UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF CHEMISTRY
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Module name:	Statistics
Module level, if applicable:	Undergraduate
Code:	MKU6210
Sub-heading, if applicable:	-
Classes, if applicable:	2
Semester:	1st
Module coordinator:	Endang Listyani, M.Si
Lecturer(s):	Endang Listyani, M.Si
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course
Teaching format / class hours per week during the semester:	100 minutes lectures, 120 structured activities and 120 individual study per week
Workload:	Total workload is 90,67 hours per semester which consists of 100 minutes lectures, 120 structured activities and 120 individual study per week for 16 weeks
Credit points:	2 SKS (3 ECTS)
Prerequisites course(s):	-
Course Outcomes	After taking this course, the students have ability to: CO1. Show piety, politeness and ethics during the learning process CO2. Use IT to analyse research data in chemistry CO3. Employ hypotesis testing to analyse research data in chemistry CO4. Be independent, responsible and cooperative during the learing process CO5. Explain the functiosn of statistics to solve problems in a daily life CO6. Define and systematically evaluate the data description and frequency distribution to bring innovation in analyzing the reserach data on chemistry CO7. Implement aritmatic mean and geometrics, median and mode to solve problems related to chemistry CO8. Calculate data variation (rage, standarddeviation and variant) and probability to solve problems related with chemistry CO9. Explain the concept of hypothesis testing and read kinds of distribution tables to solve problems related to chemistry
Content:	This course discusses the basic concept of statistics, data description, probability, probability distribution, hypotesis testing, and samples of intepretation.

<table>
<tr><td>Study / exam achievements:</td><td>The final mark will be weight as follow:
<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO3, CO4, CO5 and CO9</td><td>Individual study</td><td>Tasks</td><td>10%</td></tr>
<tr><td>2</td><td>CO4 and CO9</td><td>Structured activities</td><td>Observing presentation skills</td><td>20%</td></tr>
<tr><td>3</td><td>CO1 and CO2</td><td>Observed attitude</td><td>Observing attitude</td><td>10%</td></tr>
<tr><td>4</td><td>CO5. CO6, CO7, and CO8</td><td>Mid term</td><td>Written test</td><td>30%</td></tr>
<tr><td>5</td><td>CO3 to CO9</td><td>Final term</td><td>Written test</td><td>30%</td></tr>
<tr><td colspan="3"></td><td>Total</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Forms of media:</td><td>Board, LCD Projector, handouts, PPT slides, and stationaries</td></tr>
<tr><td>Reference:</td><td>Stevens, J. P. (2002). Applied multivariate statistics for the social sciences. New Jersey: Routledge
Rumsey, D. J. (2016). Statistics for dummies 2nd edition. United States: The Ohio State University
Reinhart, A. (2015). Statistics done wrong: The woefully complete guide. No Strach Press
Frost, J. (2020). Introduction to statistics: An intuitive guide for analyzing data and unlocking discoveries. Jim Publishing
Walpole, R. E. (1995). Pengantar statistika edisi ke-3. Translated by Bambang Sumantri. Jakarta: Gramedia
Kirk, R. E. (1968). Experimental design: Procedures for the behavioral sciences. United States of America: International Thomson Publishing Inc.
Underwood, B. J., Duncan, C. P., Taylor, J. A., & Cotton, J. W. (1954). Elementary statistics. East Norwalk, CT, US: Appleton-Century-Crofts.</td></tr>
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PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1					✓					
CO2					✓					
CO3					✓					
CO4							✓			
CO5							✓			
CO6							✓			
CO7										✓
CO8										✓
CO9										✓