
 <b>Universitas Airlangga</b>	<b>SEMESTER LEARNING PLAN</b>		<b>Prepared by</b>	<b>Examined by</b>	<b>Approved by</b>	<b>Document Registration Number</b>
	<b>SLP</b>		<b>Person in Charge</b>	<b>Head of Bachelor Program / Head of Department</b>	<b>Vice Dean I</b>	01/S1Kesmas/RPS/2019
			Revision - Date	January 1st, 2019	Dr. Rachmah Indawati, S.KM.,M.Kes.	
<b>Faculty of Public Health</b>	<b>Valid on Semester / Academic Year</b>	<b>Odd Semester 2019/2020</b>	(sign)	(sign)	(sign)	

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## A. DETAILS OF COURSE


<b>1. Course Name</b>	Inferential Biostatistics
<b>2. Course Code</b>	MAS233
<b>3. Credits (SKS)</b>	2 (two) SKS
<b>4. Semester</b>	III (third)
<b>5. Study Program</b>	Bachelor of Public Health
<b>6. Student Learning Achievement</b>	At the end of the course, students are expected to be able to do data analysis related to public health issues
<b>7. Course Learning Achievement</b>	<ol style="list-style-type: none"> <li>1. Students will be able to define inferential biostatistics</li> <li>2. Conclude the results of the t test calculation; 2 sample t test</li> <li>3. Conclude the results of one-way ANOVA calculations and multiple comparison tests</li> <li>4. Conclude the results of the calculation of linear correlation and the results of simple linear regression calculations</li> <li>5. Conclude the results of the Chi square calculation</li> </ol>
<b>8. Course Description</b>	This material discusses 1) The concept of inferential biostatistics test, 2) the principle and application of 1 sample t test, 3) the principle and application of two sample t test, 4) 1 way ANOVA principle and application, 5) principles and application of multiple comparison tests, 6) concept and application of simple linear correlation, 7) concept and application of simple linear regression, 8) categorical test data including independent chi square test and fisher
<b>9. Course Prerequisites (if any)</b>	Basic Biostatistics
<b>10. Instructor</b>	Dr. Rachmah Indawati, S.KM.,M.Kes
<b>11. Teaching Assistants</b>	Dr. Diah Indriani, S.Si, M.Si Dr. Ir. Soenarnatalina M, M.Kes

## B. TEACHING PROGRAM

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<b>Faculty of Public Health</b>	<b>Valid on Semester / Academic Year</b> <b>Odd Semester 2019/2020</b>		<b>(sign)</b>	<b>(sign)</b>	<b>(sign)</b>	


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<b>Weeks</b>	<b>Skills expected at the end of each learning phase (Sub-Course Achievement) (C, A, P)</b>	<b>Study Materials</b>	<b>Teaching Methods</b>	<b>Additional Materials for Learning</b>	<b>Meeting Time</b>	<b>Course Objectives</b>	<b>Criteria and Indicators of Evaluation (hard and soft skills)</b>	<b>Grade (%)</b>	<b>Reference Number</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
1	Students will be able to define inferential biostatistics	Lecture contract: a. Explain lectures b. Explain Evaluation c. Explain attendance Definition of inferential biostatistics a. The concept of inferential biostatistics test b. Descriptive statistics c. The concept of estimation and hypothesis	1. Lectures 2. Discussions	LCD, Power Point file, and Whiteboard	2x50 minutes		a. Listening skill b. In students developing collaboration and effective communication occurs b. Critical thinking skills		- Book 1-4 - Book 7-10
2	Conclude the results of the t test calculations	a. Principle of t test b. Principle and application of 1 sample t test c. Analysis of variance	1. Lectures 2. Discussions 3. Exercises	LCD, Power Point file, and Whiteboard	2x50 minutes		a. Listening skill b. In students developing collaboration and effective communication occurs		Book 1-5 Book 8-11

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1	2	3	4	5	6	7	8	9	10
		d. The principle and application of the 2-sample t test					c. Critical thinking skills		
3	Conclude the results of the t test calculations	a. Principle of t test b. Principle and application of 1 sample t test c. Analysis of variance d. The principle and application of the 2-sample t test	1. Lectures 2. Discussions 3. Exercises	LCD, Power Point file, and Whiteboard	2x50 minutes		a. Listening skill b. In students developing collaboration and effective communication occurs c. Critical thinking skills		Book 1-5 Book 8-11
4	Conclude the results of 1-way ANOVA test calculations	1-way ANOVA Test: a. 1-way ANOVA test principle b. Principle and application of 1-way ANOVA test	1. Lectures 2. Discussions 3. Exercises	LCD, Power Point file, and Whiteboard	2x50 minutes		a. Listening skill b. In students developing collaboration and effective communication occurs c. Critical thinking skills		Book 1-5 Book 8-11

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1	2	3	4	5	6	7	8	9	10
		c. Double comparison test							
5	Conclude the results of 1-way ANOVA test calculations	1-way ANOVA Test: a. 1-way ANOVA test principle b. Principle and application of 1-way ANOVA test c. Double comparison test	1. Lectures 2. Discussions 3. Exercises	LCD, Power Point file, and Whiteboard	2x50 minutes		a. Listening skill b. In students developing collaboration and effective communication occurs c. Critical thinking skills		Book 1-5 Book 8-11
6	Conclude the results of the linear correlation calculation	Pearson moment product correlations: a. Concept of relationship b. The principle and application of Pearson correlation c. The principle and application	1. Lectures 2. Discussions 3. Exercises	LCD, Power Point file, and Whiteboard	2x50 minutes		a. Listening skill b. In students developing collaboration and effective communication occurs c. Critical thinking skills		Book 6-12

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1	2	3	4	5	6	7	8	9	10
		of Pearson correlation belief intervals							
7	Conclude the results of simple linear regression calculations	Simple linear regression: a. Concept of influence b. The concept of assumptions in linear regression c. The principle and application of simple linear regression d. The concept of forecasting is in a simple linear regression model	1. Lectures 2. Discussions 3. Exercises	LCD, Power Point file, and Whiteboard	2x50 minutes		a. Listening skill b. In students developing collaboration and effective communication occurs c. Critical thinking skills d. social skills in the discussion process		Book 6-12

MID-SEMESTER EXAMINATION

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Weeks	Skills expected at the end of each learning phase (Sub-Course Achievement) (C, A, P)	Study Materials	Teaching Methods	Additional Materials for Learning	Meeting Time	Course Objectives	Criteria and Indicators of Evaluation (hard and soft skills)	Grade (%)	Reference Number
1	2	3	4	5	6	7	8	9	10
8	Conclude the results of simple linear regression calculations	Simple linear regression: a. Concept of influence b. The concept of assumptions in linear regression c. The principle and application of simple linear regression d. The concept of forecasting is in a simple linear regression model	1. Lectures 2. Discussions 3. Exercises	LCD, Power Point file, and Whiteboard	2x50 minutes		a. Listening skill b. In students developing collaboration and effective communication occurs c. Critical thinking skills d. social skills in the discussion process		Book 6-12
9	Conclude the results of the Chi square calculation	Chi square: a. The concept of chi square	1. Lectures 2. Discussions 3. Exercises	LCD, Power Point file, and Whiteboard	2x50 minutes		a. Listening skill b. In students developing collaboration and effective		Book 3, 9

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1	2	3	4	5	6	7	8	9	10
		b.Principles and applications of Chi Square c. Fisher's concept d. Fisher's principles and applications					communication occurs c. Critical thinking skills d. social skills in the discussion process		
10	Conclude the results of the Chi square calculation	Chi square: a. The concept of chi square b. Principles and applications of Chi Square c. Fisher's concept d. Fisher's principles and applications	1. Lectures 2. Discussions 3. Exercises	LCD, Power Point file, and Whiteboard	2x50 minutes		a. Listening skill b. In students developing collaboration and effective communication occurs c. Critical thinking skills d. social skills in the discussion process		Book 3,9
11	Conclude the results of the Chi square calculation	Chi square: a. The concept of chi square	1. Lectures 2. Discussions 3. Exercises	LCD, Power Point file, and Whiteboard	2x50 minutes		a. Listening skill b. In students developing collaboration and effective		Book 3,9

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		b.Principles and applications of Chi Square c. Fisher's concept d. Fisher's principles and applications					communication occurs c. Critical thinking skills d. social skills in the discussion process		
12	Conclude the results of the Chi square calculation	Chi square: a. The concept of chi square b. Principles and applications of Chi Square c. Fisher's concept d. Fisher's principles and applications	1. Lectures 2. Discussions 3. Exercises	LCD, Power Point file, and Whiteboard	2x50 minutes		a. Listening skill b. In students developing collaboration and effective communication occurs c. Critical thinking skills d. social skills in the discussion process		Book 3,9
13.	Conclude the results of the Chi square calculation	Chi square: a. The concept of chi square	1. Lectures 2. Discussions 3. Exercises	LCD, Power Point file, and Whiteboard	2x50 minutes		a. Listening skill b. In students developing collaboration and effective		Book 3,9




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1	2	3	4	5	6	7	8	9	10
		b.Principles and applications of Chi Square c. Fisher's concept d. Fisher's principles and applications					communication occurs c. Critical thinking skills d. social skills in the discussion process		
FINAL-SEMESTER EXAMINATION									

### C. REQUIRED READINGS

1. Rosner B. 1990. **Fundamental of Biostatistics 3 rd.** Ed PWS KENT Publishing company, Boston.
2. Dixon WJ dan Massey FJ. 1991. **Pengantar Analisis Statistik.** Gadjah Mada University Press. Yogyakarta.
3. Stell RGD dan Torrie JH. 1989. **Prinsip dan Prosedur Statistika Suatu Pendekatan Biometrik.** PT Gramedia, Jakarta.
4. Pagano, Marcello and Gaufreau K. 1992. **Principle of Biostatistics.** Publishing company, Duxbury press, California.
5. Kleimbaum DG., Kupper, Laurence L., Muller, Keith E. 1992. Applied Regression Analysis and Other Multivariate Methods. PWS KENT Publishing company, Boston.
6. Hadi, Sutrisno. 2000. **Analisis Regresi.** Yogyakarta. ANDI.
7. Khazanie, Ramakant. 1990. **Elementary Statistics in a Word of Applications Third Edition.** Scott, Foresman and Company.
8. Kuzma, Jan W. 1984. **Basic Statistics for The Health Sciences..** Mayfield Publishing Company.
9. Larson, Rom., and Farber, Betsy. 2010. **Elementary Statistics Picturing The World.** Prentice Hall Inc.
10. Saunders, Beth Dawson dan Trapp, Robert G. 1994. **Basic & Clinical Biostatistics Second Edition.** Appleton & Lange.

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11. Sokal, Robert R., 1992. *Pengantar Biostatistika edisi kedua*. Yogyakarta Gadjah Mada University Press.

12. Sudjana. 2002. *Teknik Analisis Regresi dan Korelasi bagi Para Peneliti*. Bandung. Tarsito.