BIOACTIVITY OF NATURAL PRODUCTS

Module designation	*Bioactivity of Natural Products*
Semester(s) in which the module is taught	*2*
Person responsible for the module	1. Dr. Aty Widyawaruyanti, M.Si, Apt. **(Course Coordinator)** 2. Prof. Dr. Achmad Fuad Hafid, MS., Apt. 3. Prof. Dr. Sukardiman, MS., Apt. 4. Prof. Dr. Bambang Prajogo E.W., MS., Apt. 5. Dr. Idha Kusumawati, M.Si., Apt.
Language	*Bahasa Indonesia*
Relation to curriculum	*~~Compulsory / elective / specialisation~~*
Teaching methods	*lecture, discussion, assignment*
Workload (incl. contact hours, self-study hours)	*(Estimated) Total workload:* *Contact hours (structured activities.): 90,67 hours* *Private study including independent learning activites*: *90,67 hours*
Credit points	*2 SCU / 6 ECTS*
Required and recommended prerequisites for joining the module	*NA*
Module objectives/intended learning outcomes	Students are: LO1: Able to realize excellence based on religious morals (excellence with morality), able to work together, and show a responsible attitude to work in their field of expertise independently LO2: Able to internalize the spirit of independence, struggle, and entrepreneurship LO5: Able to access and review information through an Information and Communication Technology (ICT) system, decide on a specific subject of study, maintain the feasibility of implementing research designs, conduct research, analyze data, conclude research results comprehensively, and create strategic issues based on the study that reflect the latest updates in the field of pharmaceutical sciences, and communicate them in the media and scientific forums at the national and international level through an interdisciplinary or multidisciplinary approach in the form of a thesis or other equivalent forms. LO6: Able to make decisions in the context of solving problems related to science and technology development based on analytical or experimental studies through collaboration with colleagues, colleagues in institutions and research communities at both national and international levels and utilizing research results for the benefit of the user and other communities. LO8: Able to carry out drug designs through the synthesis of bioactive compounds based on the structure-activity relationship. LO13: Able to design drug development both from natural products and/or synthetic compounds by considering the biological mimicry system.

Content	The Advanced Medical Chemistry course presents learning topics on introductory materials for Advanced Medicinal Chemistry, the relationship of structure to the absorption, distribution, and excretion of drugs, the relationship between the structure and processes of drug metabolism, the relationship between physicochemical properties and the biological activity of drugs, the relationship between structure and activity in the drug-receptor interaction process, quantitative structure-activity relationship(QSAR) of drugs, the structure-activity relationship of β-lactam antibiotics.
Exams and assessment formats	*Take-home written assignments*
Study and examination requirements	*the final grade in the module is composed of 30% discussion, 30% presentation, 30% take-home assignments, 10% in-class participation and soft-skills assessment. Students must have a final grade of 70% or higher to pass*
Reading list	1. Enrique Cadenas. Lester Parker, 2002, Handbook of Antioxidants, New York: Second ed Marcel Dekker, Inc., 2. Jackson, Judith, 1986, Koehn, Frank, E (Ed): Natural Product and Cancer Drug Discovery. 2013, XII, Spinger Ltd. 3. Haluz ESE, 1997, Human reproductive medicine, Technique of human andrology, Vol.1, New York: North-Holand Publising Company. 4. Farnsworth NR and Waller DP, 1991, Curent status of plant product reported to inhibit sperm, Research Frontiers in fersity Regulation. *5.* Trease and Evars, 2002, Pharmacognosy, China: Elsevier Ltd.