UNIVERSITAS GADJAH MADA
FACULTY OF AGRICULTURAL TECHNOLOGY
DEPARTMENT OF FOOD & AGRICULTURAL PRODUCT TECHNOLOGY

**BACHELOR IN FOOD & AGRICULTURAL PRODUCT TECHNOLOGY**

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# MODULE HANDBOOK

# COFFEE, TEA, AND COCOA TECHNOLOGY

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| Module designation | Coffee, Tea, and Cocoa Technology |
| Module code | TPHP213111 |
| Module level | Bachelor |
| Semester(s) in which the module is taught | Semester 5 / Odd Semester |
| Person responsible for the module | **Bangun Prajanto Nusantoro, S.T.P., M.Sc.**<br>Prof. Dr. Ir. Supriyadi, M.Sc.<br>Dr. Qurrotul A'Yun, S.T.P., M.Sc.<br>Prof. Dr. Ir. Djagal Wiseso Marseno, M.Agr. |
| Language | Indonesian |
| Relation to curriculum | Elective Courses |
| Teaching methods | SCL: Discourse, paper discussion, group discussion |
| Workload (incl. contact hours, self-study hours) | 1. Lectures<br>3 credits x 50 minutes x 16 meetings = 2400 minutes<br>= 40 hours<br>= 40 hours/30 hours<br>= 1.33 ECTS<br>2. Structured Assignments<br>3 credits x 60 minutes x 16 meetings = 2880 minutes<br>= 48 hours<br>= 48 hours/30 hours<br>= 1.6 ECTS<br>3. Self-study<br>3 credits x 60 minutes x 16 meetings = 2880 minutes<br>= 48 hours<br>= 48 hours/30 hours<br>= 1.6 ECTS<br>Total workload = 4.53 ECTS (136 hours) |

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| Credit points | 3 credits / 4.53 ECTS | |
| Required and recommended prerequisites for joining the module | No requirement needed | |
| Module objectives/intended learning outcomes | Programme Learning Outcome (PLO) | |
| | PLO P4 | Be able to use the principles of food engineering, food preservation and processing, packaging materials and methods, cleaning and sanitation, and water and waste management |
| | Module Learning Outcome (MLO) | |
| | MLO P4.23 | Be able to explain the sources and variability of raw materials and their effects on food processing operations |
| | MLO P4.24 | Be able to design processing methods to produce safe and high-quality food |
| | MLO P4.26 | Be able to explain the effects of preservation and processing on product quality |
| Content | 1. Overview<br>2. Types and properties of coffee beans<br>3. Dry method of coffee processing<br>4. Wet method of coffee processing<br>5. Downstream coffee product processing methods<br>6. Dry coffee processing equipment and control<br>7. Wet coffee processing equipment and control<br>8. Processing equipment and control of the downstream coffee product processing<br>9. Types of shoots and picking<br>10. The nature and damage of tea shoots<br>11. Green tea processing method<br>12. Fragrant tea processing method<br>13. Black tea processing method<br>14. Tea downstream product processing method<br>15. Equipment and process control in the processing of green tea, fragrant tea, black tea and instant tea<br>16. Types and properties of cocoa beans<br>17. Cocoa Fermentation<br>18. Cocoa powder and fat processing<br>19. Processing of downstream cocoa products (instant chocolate, chocolate bars)<br>20. Equipment and process control in the processing of chocolate and cocoa butter, downstream products (instant chocolate, chocolate bars) | |

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| Examination forms | Evaluation Base | Evaluation Components | MLO | Percentage |
| | A. Participatory Activities | Discussion | - | - |
| | B. Case Study Results | Presentation | - | - |
| | | Report | - | - |
| | | Midterm Exam | MLO P4.24, MLO P4.26 | 30% |
| | | Final Exam | MLO P4.24, MLO P4.26 | 25% |
| | C. Cognitive | Skill-Based Assessment (SBA) | - | - |
| | | Quiz | - | - |
| | | Midterm Exam | MLO P4.23 | 30% |
| | | Final Exam | MLO P4.23 | 15% |
| | | Total | | 100% |
| Study and examination requirements | The final grade in the module is composed of (55% project results and 45% cognitive). Students must attend 75% of the total meetings to take the exam. | | | |
| Reading list | **Main:**<br>1. Sivetz dan Foote, 1963. Coffee Processing Technology<br>2. Clarke and Macrae 1986: Coffee (Vol 1-2)<br>3. Sivapalan, 1986. Handbook on Tea<br>4. Panda, 2016.The Complete Book on Cultivation and Manufacture of Tea (2nd Revised Edition)<br>5. Minifie, B.W., dan C. Chem. 1982. Chocolate, Cocoa and Confectionery<br>6. Beckett, S.T. 1988. Industrial Chocolate Manufacture and Use. Blackie & Son. Ltd. London<br>7. Afoakwa, E. 2010. Chocolate Science and Technology. | | | |
| Last Modified | July 31st, 2024 | | | |