# FACULTY OF AGRICULTURE

**DEPARTMENT OF ANIMAL SCIENCE**

**UNDERGRADUATE PROGRAM** **MODULE HANDBOOK**

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| *Module designation* | *Introduction to Sustainable Agriculture (FPEN1001)* |
| *Semester(s) in which the module is taught* | *1st Semester* |
| *Person responsible for the module* | *Faculty Team* |
| *Language* | *English* |
| *Relation to curriculum* | *Compulsory Module for Faculty of Agriculture* |
| *Teaching methods* | *Lecture, lesson, and focus group discussion* |
| *Workload (incl. contact hours, self-study hours)* | • *Lecture and discussion 100 minutes per week per semester*<br>• *Structured tasks 120 minutes per week per semester*<br>• *Personal tasks 120 minutes per week per semester* |
| *Credit points* | *2 (lesson) = 3.2 ECTS* |
| *Required and recommended prerequisites for joining the module* | - |
| *Module objectives/intended learning outcomes* | 1. *Student are able to explain the definition and understand all aspects and scope of agricultural science, and the history of agricultural science,*<br>2. *Student are able to explain problems and challenges in the agricultural sector,*<br>3. *Student are able to understand and explain plant/crop production systems,*<br>4. *Student are able to understand and explain agricultural products as raw materials for food industry, renewable energy,*<br>5. *Student are able to explain agricultural industrialization, and analyze development of agricultural product processing industries,*<br>6. *Student are able to explain and analyze policies in agricultural development.* |
| *Content* | *It discusses the definition and history of agricultural development, agricultural systems which include production, post-harvest, distribution and consumption sub-systems, agricultural and environmental systems, the role of the agricultural sector in national development — which includes activities to increase gross domestic product and increase foreign exchange — the role of the agricultural sector in maintaining sufficient food production, the role of the agricultural sector in providing raw materials for the agricultural industry, agricultural industrialization, and the development of agricultural processing industries, problems in the agricultural sector, as well as the role of education, development and application of science and technology in agricultural development. In addition, the course examines modern socio-environmental issues that are increasingly shaping agricultural policy and practice, such as climate change adaptation and mitigation, sustainable resource management, biodiversity conservation, reduction of greenhouse gas emissions, and the promotion of a circular bioeconomy. It also addresses the social dimensions of sustainability, including gender equity, fair labor practices, the empowerment of smallholder farmers, ethical and transparent supply chains, and the integration of traditional ecological knowledge with modern innovations to create resilient, inclusive, and environmentally responsible agricultural systems.* |

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| *Examination forms* | *Multiple choice, essay, and oral presentation.* |
| *Study and examination requirements* | *20 % participatory activities*<br>*30% project results*<br>*25 % midtest examination*<br>*25 % final examination* |
| *Reading list* | 1. *Akbar, A., R. Darma, A. Irawan, L.Fudjaja, R. Amandaria, and R.Akzar. 2025. An institutional framework for enhanced food security amidst the COVID-19 pandemic: Strategic implementation and outcomes. Journal of Agricultural and Food Research. 21:101833*<br>2. *Coffey, S., 2019. Special issue: ACIAR at work: interdisciplinary research into smallholder farming systems. Agricultural Science. 30(2) and 31(1). Ag Institute Australia.*<br>3. *Indrawanis, E., and P. Heriansyah. 2023. Introduction to sustainable agriculture. Penerbit Lindan Bestari*<br>4. *Ministry of Agriculture RI, 2020. Ministry of Agriculture strategic plan 2020-2024.*<br>5. *Wahyu A.S, Budiyoko, Edi. S,. Yoseph. Y. D. R,. 2024. Pembangunan Pertanian Berkelanjutan, CV Hei Publishing* |