

Plant Microtechnique and Analysis

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| Module name | | <i>Plant Microtechnique and Analysis</i> | | | | | |
| Module level | | 3 rd year of Bachelor program | | | | | |
| Abbreviation, if applicable | | - | | | | | |
| Sub-heading, if applicable | | - | | | | | |
| Courses included in the module, if applicable | | BI3110 <i>Plant Microtechnique and Analysis</i> | | | | | |
| Semester/term | | 6 th Semester | | | | | |
| Module coordinator(s) | | Dr. Trimurti | | | | | |
| Lecturer(s) | | Dr. Trimurti | | | | | |
| Language | | Indonesian | | | | | |
| Classification within the Curriculum | | Elective courses for Bachelor Program in Biology | | | | | |
| Teaching format/ class hours per week during the semester | | Lecture (face to face teaching): 2 hours x 14 weeks Practical class: 2 x 5 hours x 14 weeks | | | | | |
| Workload | Total Workload | 160 hours; 2(2) CU | | | | | |
| | | Face to face teaching | Structured Activities | Independent study | Exam | Total | |
| | Lecture | 56 | - | - | 4 | 160 | |
| | Practical class | | 50 | 50 | | - | |
| | Total | | | | | 160 | |
| Credit points | | <i>Plant Microtechnique and Analysis (2(2) Credits)</i> | | | | | |
| Requirements | | - | | | | | |
| Content | | <ul style="list-style-type: none"> - <i>Basic principles and practice of the method for preparation of fresh slides such as dissected or epidermal peel, staining, and analysing qualitative/quantitatively</i> - <i>Method for permanent slides</i> - <i>Light microscopy (paraffin method, wood, maceration, 'squash')</i> - <i>Electron microscopy (TEM and SEM)</i> - <i>The role of the chemical compounds used during the preparations</i> - <i>Fixative selection, embedding media, dyeing</i> - <i>Structural analysis: qualitative/quantitatively.</i> | | | | | |
| Learning goals/competencies | | Students are able to : <ul style="list-style-type: none"> - Select appropriate fixative, medium for fixing specific tissue/organs and type of microscope used - Operate equipments for microscopic observation | | | | | |
| Study/exam achievements | | Midterm exam | Final exam | Presenta tion | Class participation | Attendance | Total |
| | | | | | | | 100% |
| Forms of media | | <i>Classical teaching tools:</i> | | <i>White board, power point presentation</i> | | | |
| | | <i>Digital teaching tools:</i> | | <i>Video/CD, Website</i> | | | |
| Literature | | <ol style="list-style-type: none"> 1. Baker, J. R. 2011. Principles of biological microtechnique : a study of fixation and dyeing. Amazon.com. 2. Hayat, M. A. 2000. Principles and Techniques of Electron Microscopy : Biological Applications. Vol. 4. Cambridge, UK : Cambridge University Press. 3. O'Brien, T. P. and M. E. McCully. 1981. The Study of Plant Structure : Principles and Selected Methods. Melbourne : Termacarphy Pty Ltd. | | | | | |