

DEPARTEMENT OF ECONOMICS Undergraduate Program

## Syllabus ECEU601200 Statistics for Economics and Business 3 Credit Semester *First Semester 2022/2023*

	Classes	Tutors
	Mahasiswa Baru	
Α	Pribadi Setivanto	Fitri Nurjanah
В	Witri Indriyani	Rahmi Afzhi Wefielananda
С	Fitri Kartiasih	Meita Rosa Indah
D	Nurlatifah	Hafizh
Е	Dewi Ratna Sjari	Aji Putera
F	Hilda Fachrizah	Muhammad Saeful Hakim
G	Masarina Flukeria	Christopher Hosea
Η	Ashintya Damayati	Christopher Hosea
Ι	Dewi Ratna Sjari	Aji Putera
J	Omas Bulan Samosir	Reinaldy Susanto
Κ	Nurkholis	Adnan Yasir
	"Kelas KKI"	
Α	Niniek L. Gyat	Christopher Hosea
В	Uswatun Hasanah	Agung Dermawan
С	Sita Wardhani	Aji Putera Tanumihardja
D	Dewi Ratna Sjari	Rahadian Ahmad
E	Omas Bulan Samosir	Novita Furia Putri

Subject Code	ECEU601200
Subject Title	STATISTICS FOR ECONOMICS AND BUSINESS
Credit	3 Credit Semester
Year/Semester	I/1or II/3
Day/Hour	Wednesday/11.00-13.30; Wednesday/14.00-16.30; Thursday/11.00-13.30
Subject Type	Compulsory (Study Program)
Pre-requisite/	None
Co-requisite/	
Exclusion	
Role and Purposes	Statistical concepts are frequently used in economics, social sciences, and business.
	Statistics for Economic and Business is an introduction to these widely used concepts
	intended to give the student a better understanding in data presentation and analysis as
	well as the probabilistic nature of events and how statistics can be used to conduct
	inferences regarding population. After completing this course, students should feel

much more comfortable reading about economics, social sciences, and business, as
they will be able to critically evaluate such readings using the knowledge of statistics
gained in this course.
In order to achieve the overall goals, we focus on the following learning objectives:
Student will become proficient in:
1) summarizing and presenting data effectively
2) interpreting output of statistical software
3) analyzing basic probabilistic of events
4) making statistical inferences.
The emphasis of the course will be on descriptive statistics, basic probability, and inferential statistics. The course is divided into five major topics, as indicated in the class timetable.

Subject Learning	Objectives Subjects :		
Outcomes	<b>1.</b> Hard Skills (related to increased cognitive ability)		
	a) Able to process data for descriptive analysis		
	b) Being able to calculate the index number		
	Being able to explain the various types of sampling distribution		
	Being able to use inferential statistical methods for the population		
	2. Soft Skills (related to personality development)		
	i) Developing qualitative analytical skill		
	ii) Development of presentation skills / public speaking		
	iii) The development of group collaboration skills		
	<b>3.</b> AACSB Learning Goal (LG) and Learning Objective (LO)		
	1. Learning Goal:		
	BASIC KNOWLEDGE: Students understand basic business and economics concep 2. Learning Objective:		
	Apply basic quantitative methods by using appropriate tools		
	3. Traits:		
	3.1. Able to use relevant quantitative method		
	3.2. Able to conduct relevant data analysis for solving specified economic research		
	problem		

Subject Synopsis/	Week	Topics & Subtopics	Lecture Ressource	Methods
Syllebuc			Kessource	<b>T</b>
Synabus	1, 2,	1. Class's rules	JK: 1, 2,	Lecturing
	3	2. Introduction	3	Active Learning
		<ul> <li>What is Statistics</li> <li>Statistics definitions and notation</li> </ul>		and problem
		<ul> <li>statistics definitions and notation</li> <li>type of data</li> </ul>		solving
		3. Descriptive Analysis I:		8
		Frequencies distribution		
		Classification of variables		
		• Graphs for data presentation		
		4. Central Tendencies & Dispersion		
		• Arithmetic mean, geometric mean,		
		median, mode, weighted arithmetic mean		
		• Standard Deviation and variance		
		Coefficient of Variation		
		• Quartile, Decile, and Percentile		
		5. Descriptive Analysis II: Displaying and Exploring Data		
		• Dot plots		
		<ul> <li>Stem-and-Leaf Displays</li> </ul>		
		Box Plots		
		Outliers		
		Scatter Diagram		
		• Contingency Table		
		• Project Assignment for 3 weeks		
	4	Index Numbers	JK: 19	Active Learning
		• Simple Index, Aggregate Index		and problem
		• Weighted Indexes: Laspayres' Price Index,		solving
		Paasche's Price Index		
		• Nominal and real value		
		• Changing the base year		
	5.6	Economic Application	IV. 4 5	A ativa I aguning
	5, 0,	Probability Concepts	JK: 4, 5,	and problem
	/	Probability Rules     Design Concernt of Deshability, non-montation and	0	solving
		Basic Concept of Probability, permutation and combination		Sorting
		Ioint Probability		
		Conditional Probability		
		Expected value		
		• Tree Diagram		
		Probability Distribution		
		Discrete and Continuous Random Variable		
		• Mean and Variance of Probability Distribution		
		Project Submission		
		Binomial Probability Distribution		
		Project Presentation 3-5 Groups		
		MIDTERM EXAM		

8	<ul> <li>Midterm exam's explanation and review</li> <li>Other Discrete Distributions</li> <li>Poisson Probability Distribution</li> </ul>	JK: 5	Active Learning and problem solving
9	<ul> <li>Continuous Distribution</li> <li>Uniform Distribution</li> <li>Normal Probability Distribution</li> <li>Normal Probability Distribution as approximation of Binomial and Poisson Probability Distribution</li> </ul>	JK: 6	Active Learning and problem solving
10	<ul> <li>Sampling Distribution</li> <li>Introductions to Sampling Methods</li> <li>Introductions to Sampling Distributions</li> <li>Sampling Distributions of the sample Mean</li> <li>Sampling Distributions of the sample Proportion</li> </ul>	JK: 7	Active Learning and problem solving
11, 12	<ul> <li>Inferential Statistics: Interval Estimation</li> <li>Introduction to inferential statistics (mean and proportion): <ol> <li>Point estimation</li> <li>interval estimation</li> </ol> </li> <li>Determining the sample size: Mean and Proportion</li> </ul>	JK: 8	Active Learning and problem solving
13	<ul> <li>Hypothesis Testing</li> <li>Hypothesis-Testing Procedure</li> <li>Hypothesis Testing of Arithmetic Mean</li> <li>Hypothesis Testing of Proportion</li> </ul>	JK: 9, 10	Active Learning and problem solving
14	<ul> <li>Project Presentation</li> <li>Final Review</li> </ul>		
	FINAL EXAM		

Teaching/Learning Methodology	Teaching method uses active lectures study objectives by discussing and of lecturer and tutor. The problems	aching method uses active lecturing and class discussions, in which students achieve the dy objectives by discussing and completing related problems or cases under the guidance lecturer and tutor. The problems and cases are taken from the textbook and other sources.		
	<ul> <li>Participation:</li> <li>Individually, each student is required to participate actively in teaching and learning, in the form:</li> <li>Participate through asking question and providing answer</li> <li>Have discussion with classmate</li> <li>To be eligible, students must read textbooks and other materials provided.</li> <li>Attendance:</li> <li>Minimum 80% of Total Lecture:</li> <li>A maximum of 3 (three) times absent, for no reason.</li> <li>Students who came 15 minutes after class begins are considered not present.</li> </ul>			
Assessment	Assessment method	Weight (%)		
Method in Alignment with Intended Learning Outcomes	<ol> <li>Midterm exam</li> <li>Final exam</li> <li>Group Project</li> <li>Homework and Class participation</li> <li>Quizes</li> </ol>	35 35 10 10 10		

Group Project Descriptions	Competence/ Sub competence Object	Sub       Student is able to collect data, present it in table and/or graph, and provide a descriptive analysis         People or group of people as a research object         • Activity object: students         • The location of the object: around campus (primary data)	
		Each group chooses an interesting topic related to behavior of the socio-economic and business.	
		Students are divided into groups (4-5 students in a group) Students should able to make a planning for primary data collection: determining variables, preparing questionnaires, and gathering data	
	<ul> <li>Procedures</li> <li>Students process the data with the r statistical procedures</li> <li>Students write a descriptive analysi</li> </ul>		
	Example topics: - Collecting student profile (FEB or other faculties in UI) - Collecting data on any group of people in the campus		
	Time Deadline	Data collection, data processing and data analysis should be conducted within 3 weeks	
	Description of Output	The analysis at least contains: name of variables, population target, table, graph and interpretation of the data presented	
Schedule of Tutorials	Tutorials will be held 10 times in this semester. Tutor will give you assignments, homework and quizzes that its weight has been determined at the previous point.		
Reading List and References	<ul> <li>Required Readings: Sanjiv Jaggia and Alison Kelly (2013), Business Statistics: Communicating with Numbers, McGraw-Hill. (JK).</li> <li>Alternative Readings <ol> <li>Douglas A. Lind, William G. Marchal and Samuel A. Wathen, (2010), Statistical Techniques in Business &amp; Economics, 14<sup>th</sup>ed, McGraw-Hill.</li> <li>Paul Newbold, William L. Carson dan Betty Thorne (2010), Statistics for Business and Economics, Seventh Ed. Prentice Hall, Inc.</li> <li>James T. Mc Clave, P. George Benson and Terry Sincich (2008), Statistics for Business and Economics, Tenth Ed., Pearson Education International.</li> </ol> </li> </ul>		

Plagiarism	Students should maintain originality and respect intellectual property rights. Therefore, students should avoid conducting any act of plagiarism when doing written assignments (if any), which may take a form of short individual / group paper and / or summary.
	<ul> <li>The followings are acts of plagiarism:</li> <li>Copying paragraphs, sentences, a single sentence, or even a significant part of a sentence directly without enclosing them in quotation marks and appropriately footnoted;</li> <li>Using and / or developing other's ideas found in printed materials or film elsewhere without explicitly referencing them to the respective author or the source of the idea.</li> </ul>
	Plagiarism is a serious infringement of intellectual property rights. Any assignment that contains presumed plagiarism will be marked 0 (zero).
	Since students are required to write group papers, students should sign a Statement of Authorship and attach it to their papers before paper submission. The form of Statement of Authorship is available at the Resource Center of the Program. Lecturer(s) and / or tutor(s) will refuse to mark any paper that has no signed Statement of Authorship attached.
	In addition, students should ask for cover sheet from the Resource Center of the Program for any assignment submitted.
	<ul> <li>Penalty for plagiarism :</li> <li>First time: paper will be graded F</li> <li>Second time: final grade for the specific course will be graded F</li> <li>Third time: expelled from FEB UI</li> </ul>
Statement of	Statement of Authorship
Authorship	Saya/kami yang bertanda tangan di bawah ini menyatakan bahwa makalah/tugas terlampir adalah murni hasil pekerjaan saya/kami sendiri. Tidak ada pekerjaan orang lain yang saya/kami gunakan tanpa menyebutkan sumbernya.
	Materi ini tidak/belum pernah disajikan/digunakan sebagai bahan untuk makalah/tugas pada mata ajaran lain kecuali saya/kami menyatakan dengan jelas bahwa saya/kami menyatakan dengan jelas bahwa saya/kami menyatakan menggunakannya.
	Saya/kami memahami bahwa tugas yang saya/kami kumpulkan ini dapat diperbanyak dan atau dikomunikasikan untuk tujuan mendeteksi adanya plagiarisme.
	Nama :
	NPM :
	Tandatangan :
	Mata ajaran :
	Judul makalah/tugas :
	Tanggal :
	Dosen :
	(dibuat oleh seluruh masing-masing mahasiswa)