

Module Handbook

Module Name:	Phytochemistry
Module Level:	Bachelor
Abbreviation, if applicable:	Lecture FAB303 Practical Work FAB306
Sub-heading, if applicable:	
Courses included in the module, if applicable:	
Semester/term:	1 / Third year
Module coordinator(s):	Dr. Achmad Fuad Hafid, MS., Apt.
Lecturer(s):	Dr. Achmad Fuad Hafid, MS., Apt. Drs. Herra Studiawan, MS., Apt. Dra. Rakhmawati, M.Si., Apt. Dr. Wiwied Ekasari, M.Si., Apt. Dr. Idha Kusumawati, S.Si., M.Si., Apt. Neny Purwitasari, S.Farm., MSc., Apt. Suciati, S.Si, M.Phil., PhD., Apt. Rice Disi Oktarina, S.Farm., M.farm., Apt. Dr. rer.nat. Mulja Hadi Santosa., MS., Apt. Lusiana Arifianti, S.Farm., M. Farm., Apt.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course/ Elective Studies
Teaching format/class hours per week during the semester:	Lecture 100 minutes lectures, 13 lecture classes/semester Practical Work 100 minutes practical work classes, 13 practical work classes /semester
Workload:	Lecture Total 22 hours a semester Practical Work Total 22 hours a semester
Credit Points:	Lecture 2 Practical Work 1
Requirements:	
Learning goal/competencies:	<p>Knowledge</p> <ul style="list-style-type: none"> – To understand the concept of phytochemistry – To understand the concept of phytochemistry practice <p>Skills</p> <ul style="list-style-type: none"> – Critical thinking, comprehensive and scientifically-valid academic. – The ability to express their opinions in writing or verbally – Respect the opinion of others – Being able to work together in solving problems – Active learning is the primary information access the latest discussions to make a scientific decision-

	<p>Academic</p> <p>Competence</p> <ul style="list-style-type: none"> - To understand and able to explaining the meaning and relationship of other sciences of phytochemistry, groove biosynthesis of secondary metabolites from natural materials and explain phytochemistry screening, extraction, fractionation, isolation, identification, purification, bioactivity test, the toxicity of natural materials and the determination of the structure of the isolates. - To understand and able to apply the concept of analysis chemical extract and isolates secondary metabolites from natural materials.
Content:	<p>Lecture</p> <p>Secondary metabolites (isolation, structure, and biosynthesis) and analyzing secondary metabolites (screening, detection, identification and assay).</p> <p>Practical Work</p> <p>In practicum, students experiment the isolation of a secondary metabolite (extraction, fractionation, column chromatography and preparative thin layer) and analyzing the chemical content (screening and detection) extract. Do parallel integration with phytopharmacy practice.</p>
Study/exam achievements:	<p>Lecture</p> <p>Student are considered to be competent and pass if at least get 50% of maximum mark of the exams based learning.</p> <p>Final score (NA) is calculated as follow :</p> <p>50% Exam I + 50% Exam II</p> <p>Final index is defined as follow :</p> <p>A : 100 > NA > 75 AB : 75 > NA > 70 B : 70 > NA > 65 BC : 65 > NA > 60 C : 60 > NA > 55 D : 55 > NA > 50 E : 50 < NA</p> <p>Practical Work</p> <p>Student is considered to be competent and pass if at least get 50% of maximum mark of the exams based learning.</p> <p>Final score (NA) is calculated as follow :</p> <p>30% daily practice + 70% Exam</p> <p>Final index is defined as follow :</p> <p>A : 100 > NA > 75 AB : 75 > NA > 70 B : 70 > NA > 65 BC : 65 > NA > 60 C : 60 > NA > 55 D : 55 > NA > 50</p>

	E : 50 < NA
Forms of Media:	LCD projector and Laptop
Literature:	<ol style="list-style-type: none"> 1. Atul Shirkhedkar, S.J. Surana, 2008, Pharmacognosy and Phytochemistry, Pragati Books PVT, Ltd, Abbyudaya Pragati, 1312 Shivaji Nagar, PUNE. 2. Harry HS Fong, 1978, <i>Phytochemical Screening</i>, Chicago College of Pharmacy, University of Illionin at Medical Centre. 3. Robinson, T, 1983, <i>The Constituents of Higher Plants, Their Chemistry and Interrelationships</i>, Fifth Edition, Cordus Press, North Amherst. 4. Kelompok Kerja Ilmiah Yayasan Pengembangan Obat Bahan Alam Phyto Medica, 1991, <i>Pedoman Pengujian dan Pengembangan Fitofarmaka, Penapisan Farmakologi, Pengujian Fitokimia dan Pengujian Klinik</i>, Pengembangan dan Pemanfaatan Obat Bahan Alam. 5. Harbone, 1973, <i>Phytochemical Methods, A Guide to Modern Technique of Plants Analysis</i>.
Notes:	