Module Course

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

Module Course		
COURSE	**Name**	**Mathematics**
	Kode	**TPU 1009**
	Credit (SKS)	**2 SKS Face to Face; 0 SKS Practice**
	Semester	**1**

Person(s) Teaching

- Dr. Triana Lindriati, S.T.,M.P.
- Dr. Kiswara Agung, Ssi. Msi
- Dr. Asmak Afriliana, STp. MP.

DESCRIPTION OF COURSE

This course studies the calculation techniques that underlie the development of the field of food engineering and agricultural products

LO – Programme Learning Outcome

No LO	*Statement of Learning Outcome (LO)*
LO-8	Able to evaluate principles in food engineering and agricultural products

Course Learning Outcome (CLO)

No CLO	*Statement of CLO*
CLO-1	Explain the operating principles of engineering food processing and agricultural products
CLO-2	Analyzing the principles of food engineering and agricultural products
CLO-3	Evaluating parameters in food engineering operations and agricultural products

SUB COURSE LEARNING OUTCOME (Sub-CLO)

No Sub-CLO	*Statement of Sub-CLO*
1	Able to implement excel program in describing and recognizing functions, validation test, interpolation and extrapolation
2	Able to linearize non-linear mathematical equations
3	Able to implement matlab in mathematical calculations and analysis
4	Able to understand polynomial chain rules
5	Able to understand concepts and complete calculations of trigonometric, logarithmic and exponential functions

LEARNING TOPIC

- Function
- Get to know functions through excel
- Validation test
- Interpolation and Extrapolation

- Linearization/linear approach
- Chain rule for polynomials
- Get to know math lab
- trigonometric functions
- Exponential Function

MAIN REFERENCES

- Yanniotis, S., 2008. Solving Problem in Food Engineering. Springer Science, New York.
- Berk Z., 2009. Food Process Engineering and Technology. Elsevier.
- Bird J., 2017. Engineering mathematics. Taylor and Francis group, France.
- Steffe J., 1996. Rheological methods in food process engineering. Freeman press, Michigan state university

ADDITIONAL REFERENCES

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PREREQUISITES COURSE (If any)

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TIMELINE

WEEK(s)	Components	Person(s)
1	Definition of functions, types of functions, describing functions in x-y diagrams	Dr. Triana Lindriati, S.T.,M.P.
2	Calculations through the excel program, drawing functions through the excel program	Dr. Triana Lindriati, S.T.,M.P.
3	Calculations through the excel program, drawing functions through the excel program	Dr. Triana Lindriati, S.T.,M.P.
4	Validity test	Dr. Triana Lindriati, S.T.,M.P.
5	Interpolation and extrapolation	Dr. Triana Lindriati, S.T.,M.P.
6	Stage 1 evaluation	Dr. Triana Lindriati, S.T.,M.P.
7	Math lab	Dr. Kiswara Agung, Ssi. Msi
8	Math lab	Dr. Kiswara Agung, Ssi. Msi
9	Polynomial chain rules	Dr. Kiswara Agung, Ssi. Msi
10	Polynomial chain rules	Dr. Kiswara Agung, Ssi. Msi
11	Stage 2 evaluation	Dr. Kiswara Agung, Ssi. Msi
12	Trigonometric functions	Dr. Asmak Afriliana, STp. MP.

13	Trigonometric functions	Dr. Asmak Afriliana, STp. MP.
14	Logarithmic and exponential functions	Dr. Asmak Afriliana, STp. MP.
15	Logarithmic and exponential functions	Dr. Asmak Afriliana, STp. MP.
16	Evaluation stage 3	Dr. Asmak Afriliana, STp. MP.

Jember, October 2022

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