

## **Statistics**

### **Introduction**

In general, progress of sciences including statistics has become a basis on industrial and technological revolution. Growth in statistics has in fact brought various new areas of technological and interdisciplinary sciences. By the presence of medium computers, simulation and statistical modeling, it brought also new study areas like quality operation, best quality, forecasting, biostatistics, risk analysis of consumer satisfaction and others.

Contribution of statistics in the growth of modern technology has been known and confessed as "basis science". The role of technology in global information era which is of vital importance can give an answer to super highway information", so that we are able to reduce our left behind achievements in sciences and technology and then face global competition. In dealing with new technology, statistics students will be able to yield a new breakthrough in facing global competition challenge.

### **Vision**

A world class department in Statistics based on ICT.

### **Mission**

The mission of Statistics Program is to contribute to the global community through the provision of world-class education by :

1. Educating students with fundamental knowledge & skills to apply Computational Statistics using ICT in acquiring business information for a career as a market researcher or business analyst.
2. Providing solid learning experience through creating the most creative and value-added talents of leaders for global community as well as conducting professional services to improve the quality of life.
3. Providing high impact research that positively contributing to the quality of life in Indonesia and the international community.

## **Program Objective**

The objectives of the program are :

1. To provide students with a solid knowledge ranging from Fundamental Statistics and Computer Science to Computational Statistics and Database Technology.
2. To provide students with abilities conduct statistical analysis and marketing research to solve problem in related fields to be successful market researcher.
3. To prepare students with necessary skills in developing database and be expert in data mining to be excellence business analyst.

## **Graduate Competency**

At the end of the program, graduates will be able to :

1. Apply, analyze and solve problems using Fundamental Statistics.
2. Interpret, analyze, and create statistical solution in form of algorithm, using appropriate Database Technology.
3. Recognize, apply, and appraise statistical process
4. Apply, analyze, formulate and evaluate problem in marketing research using advanced Computational Statistics.
5. Create and assess innovative database solution in order to solve real problems in economics, business and industry.
6. Design and evaluate data finance and data mining.

## **Prospective Career of the Graduates**

The graduates of the study program Statistics are able to follow careers in :

1. General (Lecturer, Business consultant, Surveyor and Pollster)
2. Business (Quantitative credit analyst, forecasting analyst)
3. Management (Quality operation procedure analyst, Sale forecast analyst, Profit growth analyst, Export-Import analyst, Business index analyst)
4. Computer (System simulation, Pattern recognition, Image processing)
5. Research (LIPI, BPPT, BPS, R&D Department, BEI)

## **Curriculum**

Statistics study program curriculum is developed according to the national curriculum of Statistics Studies, while the local substances are developed according to the ACM (American Computing Machinerics), standard curriculum, and market demand. As a result, statistics graduates are expected to be able to compete nationally and internationally.

### Course Structure

Sem	Code	Course Name	SCU	Total	
1	CHAR6013	Character Building: Pancasila	2	20	
	STAT6026	Probability and Statistics	2		
	COMP6047	Algorithm and Programming	4/2		
	MATH6038	Calculus I	4		
	MATH6025	Discrete Mathematics	4		
	<b>English University Courses I</b>				
	ENGL6128	English in Focus	2		
	ENGL6130	English for Business Presentation	2		
2	CHAR6014	Character Building: Kewarganegaraan	2	20	
	MATH6015	Applied Linear Algebra	4		
	MATH6039	Calculus II	4		
	COMP6048	Data Structures	4/2		
	COMP6060	Programming Language Concepts	2		
	<b>English University Courses II</b>				
	ENGL6129	English Savvy	2		
	ENGL6131	English for Written Business Communication	2		
3	CHAR6015	Character Building: Agama	2	20	
	STAT6018	Statistical Theory I	4		
	STAT6058	Sampling Techniques	2		
	STAT6047	Numerical Methods for Statistics	2		
	STAT6094	Statistical Computing Lab	2/2		
	ISYS6169	Database Systems	4/2		
4	STAT6016	Simulation Techniques	2	20	
	ENTR6003	Entrepreneurship I	2		
	STAT6020	Statistical Theory II	4		
	STAT6011	Design and Analysis of Experiments	4		
	STAT6037	Non Parametric Statistics	2		
	STAT6085	Regression Analysis	2/2		
	STAT6044	Categorical Data Analysis	2		
5	STAT6043	Linear Model	2	22	
	STAT6055	Structural Equation Modeling	2		
	STAT6040	Scientific Computation	4		
	STAT6053	Multivariate Statistics	4		
	STAT6054	Econometrics	2/1		
	STAT6036	Stochastic Process	4		
	STAT6115	Statistical Quality Control*	2/1		

Sem	Code	Course Name	SCU	Total
6	STAT6051	Time Series Analysis	2/1	22
	ENTR6004	Entrepreneurship II	2	
	STAT6105	Statistical Marketing Research*	4	
	STAT6031	Seminar	2	
	MATH6049	Mathematics of Finance	4	
	STAT6106	Statistical Process Control	4	
	STAT6050	Survival Analysis	2/1	
7	<b>Enrichment Program</b>		16	16
8	STAT6030	Thesis	6	6
<b>TOTAL CREDIT 146 SCU</b>				

\*) *Entrepreneurship Embedded*

#### English University Courses:

-) For 1<sup>st</sup> Semester : English University Courses I, student with score Binus University English Proficiency Test less than 500 will take English in Focus, and student with score test greater than or equal to 500 will take English for Business Presentation

-) For 2<sup>nd</sup> Semester: English University Courses II, student with score Binus University English Proficiency Test less than 500 will take English Savvy, and student with score test greater than or equal to 500 will take English for Written Business Communication

#### Enrichment Program (7<sup>th</sup> Semester):

-) Student will take one of enrichment program tracks (off campus).

#### Enrichment Internship Track

Code	Course Name	SCU	Total
STAT6090	Internship	8	16
STAT6091	Data Analysis in Industry	2	
STAT6092	Statistical Program in Industry	2	
STAT6093	EES in Industry	4	

#### Enrichment Entrepreneurship Track

Code	Course Name	SCU	Total
ENTR6062	Business Start Up	8	16
ENTR6063	Business Model & Validation	2	
ENTR6064	Launching New Venture	2	
ENTR6068	EES in New Business	4	

### Enrichment Research Track

Code	Course Name	SCU	Total
RSCH6037	Research Experience	8	16
RSCH6038	Scientific Writing	4	
RSCH6039	Global EES	4	

### Enrichment Community Development Track

Code	Course Name	SCU	Total
CMDV6001	Community Outreach Project Implementation	8	16
CMDV6002	Community Outreach Project Design	4	
CMDV6003	Employability and Entrepreneurial Skills	4	

### Enrichment Study Abroad Track\*

Course Name	SCU	Total
GLOB6005	Elective Course for Study Abroad 1	16
GLOB6006	Elective Course for Study Abroad 2	
GLOB6007	Elective Course for Study Abroad 3	
GLOB6008	Elective Course for Study Abroad 4	
GLOB6009	Elective Course for Study Abroad 5	
GLOB6010	Elective Course for Study Abroad 6	
GLOB6011	Elective Course for Study Abroad 7	
GLOB6012	Elective Course for Study Abroad 8	
GLOB6013	Elective Course for Study Abroad 9	
GLOB6014	Elective Course for Study Abroad 10	
GLOB6015	Elective Course for Study Abroad 11	
GLOB6016	Elective Course for Study Abroad 12	

\*)Transferred courses will be transferred based on credit transfer policies on study program with total of 16 credits.

### Student should pass all of these quality controlled courses as listed below:

No	Code	Course Name	Minimum Grade
1	CHAR6013	Character Building: Pancasila	B
2	ENTR6004	Entrepreneurship II	C
3	COMP6047	Algorithm and Programming*	C
4	COMP6048	Data Structures*	C
5	STAT6026	Probability and Statistics	C
6	MATH6039	Calculus II*	C
7	STAT6020	Statistical Theory II*	C
8	STAT6085	Regression Analysis	C
9	STAT6036	Stochastic Processes	C
10	STAT6053	Multivariate Statistics*	C

\*Tutorial & Multipaper