

## 220221493 Mathematics II

<b>Module Name</b>	<b>Mathematics II</b>
<b>Module Level, if applicable</b>	Beginner
<b>Code if Applicable</b>	220221493
<b>Subtitle, if applicable</b>	-
<b>Courses, if applicable</b>	220221493 Mathematics II
<b>Semester(s) in which the module is taught</b>	2 <sup>nd</sup>
<b>Person responsible for the module</b>	Devi Dwi Siskawardani, S.TP., M.Sc.
<b>Lecturer</b>	Dr. Ir. Warkoyo, MP. Devi Dwi Siskawardani, S.TP., M.Sc.
<b>Language</b>	Indonesian
<b>Relation to curriculum</b>	Compulsory Courses for undergraduate program in Food Technology Department
<b>Type of teaching</b>	Lecture, project
<b>Workload</b>	<ul style="list-style-type: none"> <li>● Lecture: 2 sks X 50 minutes X 16 weeks</li> <li>● Project: 2 sks X 60 minutes X 16 weeks</li> <li>● Independent learning: 2 sks X 60 minutes X 16 week</li> </ul>
<b>Credit points</b>	2 SKS X 1.5 = 3 ECTS
<b>Requirements according to the examination regulations</b>	<ol style="list-style-type: none"> <li>1. Registered in this course</li> <li>2. Minimum 80% attendance in this course</li> </ol>
<b>Recommended prerequisites</b>	Mathematic 1
<b>Module Objectives (Intended learning outcomes)</b>	<p><b>Cognitive</b> : 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.</p> <p><b>Psychomotor</b> : Able to communicate orally and in writing related to technical and non-technical aspects.</p> <p><b>Affective</b> : Able to think critically and analytically, solve problems, be responsible for his work independently, and make appropriate decisions based on reliable information</p>

<b>Module Content</b>	This course equips students with the concepts of matrices, determinants and systems of linear equations, mathematical thinking concepts in modeling, and engineering. Integral application in solving real problems in food technology that can be formulated into mathematical functions. So that the material applied and emphasized is case study analysis in the food product processing industry which is formulated in a mathematical model.
<b>Study and examination requirements and forms of examination</b>	<b>Cognitive:</b> Midterm exam, Final exam, Quizzes, Assignments <b>Affective:</b> Assessed from the element /variables achievement, namely (a) Contributions (attendance, active, role, initiative, and language), (b) Being on time, (c) Effort.
<b>Media employed</b>	Classical teaching tools with white board and power point presentation
<b>Recommended Literature</b>	<p><b>For Class</b></p> <p><b>A. Compulsory</b></p> <ol style="list-style-type: none"> <li>1. Besari I. 1982. Matematika Universitas. Penerbit Armico Bandung. Bandung</li> <li>2. Wiryanto LH. 2013. Matematika Teknik II. ITB Press. Bandung</li> <li>3. Kreyzig E. 2011. Advanced Engineering Mathematics 10<sup>th</sup> Edition. John Wiley &amp; Sons. Singapore</li> <li>4. Logan JD. 2015. A First Course in Differential Equations. Springer-Verlag. New York.</li> <li>5. Mc.Gregor C., Nimmo J., and Stothers W. 2010. Fundamentals of University Mathematics 3<sup>rd</sup> Edition. Woodhead Publishing. UK</li> </ol> <p><b>B. Option</b></p> <ol style="list-style-type: none"> <li>1. Purcell JE, Rigdon SE. 2006. Calculus 9<sup>th</sup> Edition. Prentice-Hall. New Jersey.</li> <li>2. Logan JD. 2008. An Introduction to Nonlinear Partial Differential Equations 2<sup>nd</sup> Edition. Wiley Interscience. New York.</li> </ol>
<b>Date of Last Amendment</b>	20 <sup>th</sup> January 2022