220221492 Mathematics I

Module Name	**Mathematics I**
Module Level, if applicable	Beginner
Code if Applicable	220221492
Subtitle, if applicable	-
Courses, if applicable	220221492 Mathematics I
Semester(s) in which the module is taught	1st
Person responsible for the module	Devi Dwi Siskawardani, S.TP., M.Sc.
Lecturer	Dr. Ir. Warkoyo, MP. Devi Dwi Siskawardani, S.TP., M.Sc.
Language	Indonesian
Relation to curriculum	Compulsory Courses for undergraduate program in Food Technology Department
Type of teaching	Lecture, project
Workload	● Lecture: 2 sks X 50 minutes X 16 weeks ● Project: 2 sks X 60 minutes X 16 weeks ● Independent learning: 2 sks X 60 minutes X 16 week
Credit points	2 SKS X 1.5 = 3 ECTS
Requirements according to the examination regulations	1. Registered in this course 2. Minimum 80% attendance in this course
Recommended prerequisites	-
Module Objectives (Intended learning outcomes)	**Cognitive :** Able to know and apply the principles of food science (food chemistry and analysis, microbiology, food safety, food engineering and processing, food biochemistry, nutrition and health, and applied food science) in an integrated manner on an industrial scale to produce safe and quality food. **Psychomotor :** Able to communicate orally and in writing related to technical and non-technical aspects. **Affective :** Able to think critically and analytically, solve problems, be responsible for his work independently, and make appropriate decisions based on reliable information

Module Content	This course equips students with systems of linear equations, mathematical and analytical thinking concepts in solving modeling problems in food technology. In addition, the application of the differential concept in the processing of food products. Lecture material is emphasized on case study analysis of real problems that can be formulated into mathematical functions. So that they can find out some of the solutions that can be offered, for example, limits on the shelf life of ingredients and food products.
Study and examination requirements and forms of examination	**Cognitive:** Midterm exam, Final exam, Quizzes, Assignments **Affective:** Assessed from the element /variables achievement, namely (a) Contributions (attendance, active, role, initiative, and language), (b) Being on time, (c) Effort.
Media employed	Classical teaching tools with white board and power point presentation
Recommended Literature	**For Class** A. **Compulsory** 1. Besari I. 1982.Matematika Universitas. Penerbit Armico Bandung. Bandung 2. Wiryanto LH. 2013. Matematika Teknik II. ITB Press. Bandung 3. Kreyzig E. 2011. Advanced Engineering Mathematics 10th Edition. John Wiley & Sons. Singapore 4. Logan JD.2015. A First Course in Diffential Equations. Springer-Verlag. New York. 5. Mc.Gregor C., Nimmo J., and Stothers W. 2010. Fundamentals of University Mathematics 3rd Edition. Woodhead Publishing. UK . **B. Option** 1. Purcell JE, Rigdon SE. 2006. Calculus 9th Edition. Prentice-Hall. New Jersey. 2. Logan JD. 2008. An Introduction to Nonlinear Partial Differential Equations 2nd Edition. Wiley Interscience. New York.
Date of Last Amendment	20th January 2022