Module Course

	UNIVERSITAS JEMBER **FACULTY OF AGRICULTURAL TECHNOLOGY** **DEPARTMENT OF AGRICULTURAL PRODUCT TECHNOLOGY**	**KODE DOKUMEN** F1.03.05

Module Course		
COURSE	**Name**	**Methodology and Scientific Communication**
	Kode	**TPU**
	Credit (SKS)	**4 SKS Face to Face; 0 SKS Practice**
	Semester	**6**

Person(s) Teaching

- Dr. Ir. Jayus

DESCRIPTION OF COURSE

The output target of this course is in the form of a research proposal. Studies in this course include:

- Scientific concepts, research, and scientific writing and presentation;
- Statistical science and its application to the preparation of research plans and results
- The design of experimental design required in the research design
- Research plans or proposals according to scientific principles, language rules, and writing rules;
- Communication (written and oral) in the delivery of research plans and results.

LO – Programme Learning Outcome

No LO	*Statement of Learning Outcome (LO)*
LO-2	Able to apply research methodologies of various sciences and technologies in supporting the development of the scientific field of Food Technology and Agricultural Products

Course Learning Outcome (CLO)

No CLO	*Statement of CLO*
CLO-1	Able to apply scientific information analysis techniques to solve food and agricultural problems
CLO-2	Able to choose solutions for solving problems in the field of food and agricultural products
CLO-3	Able to control data records to ensure validity and prevent plagiarism
CLO-4	Conduct primary research to solve food and agricultural problems

SUB COURSE LEARNING OUTCOME (Sub-CLO)

No Sub-CLO	*Statement of Sub-CLO*
1	Locate evidence-based scientific information resources
2	Apply critical thinking skills to solve problems
3	Apply principles of food science in practical, real-world situations and problems

4	Select appropriate analytical techniques when presented with a practical problem
5	Evaluate scientific information

LEARNING TOPIC

Introduction
- Understanding the scientific method
- Definition and definition of research,
- Research objectives and functions
- Types of research
- The process of the emergence of knowledge
- The relationship between scientific theory and research

Steps for Compiling a Research Proposal:
- Choose the topic of the problem to be researched
- Formulation of theoretical studies and preliminary studies
- Formulate the problem
- Formulate basic assumptions
- Formulate hypotheses
- Choose the approach and design/design of a research
- Define variables and data sources (population and sample)
- Determine, and develop instruments and data collection techniques
- Test the hypothesis
- Analyze data (statistics)

Experimental and Research Design
- Experimental Design Concept
- RAL
- RAK
- Response Surface Methodology

Scientific Presentation Techniques
- UNEJ Scientific Writing Guidelines
- Research proposal
- Posters
- Scientific articles
- Oral Presentation

MAIN REFERENCES

- Arikunto, S., PROSEDUR PENELITIAN SUATU PENDEKATAN PRAKTIK, 2013, Rineka Cipta, Jakarta.
- Kasiram, M. METODOLOGI PENELITIAN REFLEKSI PENGEMBANGAN PEMAHAMAN DAN PENGUASAAN METODOLOGI PENELITIAN, 2008, UIN-Malang Press, Malang,
- Yusuf, M. 2014, METODE PENELITIAN KUANTITATIF, KUALITATIF DAN PENELITIAN GABUNGAN, Prenada Media Group, Jakarta.
- PEDOMAN PENULISAN KARYA ILMIAH UNEJ. UPT PENERBITAN UNEJ

ADDITIONAL REFERENCES

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PREREQUISITES COURSE (If any)

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TIMELINE		
WEEK(s)	**Components**	**Person(s)**
1	Lecture contract, RPS, RPP, RTM, Syllabus, Introduction Introduction of commonly used guide books and scientific methods in research activities a. Definition of the scientific method, b. Definition and definition of research, c. Research objectives and functions	Dr. Ir. Jayus
2	a. Types of research b. The process of emergence of knowledge c. The relationship between scientific theory and research	Dr. Ir. Jayus
3	Steps for Compiling a Research Proposal: a. Choose the topic of the problem to be studied b. Formulation of theoretical studies and preliminary studies c. Formulate the problem d. Formulate basic assumptions	Dr. Ir. Jayus
4	Proposal Preparation Steps State of the art research and how to formulate it	Dr. Ir. Jayus
5	Proposal Preparation Steps a. hypothesis b. types of approaches and design/experimental design of a research	Dr. Ir. Jayus
6	Proposal Preparation Steps Selection of approach and design/design of a research	Dr. Ir. Jayus
7	Proposal Preparation Steps variables and data sources (population and sample) research	Dr. Ir. Jayus
8	Proposal Preparation Steps Preparation of research data collection instruments and techniques	Dr. Ir. Jayus
9	Data analysis techniques using statistical techniques	Dr. Ir. Jayus
10	Techniques for compiling and presenting research data	Dr. Ir. Jayus
11	Techniques for presenting and discussing research results	Dr. Ir. Jayus
12	Proposal Preparation Steps Research conclusion technique	Dr. Ir. Jayus
13	Verbal presentation of research results (seminars)	Dr. Ir. Jayus
14	Techniques for presenting research results in writing (posters, scientific articles)	Dr. Ir. Jayus

15	Evaluation of learning outcomes	Dr. Ir. Jayus
16	-	

Jember, October 2022

Chief of Department	Person(s) coordinator
Dr. Triana Lindriati, S.T., M.P	Dr. Ir. Jayus
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