FACULTY OF AGRICULTURE
DEPARTMENT OF SOIL SCIENCE

UNDERGRADUATE PROGRAM   **MODULE HANDBOOK**

Module designation	Practicum of Remote Sensing (SSOL1018)
Semester(s) in which the module is taught	2nd Semester
Person responsible for the module	Prof. Ir. Sugianto, M.Sc, Ph.D
Language	Indonesian, English
Relation to curriculum	Compulsory module for Soil Science Department
Teaching methods	Practice, lecture, presentation
Workload (incl. contact hours, self-study hours)	✔ 170 minute of practice per week (field/laboratory 50 minutes; structured learning 60 minutes; 60 minutes self-study)
Credit points	1 SKS = 1.6 ECTS
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	✔ Students can operate applications for inputting and processing digital image data ✔ Students can operate applications used in remote sensing, particularly those related to satellite development for land use in agriculture and other fields
Content	This course focuses on applications or soft skills, particularly for land studies, by incorporating innovative ideas, techniques, and scientific knowledge to broaden the horizons of satellite, drone, information, and computer technology applications. The practical component of the remote sensing course is designed to apply satellite imagery technology in the management and analysis of spatial data for land resources.
Exams and assessment formats	Assignment, Practicum Report, Final Practicum Exam
Study and examination requirements	✔ Case Method (Field Report and final practicum exam): 50% ✔ Team Based- Project: 50%

Reading list	1. Zhang, L., Zhang, L., & Du, B. (2016). Deep learning for remote sensing data: A technical tutorial on the state of the art. IEEE Geoscience and remote sensing magazine, 4(2), 22-40. 2. Chi, M., Plaza, A., Benediktsson, J. A., Sun, Z., Shen, J., & Zhu, Y. (2016). Big data for remote sensing: Challenges and opportunities. Proceedings of the IEEE, 104(11), 2207-2219. 3. Huang, Y., Tao, Y. U., & HUANG, X. Z. (2018). Agricultural remote sensing big data: Management and applications. Journal of Integrative Agriculture, 17(9), 1915-1931. 4. Liu, P. (2015). A survey of remote-sensing big data. frontiers in Environmental Science, 3, 45. 5. Congalton, R. G., & Green, K. (2019). Assessing the accuracy of remotely sensed data: principles and practices. CRC press. 6. Mather, P., & Tso, B. (2016). Classification methods for remotely sensed data. CRC press.