USK UNIVERSITAS SYIAH KUALA

FACULTY OF AGRICULTURE

DEPARTMENT OF SOIL SCIENCE

UNDERGRADUATE PROGRAM **MODULE HANDBOOK**

Module designation	Research Method (SSOL3058)
Semester(s) in which the module is taught	6th semester
Person responsible for the module	Prof. Dr. Ir. Sufardi, M.S.
Language	Indonesian, English
Relation to curriculum	Compulsory module for Soil Science Department
Teaching methods	Lecture, presentation, focus group discussion
Workload (incl. contact hours, self-study hours)	✔ Lecture and discussion 100 minutes per week per semester ✔ Structured tasks 120 minutes per week per semester ✔ Personal tasks 120 minutes per week per semester
Credit points	2 SKS = 3.2 ECTS
Required and recommended prerequisites for joining the module	SSOL2020
Module objectives/intended learning outcomes	✔ Students uphold the values of scientific truth and contribute to the advancement of science through research for the benefit of humanity. ✔ Students demonstrate understanding of the concepts of the scientific method, the definition and purpose of research, research structure, and various types of research. ✔ Students are able to identify and formulate a conceptual framework and hypotheses related to issues in soil science and natural resource management as the basis for research focus. ✔ Students develop a research proposal in accordance with scientific writing guidelines and design appropriate research methods relevant to the selected field of study.
Content	This course introduces students to the fundamental concepts of research and scientific writing, including the distinction between scientific and non-scientific truth, the definition, objectives, and benefits of research, types and structure of research, formulation of problems, development of conceptual frameworks, hypothesis formulation, research methods (descriptive, experimental, modeling), data analysis techniques, drawing conclusions, and techniques for scientific writing and publication.
Exams and assessment formats	Case method, quiz, assignment, midterm exam, final exam

Study and examination requirements	✔ Case method: 50% ✔ Quiz: 5% ✔ Assignment: 10% ✔ Midterm exam: 15% ✔ Final exam: 20%
Reading list	1. Sufardi & Hakim, L. 2023. Metode Ilmiah dan Penelitian. Syiah Kuala University Press, Banda Aceh 2. Thomas, C.G. 2021. Research Methodology and Scientific Writing. 2nd. Edition, Springer. 3. Goswani, I., Rao, L.M., Ashraf, M.S., and Vigneswari, S. 2022. Handbook of Research Methodology. Redshie Publication. 4. Nazir, M. 2021. Metode Penelitian. Ghalia, Jakarta. 5. Hardani et al. 2022. Metode Penelitian Kuantitatif dan Kualitatif. Pustaka Ilmu, Jakarta 6. Stokes, P., & Wall, T. (2017). Research methods. Bloomsbury Publishing. 7. Walliman, N. (2021). Research methods: The basics. Routledge. 8. Patten, M. L. (2016). Understanding research methods: An overview of the essentials. Routledge. 9. Williamson, K., & Johanson, G. (Eds.). (2017). Research methods: Information, systems, and contexts. Chandos Publishing. 10. Leavy, P. (2022). Research design: Quantitative, qualitative, mixed methods, arts-based, and community-based participatory research approaches. Guilford publications.