Syllabus

TOPICS IN MEDICINAL CHEMISTRY - 69921

Last update 01-06-2015

HU Credits: 2

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Chemistry

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Prof. Isri.Agranat

Coordinator Email: Isri.Agranat@mail.huji.ac.il

Coordinator Office Hours: Thursday 16:45-17:45, in addition: Upon advanced coordination

Teaching Staff:
Prof Israel Agranat
**Course/Module description:**

The main theme of the course is the process of drug discovery. The course does not replace a systematic course of Medicinal Chemistry. Emphasis is given to leads to new drugs and their applications in drug discovery. Aspects of regulations of drugs and patentability of potential drugs are also presented. At the end of the course the students will submit a written essay on a new drug.

**Course/Module aims:**

**Learning outcomes - On successful completion of this module, students should be able to:**

**Attendance requirements(%):**
100%

Teaching arrangement and method of instruction: Frontal teaching

**Course/Module Content:**

1. Definition, origin, objectives and methods of Medicinal Chemistry – an interdisciplinary subject; strategies and tactics; relationships with related sciences.
2. The Medicinal Chemistry space.
3. The Classifications of drug according to disease entities, therapeutic categories and drug-receptor interactions.
4. Nomenclatures of drugs.
5. Discovery, invention and management of drugs; Life-cycle management.
7. Regulation of drugs; brand-name drugs and generic drugs.
9. The impact of the thalidomide tragedy on regulations of drugs.
10. Intellectual property in drug discovery and invention; patentability of drugs and other types of exclusivity.
11. Chirality in drug discovery, and development.
15. Mustards as alkylating agents: anti-cancer drugs versus chemical warfare.
agents. Cyclophosphamide.
16. Chemotherapy pills and abortion pills; the controversial drug RU486 (mifepristone).

Required Reading:
Topics in Medicinal Chemistry:
Course 69921, 2015

Bibliography

1. D.J. Abraham, Ed.,

2. D.J. Abraham and D.P. Rotella

A Textbook of Drug Design and Development


6. J. Fischer and R.C. Ganellin, Eds.,

7. J. Fischer and R.C. Ganellin, Eds.,

8. M. Sandler and H.J. Smith


10. S.M. Roberts and B.T. Price, Eds.,


Dictionaries


2. "Dictionary of Drugs" CRC Press, 2010
http://dod.chemnetbase.com


Edition,

5. "Pharmaceutical Substances; Syntheses, Patents and Applications of the most Relevant AIPs".

6. "Glossary of Terms Used in Medicinal Chemistry"
(IUPAC Recommendations 1998)
http://www.chem.qmul.ac.uk/iupac/medchem/

7. "Glossary of Terms Used in Medicinal Chemistry Part II"
(IUPAC Recommendations 2013)
http://www.chem.qmul.ac.uk/iupac/medchem/

8. Drugs@FDA
FDA Approved Products
http://www.accessdata.fda.gov/scripts/cder/drugsatfda

8. "To Market, To Market – 1983-2013"

Additional Reading Material:

Course/Module evaluation:
End of year written/oral examination 100 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information: