

Module Handbook: Research Methodology and Ethics

Module designation	This course explains research and experiments, scientific thinking, various research methods, evaluation, validation, reliability, methods and techniques for collecting, processing, and presenting fishery data, drawing conclusions, and presenting them. This course also describes research and publication ethics, presentation techniques, and journal publication processes.
Semester(s) in which the module is taught	First Semester
Person responsible for the module	1. Prof. Dr. Ir. Alim Isnansetyo, M.Sc. 2. Prof. Dr. Ir. Ustadi, M.P. 3. Prof. Suadi, S.Pi., M.Agr.Sc., Ph.D.
Language	Indonesian
Relation to curriculum	Compulsory Course
Teaching methods	Activities: a) Lecture (lecture and discussion) b) Examinations c) Take home assignments d) Quiz e) Student presentation
Workload (incl. contact hours, self-study hours)	Working hours: 2 credits of theory. Total Workload: 2 SCU (Semester Credit Unit) = 2 x 45 hours within 1 semester = 3.34 ECTS.
Credit points	2 Credit points
Required and recommended prerequisites for joining the module	<i>None</i>

Module objectives/intended learning outcomes	Program Learning Outcomes: PLO2: Demonstrate honesty, responsibility, confidence, emotional maturity, ethics, and awareness of being a lifelong learner. Course Learning Outcomes: CLO 1: Able to understand and apply scientific ethics and publication ethics. (PLO2) CLO 2: Able to understand the concepts and principles of research methodology and their application in research, as well as to comprehend the concepts of scientific thinking, data, data collection, and analysis. (PLO2)
Content	1. Common types of research 2. The Scientific Method 3. Deductive and Inductive Reasoning 4. Goals of Scientific Research 5. Key features of research in the social sciences 6. Forms of research 7. Method in Social Science 8. Survey Methods 9. Types of data collection methods 10. Quantitative Approaches and Qualitative sampling 11. Fisheries Data Processing I 12. Fisheries Data Processing II 13. Building a Research Framework 14. Ethics and Social Research

Examination forms	<table><tr><th><i>Evaluation Basis</i></th><th><i>Evaluation Components</i></th><th><i>Percentages</i></th><th><i>CLO1</i></th><th><i>CLO2</i></th></tr><tr><td rowspan="2"><i>Participatory Activity</i></td><td><i>Group presentation</i></td><td><i>15%</i></td><td></td><td>√</td></tr><tr><td><i>Quiz</i></td><td><i>15%</i></td><td>√</td><td></td></tr><tr><td><i>Project results/case study results</i></td><td><i>Individual/Group Assignment</i></td><td><i>30%</i></td><td></td><td>√</td></tr><tr><td rowspan="2"><i>Cognitive</i></td><td><i>Mid Exam</i></td><td><i>20%</i></td><td>√</td><td></td></tr><tr><td><i>Final Exam</i></td><td><i>20%</i></td><td></td><td>√</td></tr><tr><td></td><td><i>Total</i></td><td><i>100%</i></td><td></td><td></td></tr></table> <i>The total percentage of participatory activities and project results/case studies/PBL results is at least 50%.</i>	<i>Evaluation Basis</i>	<i>Evaluation Components</i>	<i>Percentages</i>	<i>CLO1</i>	<i>CLO2</i>	<i>Participatory Activity</i>	<i>Group presentation</i>	<i>15%</i>		√	<i>Quiz</i>	<i>15%</i>	√		<i>Project results/case study results</i>	<i>Individual/Group Assignment</i>	<i>30%</i>		√	<i>Cognitive</i>	<i>Mid Exam</i>	<i>20%</i>	√		<i>Final Exam</i>	<i>20%</i>		√		<i>Total</i>	<i>100%</i>		
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Study and examination requirements	Students can join the course by registering the study plan (KRS) to enroll in the chosen subjects in each academic semester. The students must meet minimum attendance requirements 70% for joining the final examination.																																	
Reading list	1. Bruce, P., Bruce, A. and Gedeck, P. (2020) Practical statistics for data scientists: 50+ essential concepts using R and Python. 2nd edn. Sebastopol, CA: O'Reilly Media. 2. Creswell, J.W. and Plano Clark, V.L. (2017). Designing and conducting mixed methods research. 3rd edn. Thousand Oaks, CA: SAGE Publications. 3. James, G., Witten, D., Hastie, T. and Tibshirani, R. (2021) An introduction to statistical learning: with applications in R. 2nd edn. New York: Springer. 4. McElreath, R. (2020) Statistical rethinking: a Bayesian course with examples in R and Stan. 2nd edn. Boca Raton, FL: CRC Press. 5. Spiegelhalter, D. (2019) The art of statistics: how to learn from data. New York: Basic Books.																																	