UNDERGRADUATE PROGRAM   **MODULE HANDBOOK**

Module designation	Agricultural Mechanization (SSOL6005)
Semester(s) in which the module is taught	5th Semester
Person responsible for the module	Dr. Muhammad Idkham, S.TP., M.Si.
Language	Indonesian, English
Relation to curriculum	Elective module for Soil Science Department
Teaching methods	Lecture, small group discussion, interactive discussion
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 definition and scope, select agricultural tools and machinery, and manage technology in the field of modern agricultural mechanization that is innovative and sustainable. ✔ Students are able to analyze the technological needs of pre-harvest agricultural mechanization, applied to solve problems in soil and land resource management. ✔ Students are able to identify the mechanization needs of post-harvest tools and machinery and provide sustainable solutions to environmental problems.
Content	This course covers the definition, scope, functions, and objectives of agricultural mechanization. It explains the specifications of tools and machinery used in agricultural cultivation and post-harvest activities, as well as the calculation of equipment and machinery capacity. The course also discusses the principles of selecting agricultural tools and machinery.
Exams and assessment formats	Assignment, Quiz, Midterm exam, Final exam
Study and examination requirements	✔ Quiz: 20% ✔ Assignment: 30% ✔ Midterm exam: 20% ✔ Final exam: 30%

| Reading list | 1. Chi, Y., Zhou, W., Wang, Z., Hu, Y., & Han, X. (2021). The influence paths of agricultural mechanization on green agricultural development. Sustainability, 13(23), 12984.
2. Herdiansyah, H., Antriyandarti, E., Rosyada, A., Arista, N. I. D., Soesilo, T. E. B., & Ernawati, N. (2023). Evaluation of conventional and mechanization methods towards precision agriculture in Indonesia. Sustainability, 15(12), 9592.
3. Wijaya, A., & Nurcahyo, R. (2022). Agricultural mechanization in Indonesia and comparison to Southeast Asia countries. IEOM Society. Retrieved May, 24, 2023.
4. Kadir, K., & Prasetyo, O. R. (2020). Adoption of agriculture mechanization on paddy farmers in Indonesia: demographic determinants, internet access influence, and the impact of adoption on the yield. Jurnal Aplikasi Statistika & Komputasi Statistik, 12(3), 118-130.
5. Craig, R. F. 1991. Mekanika Tanah. Edisi keempat. Departement of Civil Engineering University of Dundee. Di terjemahkan oleh S. Soepandji. Erlangga. Jakarta. Daywin - Ross, dkk. 1985. Bahan-bahan penataran Mekanisasi Pertanian, kerjasama IPB dengan Kentucky University (Program BKS-B dan Usaid) di Unsri |