

Module Handbook

Modul Name	Phytochemistry Method
Module Level	Bachelor
Abbreviation, if applicable	KIO 404
Sub-heading, if applicable	-
Course included in the module, if applicable	Organic Chemistry I, Organic Chemistry II, Elucidation of Organic Structure
Semester/term	7 TH / Fourth year
Modul coordinator(s)	Dr. Alfinda Novi Kristanti
Lecturer(s)	<ol style="list-style-type: none"> 1. Dr. Nanik Siti Aminah 2. Dr. Pratiwi Pudjiastuti 3. Dr. Mulyadi Tanjung, MS
Language	Indonesia
Classification within the curriculum	Elective course
Teaching format/class hours per week during the semester	1 hours lectures and 2 hours laboratory work (50 min / hour)
Workload	<p>Lecture: 1 hour lecture, 1 hours individual activities and 1 laboratory activities, 13 weeks per semester</p> <p>Practical work: 2 hours doing worksheet and pretest preparation, 2 hours laboratory work, 2 hours group discussion, searching literature and writing report, 13 week per semester, and total 117 hours per semester ~ 3.9 ECTS *</p>
Credit point	2
Requirement	Elucidation of Organic Structure
Learning Outcomes	<p>General Competence (Knowledge): Isolating and identification of secondary metabolites (for college)</p> <p>Skills: Students are able to separate and purify secondary metabolites in plants (for practicum)</p> <p>Spesific Competence: Students are able to separate and purify and identify secondary metabolites)</p>
Content	Lectures and Practical Methods Phytochemicals discusses the preparation of plant samples, a screening method, how the isolation and identification of compounds - compounds are classified as natural materials of secondary metabolites, such as terpenoids, steroids, flavonoids, alkaloids and antarkuinon and to test the bioactivity
Study/exam achievements	<p>Final score is calculated as follows: 20% assessment + 20% Quiz + 30% middle examination (UTS) + 30% Quiz</p>

	<p>Final score of practical work is calculated as follows: 50% Practical work + 30% Presentation + 20% report Ket: Σ lecture + practical work/2 Final score graduation index A; 75-100 AB: 70-74,9 B: 65-69,9 BC: 60-64,9 C: 55-59,9 D: 40-54,9 E < 40</p>
Learning Methods	Lecture, Presentation, Practical work
Forms of Media	LCD projectors, slides, whiteboard, laboratory equipments
Literature	<ol style="list-style-type: none"> 1. Ahmad I., Aqil F., and Owais M., 2006, <i>Modern Phytomedicine</i>, Wiley, Jerman 2. Andersen, O.M. and Markham, K.R., 2006, <i>Flavonoids: Chemistry, Biochemistry and Application</i>, CRC Press Taylor and Francis Group, New York 3. Dewick, P.M., 2009. <i>Medicinal Natural Products: A Biosynthetic Approach</i>, 3rd Ed., John Wiley & Sons, Inggris. 4. Harborne, J.B., 1983, <i>The Flavonoids, Advances in Research Since 1968</i>, 1st Ed. Chapman and Hall, London 5. Ikan, R., 1991, <i>Natural Product : A Laboratory Guide</i>, 2nd Ed., Academic Press, London 6. Jurnal – jurnal Internasional : <i>Phytochemistry, Journal of Natural Product, Planta Medica</i> 7. Rahman, A., 2001, <i>Bioassay Techniques for Drug Development</i>, Harwood Academic Publishers, Amsterdam
Note	<p>*Total ECTS = {(total hours workload x 50 min) / 60 min } / 25 hours Each ECTS is equals with 25 hours</p>