



# UNIVERSITAS GADJAH MADA

Faculty of Mathematics and Natural Sciences

Department of Mathematics

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## Master in Mathematics

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## MODULE HANDBOOK

Module Name	Analisis Data Kategorik (Categorical Data Analysis)
Module level, if applicable	Master Program
Code, if applicable	MMM 5415
Subtitle, if applicable	-
Courses, if applicable	Analisis Data Kategorik (Categorical Data Analysis)
Semester(s) in which the module is taught	First semester
Person responsible for the module	Chair of Statistics Laboratory
Lecturer(s)	Drs. Zulaela, Dipl.Med.Stats., M.Si.
Language	Bahasa Indonesia
Relation to curriculum	Elective course
Teaching methods	Lecture, project (final exam)
Workload (incl. contact hours, self-study hours)	<ul style="list-style-type: none"><li>• 3 hours lecture,</li><li>• 3 hours structured activities,</li><li>• 3 hours individual study,</li><li>• 14 weeks per semester,</li><li>• Total: 126 hours per semester.</li></ul>
Credit points	3
Required and recommended prerequisites for joining the module	The ideal preparation for this course is a course in applied multiple regression.

Module objectives/intended learning outcomes	<p>After completing this course, the students should be able to:</p> <ul style="list-style-type: none"> <li>• CO 1 Test hypotheses for categorical data summarized in an <math>r \times c</math> contingency table.</li> <li>• CO 2 Identify properties of the logistic model and apply it.</li> <li>• CO 3 State or recognize when the use of polytomous logistic regression may be appropriate.</li> <li>• CO 4 State or recognize when the use of ordinal logistic regression may be appropriate.</li> </ul>												
Content	<p>The teaching materials consist of two-way contingency tables, simple and multiple binary logistic regression, multiple polytomous logistic regression, multiple ordinal logistic regression. In addition, study designs in medical research are also discussed.</p>												
Examination forms	<p>The final mark will be weighted as follows:</p> <table border="1" data-bbox="597 827 1395 1016"> <thead> <tr> <th>No</th> <th>Assessment methods (components, activities)</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>2</td> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>3</td> <td>Quiz, Homework, Presentation</td> <td>30%</td> </tr> </tbody> </table>	No	Assessment methods (components, activities)	Weight	1	Final Examination	40%	2	Mid-Term Examination	30%	3	Quiz, Homework, Presentation	30%
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1	Final Examination	40%											
2	Mid-Term Examination	30%											
3	Quiz, Homework, Presentation	30%											
Study and examination requirements	<p>Final grade will be determined as follows:</p> <ul style="list-style-type: none"> <li>➤ A <math>90 \leq \text{score} \leq 100</math></li> <li>➤ A- <math>85 \leq \text{score} &lt; 90</math></li> <li>➤ A/B <math>80 \leq \text{score} &lt; 85</math></li> <li>➤ B+ <math>75 \leq \text{score} &lt; 80</math></li> <li>➤ B <math>65 \leq \text{score} &lt; 75</math></li> <li>➤ B- <math>60 \leq \text{score} &lt; 65</math></li> <li>➤ B/C <math>55 \leq \text{score} &lt; 60</math></li> <li>➤ C+ <math>50 \leq \text{score} &lt; 55</math></li> <li>➤ C <math>40 \leq \text{score} &lt; 50</math></li> <li>➤ C- <math>35 \leq \text{score} &lt; 40</math></li> <li>➤ C/D <math>30 \leq \text{score} &lt; 35</math></li> <li>➤ D+ <math>25 \leq \text{score} &lt; 30</math></li> <li>➤ D <math>15 \leq \text{score} &lt; 25</math></li> <li>➤ E <math>0 \leq \text{score} &lt; 15</math></li> </ul>												
Media employed	<p>Computer and LCD projectors, whiteboards, online platforms, Learning Management System</p>												

Reading list	<p><b>Agresti, A.</b> 2007. <i>An Introduction to Categorical Data Analysis</i>. John Wiley &amp; Sons. New York.</p> <p><b>Agresti, A.</b> 2002. <i>Categorical Data Analysis</i>. John Wiley &amp; Sons. New York.</p> <p><b>Hosmer, D.W. and Lemeshow, S.</b> 2000. <i>Applied Logistic Regression</i>. John Wiley &amp; Sons. New York.</p> <p><b>Kleinbaum, D.G. and Klein, M.</b> 2010. <i>Logistic Regression. A Self-Learning Text</i>. Springer, New York.</p>
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CO-PLO Mapping

	CO 1	CO 2	CO 3	CO 4
PLO 1				
PLO 2				
PLO 3	v	v	v	v
PLO 4				
PLO 5	v	v	v	v
PLO 6				

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