |
| 24 March | L12: Computational Chemistry III: Assignment tutorial | CE |
| 26 March | L13: Fundamentals of anticancer chemotherapy I | CE |
| 31 March | L14: Fundamentals of anticancer chemotherapy II | CE |
| To be determined | -----Final examination (L9-L14 by CE)----- | |

Lecturers:

Dr. Chatchakorn Eurtivong (CE)

Dr. Poonsakdi Ploypradith (PP)

Dr. Watthanachai Jumpathong (WJ)