Course Module

Technology and Products of Medicinal Plant

Faculty of Forestry

Mulawarman University

1) Module description

A Module Handbook or collection of module descriptions that is also available for students to consult should contain the following information about the individual modules:

Module name	Technology and Products of Medicinal Plant
Modul level, if applicable	Doctoral
Code, if applicable	220401902P038
Subtitle, if applicable	-
Courses, if applicable	-
Semester(s) in which the module is taught	The subject is available throughout all academic semesters
Person responsible for the module	Prof. Dr. Enos Tangke Arung, S.Hut., M.P.
Lecturer	Prof. Dr. Enos Tangke Arung, S.Hut., M.P. Prof. Dr. Irawan Wijaya Kusuma, S.Hut., M.P.
Language	Indonesia
Relation to curriculum	Compulsory Course
Type of teaching, contact hours	Direct instruction, discussion, and assignment
Workload	Number of meetings per semester 16 meetings (14 meetings for learning activity, 1 meeting for mid-semester, 1 meeting for final examination) For this course, students are required to meet a minimum of 79.3 hours per semester, which consist of : - 23.33 hours for lecture - 28 hours for structured assignments - 28 hours for individual study
Credit points	Credit points: 2 SKS / 3.2 ECTS Details: 1 Credit = 170 min / week 1 Credit = 170 min x 14 week = 2380 min / semester 1 Credit = 39.7 h / semester 1 ECTS = 25 h/ Semester 1 Credit = 1.59 » 1.6

	2 Credit = 1.6 x 2 = 3.2 ECTS
Requirements according to the examination regulations	-
Recommended prerequisites	-
Module objectives/intended learning outcomes	**Intended Learning Outcome (ILO)** **Attitude (A)** 1. **ILO1 (A1)** – Internalize scientific values, norms, and ethics **Knowledge (K)** 2. **ILO2 (K1)** - Able to synthesize knowledge acquired from research findings with novelty and its implementation 3. **ILO3 (K2)** - Able to discover and develop scientific conceptions with novelty value, and able to develop scientific arguments as science solutions **Specific Skills (SS)** 4. **ILO6 (SS1)** - Able to manage data and information to support decision-making processes **Content Learning Outcome (CLO)** 1. **CLO1**: Students are able to understand and differentiate types of tropical medicinal plants. **ILO2 (K1).** 2. **CLO2**: Students are able to analyze the advantages and disadvantages of processing techniques for tropical medicinal plants. **ILO3 (K2).** 3. **CLO3**: Students are able to analyze and select processing methods for medicinal plant products from different plant parts (leaves, bark, stems, flowers). **ILO6 (SS1).** 4. **CLO4**: Students are able to analyze parameters that influence the results and quality of medicinal plant products. **ILO6 (SS1).** 5. **CLO5**: Students are able to test processed medicinal plant products. **ILO6 (SS1).** 6. **CLO6**: Students are able to synthesize the utilization of processed medicinal plant products. **ILO1 (A1).**
Contents	This course provides students with a comprehensive understanding of tropical medicinal plants, focusing on their classification, characteristics, processing techniques, and applications. Students will explore the advantages and disadvantages of different processing methods and analyze the impact of processing parameters on product quality. The course covers the utilization of medicinal plants for various applications, including leaves, bark, stems, and flowers, while also introducing testing methods to assess quality and effectiveness.

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<td>Additionally, students will engage in research discussions, case studies, and innovation-driven projects to synthesize knowledge for real-world applications. Assessments include a midterm examination, research presentations, and a final examination, ensuring a well-rounded learning experience in medicinal plant processing and utilization.

1. Introduction to Tropical Medicinal Plants (1st session) → CLO1
2. Classification and Characteristics of Tropical Medicinal Plants (2nd session) → CLO1
3. Techniques for Processing Medicinal Plants: Overview and Comparison (3rd session) → CLO2
4. Analysis of Advantages and Disadvantages of Processing Methods (4th session) → CLO2
5. Processing Medicinal Plant Products: Leaves and Bark (5th session) → CLO3
6. Processing Medicinal Plant Products: Stems and Flowers (6th session) → CLO3
7. Midterm Examination (UTS) (7th session) → Assessment
8. Parameters Affecting the Quality and Results of Medicinal Plant Products (8th and 9th sessions) → CLO4
9. Techniques for Testing Processed Medicinal Plant Products (10th session) → CLO5
10. Utilization of Processed Medicinal Plant Products: Case Studies (11th and 12th sessions) → CLO6
11. Innovations in Processing and Utilization of Medicinal Plants (13th session) → CLO6
12. Research and Article Discussions on Medicinal Plant Processing (14th session) → CLO3
13. Research Presentation and Group Discussions (15th session) → CLO6
14. Final Examination (UAS) (16th session) → Assessment</td>
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<td>Study and examination requirements and forms of examination</td>
<td>Evaluation and assessment of learning achievement based on scheme 1 in the Academic Regulations of Mulawarman University:
<table>
<tr><th>No</th><th>Objects of Evaluation/Assessment:</th><th>Forms of E/A</th><th>Quantity (%)</th></tr>
<tr><td>1</td><td>Affective</td><td>Participation</td><td>10</td></tr>
<tr><td>2</td><td>Assignments/Case Study</td><td>Group Presentation</td><td>25</td></tr>
<tr><td>3</td><td>Project</td><td>Presentation</td><td>25</td></tr>
<tr><td>4</td><td>Mid-Semester Test</td><td>Written test</td><td>15</td></tr>
<tr><td>5</td><td>Final Examination</td><td>Written test</td><td>25</td></tr>
<tr><td colspan="3">Total</td><td>100</td></tr>
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<tr>
<td>Media employed</td>
<td>Class, Ms. Powerpoint, Ms. Word, Computer, LCD, STAR</td>
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Reading list	1. Heyne, 1985. Tumbuhan Berguna Indonesia 2. Plant Resources of South-East Asia No. 12(1-3). Medicinal and Poisonous Plants 1 by L. S. de Padua; N. Bunyapraphatsara; R. H. M. J. Lemmens 3. Sahat J.T.D, Nisaa A.D, Yulita K, Boiga, Rahma, 2007. Tumbuhan Berhasiat Obat Taman Nasional Kutai. Balai Taman Nasional Kutai 4. Yulita K, Edy P, Asep S, 2013. Tumbuhan Obat Taman Nasional Kutai (Edisi Perdu). Balai Taman nasional Kutai 5. Noorcahyati, 2012. Tumbuhan Berkhasiat Obat Etnis Asli Kalimantan. Balai Penelitian Teknologi Konservasi SDA 6. Journal Ilmiah terkait (Journal of Ethnopharmacology, Journal of Etnobiology and Ethnomedicine, Planta medica 7. S.S. Handa, S.P.S. Khanuja, G. Longo, and D.D. Rakesh. Extraction Technologies for Medicinal and Aromatic Plants. International Centre for Science and High Technology Trieste, 2008 8. Additional articles related to subject