FACULTY OF AGRICULTURE

DEPARTMENT OF ANIMAL SCIENCE

UNDERGRADUATE PROGRAM **MODULE HANDBOOK**

Module designation	Agrotechnopreunership
Semester(s) in which the module is taught	5rd Semester
Person responsible for the module	Prof. Dr. Ir. Samadi, M.Sc
Language	Indonesian, English
Relation to curriculum	Compulsory module
Teaching methods	Lectures, audiovisual aids, discussions and Q&A sessions, and group assignments.
Workload (incl. contact hours, self-study hours)	✓ 100 minutes lecture and discussion per week ✓ 120 minutes structured tasks per week ✓ 120 minutes learn to be independent per week
Credit points	2 SKS = 3.2 ECTS
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	✓ Students are able to explain the characteristics that need to be possessed by an entrepreneur and business ethics in entrepreneurship. ✓ Students understand about business development and various ideas in entrepreneurship, especially related to technology- based livestock businesses. ✓ Students understand about business development and various ideas in entrepreneurship, especially related to technology-based livestock businesses. ✓ Able to innovate and be creative to produce technology-based business/product designs (prototypes). ✓ Market-oriented by utilizing science and technology.

Content	The Introduction to Agrotechnopreneurship course equips students with the knowledge and skills to become entrepreneurs in the agriculture and livestock sectors, with a focus on technology-based innovation. The course begins with an understanding of achievement motivation, including its definition, influencing factors, self-concept, personal SWOT analysis, and the application of self-concept in the entrepreneurial world. Students are then introduced to modern agriculture and livestock, covering characteristics, applied technologies, consumer demands for products, production management, and product quality criteria. The topic of production technology and product development includes raw material supply management and the application of technology for product innovation. The course also explores entrepreneurial ideas, including definitions, scope, techniques for generating ideas, opportunities in technology-based animal husbandry, and the development of various potential businesses in this sector. Students learn about partnerships and networking, focusing on definitions, objectives, and benefits in terms of economic, socio-cultural, technological, and managerial aspects. Agribusiness production management covers definitions, scope, and production planning. In risk management, students learn about the scope, benefits, stages, influencing factors, risk classification, sources of risk, control measures, and the role of agricultural and livestock insurance. The marketing management section addresses market scope, opportunities, factors influencing product marketing, modern technology-based marketing approaches, and strategies for product, price, place, and promotion. Financial management introduces students to its functions, scope, sources of capital, financing, as well as revenue and cost analysis. The business planning component covers the functions of a business plan, the development of a *Business Model Canvas* (BMC), market analysis, production analysis, resource analysis, business development analysis, SWOT analysis, and documentation of business units. Finally, the course discusses business ethics in entrepreneurship, including the traits of entrepreneurs, the definition of business ethics, its purpose, benefits, and scope. By completing this course, students are expected to integrate technical knowledge, managerial skills, and ethical principles to build and manage technology-based agricultural or livestock businesses professionally, sustainably, and competitively.
Exams and assessment formats	Attitude, discussion, presentation, and poster

Study and examination requirements	✓ Participatory Activities (Attitude and Discussion): 20% ✓ Project Results (Posters, Reports and Presentations): 30% ✓ Cognitive/Knowledge: Homework/Assignments: 5% Quiz: 5% Exam 1 (From 2nd Lecturer): 20% Exam 2 (From 3rd Lecturer): 20%
Reading list	Berckmans, D. (Ed.). (2022). *Advances in precision livestock farming*. Burleigh Dodds Science Publishing. van Erp-van der Kooij, E. (Ed.). (2021). *Precision technology and sensor applications for livestock farming and companion animals*. Wageningen Academic Publishers. Schillings, J., Bennett, R., & Rose, D. C. (2021). Exploring the potential of precision livestock farming technologies to help address farm animal welfare. *Frontiers in Animal Science*. https://doi.org/10.3389/fanim.2021.639678. Jiang, B., Tang, W., Cui, L., & Deng, X. (2023). Precision livestock farming research: A global scientometric review. *Animals, 13*(13), 2096.https://doi.org/10.3390/ani13132096.