

Module Name	Analytical Chemistry
Module Level, if applicable	Beginner
Code if Applicable	220221170
Subtitle, if applicable	-
Courses, if applicable	220221170 Analytical Chemistry
Semester(s) in which the module is taught	2 nd
Person responsible for the module	Vritta Amroini Wahyudi, S.Si, M.Si.
Lecturer	Vritta Amroini Wahyudi, S.Si, M.Si.
Language	Indonesian
Relation to curriculum	Compulsory Courses for undergraduate program in Department of Food Technology, Faculty of Agriculture and Animal Science
Type of teaching	Lecture, lab-work, Project
Workload	<ul style="list-style-type: none"> ● 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 weeks ● Lab-work: 1 sks X 170 minutes X 16 weeks
Credit points	3 SKS X 1.5 = 4.5 ECTS
Requirements according to the examination regulations	<ol style="list-style-type: none"> 1. Registered in this course 2. Minimum 80% attendance in this course
Recommended prerequisites	Inorganic Chemistry, Organic Chemistry
Module Objectives (Intended learning outcomes)	<p>On successful completion of this course, student should be able to :</p> <ul style="list-style-type: none"> ● Explain the principles of chemical analysis techniques and methods. ● Skilled in performing basic chemical analysis techniques and applied chemistry ● Choose a chemical analysis technique that is in accordance with the characteristics of the material and the needs of the analysis purpose

<p>Module Content</p>	<p>Analytical chemistry is a compulsory subject before students take food analysis courses and food analysis practicum. The course contains the principles of chemical analysis techniques and methods (titrimetry, gravimetry, spectroscopy AAS, spectroscopy IR, spectroscopy UV-Vis, Thin-Layer Chromatography (TLC), Column Chromatography (CC), Liquid Chromatography-Mass Spectroscopy (LC-MS), Gass Chromatography-Mass Spectroscopy (GC-MS)). Students also practice basic chemical analysis techniques and applied chemistry (titrimetry, gravimetry, spectroscopy UV-Vis, Thin-Layer Chromatography (TLC), Column Chromatography (CC)).</p> <p>Through learning activities, students are also expected to be able to choose chemical analysis techniques that are in accordance with the characteristics of the material and the needs of the analysis objectives (quantitative and qualitative objectives).</p>
<p>Study and examination requirements and forms of examination</p>	<p>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.</p>
<p>Media employed</p>	<p>Classical teaching tools with white board and power point presentation</p>
<p>Recommended Literature</p>	<p>For Class</p> <p>A. Compulsory</p> <ol style="list-style-type: none"> 1. Harini, N.; Marianty, R.; Wahyudi, V.A. 2019. Analisa Pangan. Sidoarjo : Zifatama 2. Nielsen, S. S. 2017. Food Analysis (Ed 5th). New York : Springer 3. Lundanes, E., Reubsæet, L., Greibrokk, T. 2013. Chromatography : Basic Principle, Sample Preparation, and Related Methods. German : Wiley- VCH <p>B. Option</p> <ol style="list-style-type: none"> 1. AOAC, 2005. Official Methods of Analysis of the Association of Official Analytical Chemist. Association of Official Analytical Chemist. Washington
<p>Date of Last Amendment</p>	<p>22nd Agustus 2022</p>