

# **STUDY PROGRAM'S SPECIFICATIONS**

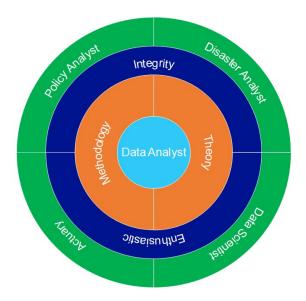
## 1. Study Program

# Description

a.	Study Program's	:	Statistics International Program		
	Name				
b.	Vision	:	To become a leading Statistics Study Program in produce data analysts with integrity and enthusiasm and advance society		
c.	Mission	:	<ol> <li>Incorporating Islamic values into statistical thinking. (Islamic da'wah)</li> <li>Developing international standard teaching and learning activities (education)</li> <li>Carry out and assist quality research in statistics to solve human problems (research)</li> <li>Applying statistical skills and thinking for the benefit of the people (community service)</li> </ol>		
d.	Purpose	:	<ol> <li>Produce data analysts who master theory and methodology who are ready to act as policy analysts, disaster analysts, data scientists, or actuaries with integrity and enthusiasm at the global level.</li> <li>Produce statistical scientific work that is of good quality and useful for the benefit of the people.</li> </ol>		
e.	Educational stage	:	S1		
f.	Degree	:	S. Stat.		
g.	Since	:	1995		
h.	Normal Study	:	4 years		
	Period				
i.	National	:	UNGGUL		
	Accreditation				
j.	International	:	ASIIN		
	Accreditation/Certifi				
	cation				



#### 2. Graduate profile



Graduate Profile Formulation	Description of Graduate Profile	
<ol> <li>Academics         Academics are people who are highly educated and work as lecturers or researchers at a college, university, and research institute in an agency or company.     </li> <li>Data analyst</li> </ol>	Graduates of Statistics Study Program are expected to be able to become data analysts who master theory and methodology who are ready to act as policy analysts, spatial data analysts, data scientists, or actuaries with integrity and enthusiasm.	
A data analyst is a person who performs tasks ranging from collecting, processing, analyzing, interpreting and presenting data (including Big Data) to help make decisions in various fields.	Graduates of Statistics Study Program are expected to be a data analyst who is mastering theories and methodologies and competent to play a role as policy analyst, spatial data analyst, data scientist, or actuaries with high integrity and enthusiasm.	

# 3 UII Education Philosophy : The operation of the Indonesian Islamic University is guided by two basic values, namely devotion (worship) and excellence. This value is revealed to be an educational goal that is determined to produce graduates who are qualified in their chosen field of science and master Islamic sciences, which makes them ready to become Muslim scholars and future leaders of the nation. (Extracted from Articles 7 and 9 of the 2017 Indonesian Islamic University Statute)

#### 4 Learning Outcomes

Learning Outcomes of the Statistics Study Program are formulated with reference to the following regulations:

1. Based on the Presidential Regulation of the Republic of Indonesia Number 8 of 2012 concerning the Indonesian National Qualifications Framework (KKNI) a General Description of the KKNI Qualifications has been established.



- 2. Minister of Education and Culture in Regulation of the Minister of Education and Culture Number 49 of 2014 concerning National Standards for Higher Education.
- 3. Communication Forum for Statistics Study Program (FORSTAT) and Indonesian Mathematical Association (INDOMS) for General Knowledge and Specific Skills aspects.
- 4. Learning outcomes for aspects of General Attitudes and Skills have been determined by the government through Regulation of the Minister of Education and Culture Number 44 of 2015 concerning National Standards for Higher Education. This regulation is an elaboration of the Presidential Regulation of the Republic of Indonesia Number 8 of 2012 concerning the Indonesian National Qualifications Framework.
- 5. American Statistical Association (ASA) Undergraduate Guidelines Workgroup, Curriculum Guidelines for Undergraduate Programs in Statistical Science.
- 6. Permendikbud number 3 of 2020 concerning National Higher Education Standards.
- 7. Rector's Regulation Number 2 of 2019 concerning Guidelines for the preparation of the 2019 Indonesian Islamic University curriculum.
- 8. Decree of the Chairperson of the Indonesian Statistics Higher Education Forum Number: 19/Fptsi/Ix/2021 Regarding the Minimum Syllabus for Forstat Statistics 2021.

The Learning Outcomes (Capaian Pembelajaran/CP) formulation by FORSTAT and INDOMS S1 Statistics Study Program is classified according to four parameters which are described in the LO description as follows:

Parameter		Description of Learning Outcomes
The ability in the field of Work (Special Skills)	KK1	The students will be able to compile and/or choose designs collection/generation and apply it in the form of a survey, trial, or simulation.
	KK2	The students will be able to perform data management and statistical techniques with the help of
	ККЗ	The students will be able to solve real problems statistically and able to present and communicate in a form that is easy to understand both in writing and orally.
Mastery Knowledge (Knowledge)	PP1	The students will be able to master the basic concepts of statistical analysis methods that can be applied to various applied fields.
	PP2	The students will be able to master at least two statistical including software based on open source.
-		The students will be able to master the work together and communicate in a team and be responsible for work.
	KM2 (KK-M)	The students will have professional ethics in the application of statistics.

**Table 1.** Formulation of FORSTAT and INDOMS LO for S1 Statistics Study Program



Based on the LO formulation in **Table** 1, the Satistics Study Program determines the LO formulation and is in accordance with the design in the learning achievement design in Permendikbud number 3 of 2020 concerning National Higher Education Standards as follows:

#### Table 2. General Attitudes and Skills Formula

#### STUDY PROGRAM S1 STATISTICS ATTITUDE

- a. fear God Almighty and be able to show a religious attitude;
- b. upholding human values in carrying out tasks based on religion, morals, and ethics;
- c. contribute to improving the quality of life in society, nation, state, and the progress of civilization based on Pancasila;
- d. act as citizens who are proud and love their homeland, have nationalism and a sense of responsibility to the country and nation;
- e. respect the diversity of cultures, views, religions, and beliefs, as well as the opinions or original findings of others;
- f. work together and have social sensitivity and concern for society and the environment;
- g. obey the law and discipline in social and state life
- h. internalize academic values, norms, and ethics;
- i. demonstrate a responsible attitude towards work in their field of expertise independently; and
- j. internalize the spirit of independence, struggle, and entrepreneurship.

#### GENERAL SKILLS

- a. able to apply logical, critical, systematic, and innovative thinking in the context of the development or implementation of science and technology that pays attention to and applies humanities values in accordance with their field of expertise;
- b. able to demonstrate independent, quality, and measurable performance;
- c. able to examine the implications of the development or implementation of science and technology that pays attention to and applies the values of the humanities in accordance with their expertise based on scientific principles, procedures and ethics in order to produce solutions, ideas, designs or art criticism, compile a scientific description of the results of their studies in the form of a thesis or final project report, and upload it on the college page;
- d. compile a scientific description of the results of the studies mentioned above in the form of a thesis or final project report, and upload it on the university's website;
- e. able to make appropriate decisions in the context of solving problems in their area of expertise, based on the results of analysis of information and data;
- f. able to maintain and develop a network with supervisors, colleagues, colleagues both inside and outside the institution;
- g. able to be responsible for the achievement of group work results and supervise and evaluate the completion of the work assigned to the workers under their responsibility;
- h. able to carry out the process of self-evaluation of the work group under their responsibility, and able to manage learning independently; and
- i. able to document, store, secure, and recover data to ensure validity and prevent plagiarism.

 Table 3. The Formula for Mastery of Special Knowledge and Skills for the Statistics Study

 Program

KNOWLEDGE MASTER

a. mastering the concepts of probability theory and statistics, mathematics, calculus, elementary linear algebra, statistical analysis methods, and elementary computer programming;



- b. master several statistical methodologies (methods and models) to be used in solving problems in several fields;
- c. mastered at least two statistical software, including open source-based software

#### SPECIAL SKILL

- a. able to design experiments, collect and generate data (in the form of surveys, experiments, or simulations), organize data, analyze data using statistical techniques, and draw valid conclusions, using at least one statistical software;
- b. able to solve the problem of estimation (estimation), hypothesis testing, prediction and forecasting in several fields, using data and several statistical methodologies (methods and models) and presenting them in the form of descriptions that are easily understood by users;
- c. able to analyze several alternative solutions available in the field of statistics to solve problems and be able to present analytical conclusions for making the right decisions.

The formulation of Learning Outcomes for the UII Statistics Study Program:

#### Table 4. The formulation of the CP KKNI Statistics Study Program UII "ENTHUSIASTIC"

ENTHUSIASTIC	Code	Information
Ethics	S(g)	Obeying the law and discipline in social and state life
	S(h)	Internalizing academic values, norms, and ethics
	S(i)	Demonstrating a responsible attitude towards work in their area of
		expertise independently
Nationality	S(c)	Contribute to improving the quality of life in society, nation, state,
		and the progress of civilization based on Pancasila
	<b>S(d)</b>	Being citizens who are proud and love their homeland, have
		nationalism and a sense of responsibility to the State and nation
Team	S(f)	Cooperating and have social sensitivity and concern for society and
		the environment
	KU(f)	Being able to maintain and develop work networks with supervisors,
		colleagues, colleagues both inside and outside the institution
	KU(g)	Being able to be responsible for achieving group work results and
		supervising and evaluating the completion of work assigned to
	VU(b)	workers under their responsibility;
	KU(h)	Being able to carry out the process of self-evaluation of the work group under their responsibility.
Humanity	S(b)	Upholding human values in carrying out duties based on religion,
IIumanity	5(0)	morals, and ethics
	S(e)	Respecting the diversity of cultures, views, religions, and beliefs, as
	5(0)	well as the opinions or original findings of others
	KU(c)	Being able to study the implications of the development or
	KU(t)	implementation of science and technology that pays attention to and
		applies the values of the humanities in accordance with their
		expertise based on scientific principles, procedures and ethics in
		order to produce solutions, ideas, designs or art criticism, compose a
		scientific description of the results of their studies in the form of a
		thesis or final project report, and upload it on the college page
Ulil Albab	S(a)	Taqwa (being cognizant) God Almighty and able to show a religious
attitude		attitude
	S(j)	Internalizing the spirit of independence, struggle, and
		entrepreneurship

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Science	PP(b)	Mastering several statistical methodologies (methods and models) to				
Science	11(0)	be used in solving problems in several fields				
	KU(a)	Being able to apply logical, critical, systematic, and innovative				
	iii (a)	thinking in the context of the development or implementation of				
		science and technology that pays attention to and applies humanities				
		values in accordance with their field of expertise				
Intelligence	PP(a)	Mastering the concepts of probability theory and statistics,				
Intelligence	11()	mathematics, calculus, elementary linear algebra, statistical analysis				
		methods, and elementary computer programming				
Analysis	KK(c)	Being able to analyze several alternative solutions available in the				
1 <b>11111</b> 9 515	iiii(t)	field of statistics to solve problems and be able to present analytical				
		conclusions for making the right decisions				
		Mastering at least two statistical software, including open source				
		software				
Techniques	KK(a)	Being able to design experiments, collect and generate data (in the				
•		form of surveys, experiments, or simulations), organize data, analyze				
		data using statistical techniques, and draw valid conclusions, using				
		at least one statistical software				
	KU(i)	Being able to document, store, secure, and retrieve data to ensure				
		validity and prevent plagiarism				
Insightful	KU(b)	Being able to demonstrate independent, quality, and measurable				
		performance				
	KU(e)	Being able to make appropriate decisions in the context of solving				
		problems in their area of expertise, based on the results of analysis				
		of information and data				
Communicative	KK(b)	Being able to solve the problem of estimation (estimation),				
		hypothesis testing, prediction and forecasting in several fields, using				
e e		data and several statistical methodologies (methods and models) and				
		presenting them in the form of descriptions that are easily understood				
	by users;					
	KU(d)	Compiling a scientific description of the results of the studies				
		mentioned above in the form of a thesis or final project report, and				
		upload it on the university's website				

Curriculum structure showing all MKs to pass and arranged per semester The following is a distribution of compulsory courses for each semester and their prerequisites.

### Table 5. Distribution of Compulsory Courses Per Semester and Prerequisites

No	MK Code	Course Name	cre dits	Precondition
		Semester 1		
1.	UNI-101	Islamic Religion Education (Aqidah)	2	-
2.	UNI-102	Civics Education	2	-
3.	UNI-103	Pancasila Education	2	-
4.	SST-101	Calculus I	3	-
5.	SST-102	Statistical Methods I	3	-
6.	SST-103	Linear Algebra for Statistics	3	-
7.	SST-104	Programming and Algorithm	2	-



8.	SST-105	Business Environment	2	-
9.	SST-106	Practicum of Programming and	1	Currently/have taken Programming
		Algorithm		and Algorithm
				; should be taken when first picking
				up Programming and Algorithms.
		Number of credits	20	
	005 001	Semester 2		
1.	SST-201	Exploratory Data Analysis	2	-
2.	SST-202	Calculus II	2	Passed Calculus I
3.	SST-203	Statistical Methods II	3	Passed Statistical Methods I
4.	SST-204	Introduction to Probability	2	-
5.	SST-205	Database	2	Passed Programming and Algorithms
6.	SST-206	Information Technology and Big Data	2	
7.	SST-207	Disaster Management	2	-
8.	SST-208	Official Statistics	3	-
9.	SST-209	Exploratory Data Analysis Practicum	1	Currently/have taken Exploratory Data Analysis (ADE); must be taken when first taking ADE
10.	SST-210	Database Practicum	1	Currently/have taken the Database; must be fetched when first fetching Database
		Number of credits	20	
		Semester 3		
1.	SST-301	Multivariable Calculus	3	Passed Calculus II
2.	SST-302	Sampling Technique	3	Passed Statistical Methods I
3.	SST-303	Applied Regression Analysis	2	Passed Statistical Methods II
4.	SST-304	Introduction to Mathematical Statistics I	3	Passed Introduction to Probability
5.	SST-305	Geographic Information Systems	2	Passed Database
6.	SST-306	Management Information System	2	Passed Database
7.	SST-307	Statistical Quality Control	3	Passed Statistical Methods II
8.	SST-308	Applied Regression Analysis Practicum	1	Currently/have taken Applied Regression Analysis (ART); must be taken when first taking ART
9.	SST-309	Management Information System Practicum	1	Currently/have taken a Management Information System (SIM); must be taken the first time to collect the SIM
10.	SST-310	Geographic Information Systems Practicum	1	Currently/have taken Geographic Information System (SIG); must be taken when first taking SIG
		Number of credits	21	
		Semester 4		
1.	UNI-401	Islam Ulil Albab	3	-
2.	SST-401	Islam Ulil Albab Design of Experiment	2	Passed Statistical Methods II
		Islam Ulil AlbabDesign of ExperimentIntroduction to Mathematical		Passed Statistical Methods II Passed Introduction to
2.	SST-401	Islam Ulil Albab Design of Experiment	2	Passed Statistical Methods II



6.       SST-405       Introduction to Stochastics Process       3       Passed Introduction to Probability         7.       SST-406       Modern Prediction & Machine Learning       3       Passed Database         8.       SST-407       Statistical Computing Practicum       1       Currently/have taken Statistical Computing, must be taken when first taking Computational Statistics         9.       SST-408       Design of Experiment Practicum       1       Currently/have taken the Trial Plan; must be taken when first taking the Trial Plan         1.       UNI-501       Entrepreneurship       2       -         2.       UNI-502       English       2       -         3.       UNI-503       Bahasa Indonesia for Scientific Communication       2       Passed Introduction to Mathematical Statistics I         4.       SST-501       Applied Multivariate Statistics       2       Passed Applied Regression Analysis         6.       SST-503       Statistical Consulting       3       Passed Exploratory Data Analysis Practicum         8.       SST-506       Applied Multivariate Statistics Practicum       1       Moderate/have taken Applied Multivariate Statistics (SMT); must be taken when first taking SMT         9.       SST-506       Time Series Analysis Practicum       1       Currently/have taken Data Visualization; must be fatched when first fetchin	5.	SST-404	Statistical Computing	2	Passed Programming and Algorithms	
7.       SST-406       Modern Prediction & Machine Learning       3       Passed Database         8.       SST-407       Statistical Computing Practicum       1       Currently/have taken Statistical Computing; must be taken when first taking Computational Statistics         9.       SST-408       Design of Experiment Practicum       1       Currently/have taken the Trial Plan; must be taken when first taking the Trial Plan         1       UNI-501       Entrepreneurship       2       -         2.       UNI-502       English       2       -         3.       UNI-503       Bahasa Indonesia for Scientific       2       Passed Introduction to Mathematical Statistics I         4.       SST-502       Time Series Analysis       2       Passed Applied Regression Analysis         6.       SST-503       Statistical Consulting       3       Passed Exploratory Data Analysis Practicum         7.       SST-504       Data Visualization       2       Passed Exploratory Data Analysis Practicum         8.       SST-505       Applied Multivariate Statistics       1       Moderate/have taken Applied Multivariate Statistics (SMT); must be taken when first taking XMT         9.       SST-506       Time Series Analysis Practicum       1       Currently/have taken at least 80 credits         10.       SST-507       Dat	6	SST-405	Introduction to Stochastics Process	3		
International of the part of the pa			Modern Prediction & Machine			
Number of credits       21         Semester 5       21         1.       UNI-501       Entrepreneurship       2       -         2.       UNI-502       English       2       -         3.       UNI-503       Bahasa Indonesia for Scientific       2       Passed Statistical Methods I         4.       SST-501       Applied Multivariate Statistics       2       Passed Applied Regression         5.       SST-502       Time Series Analysis       2       Passed Applied Regression         6.       SST-503       Statistical Consulting       3       Passed Statistical Methods II         7.       SST-504       Data Visualization       2       Passed Exploratory Data Analysis Practicum         8.       SST-505       Applied Multivariate Statistics       1       Moderate/have taken Applied Multivariate Statistics (SMT); must be taken when first taking SMT         9.       SST-506       Time Series Analysis Practicum       1       Currently/have taken Time Series Analysis (ARW); must be taken when first taking ARW         10.       SST-507       Data Visualization Practicum       1       Currently/have taken Data Visualization; must be fetched when first fetching Data Visualization         11.       UNI-601       Islam Rahmatan Lil 'Alamin       3       -	8.	SST-407	Statistical Computing Practicum	1	Computing; must be taken when first taking Computational Statistics	
Semester 5           1.         UNI-501         Entrepreneurship         2         -           2.         UNI-502         English         2         -           3.         UNI-503         Bahasa Indonesia for Scientific Communication         2         Passed Statistical Methods I           4.         SST-501         Applied Multivariate Statistics         2         Passed Introduction to Mathematical Statistics I           5.         SST-502         Time Series Analysis         2         Passed Applied Regression Analysis           6.         SST-503         Statistical Consulting         3         Passed Statistical Methods II           7.         SST-504         Data Visualization         2         Passed Exploratory Data Analysis Practicum           8.         SST-505         Applied Multivariate Statistics Practicum         1         Moderate/have taken Applied Multivariate Statistics (SMT); must be taken when first taking SMT           9.         SST-506         Time Series Analysis Practicum         1         Currently/have taken Time Series Analysis (ARW); must be taken           10.         SST-507         Data Visualization Practicum         1         Currently/have taken Data Visualization; must be fetched when first taking ARW           11.         UNI-601         Islam Rahmatan Lil 'Alamin         3         -	9.	SST-408	Design of Experiment Practicum	1	Currently/have taken the Trial Plan; must be taken when first taking the	
1.       UNI-501       Entrepreneurship       2       -         2.       UNI-502       English       2       -         3.       UNI-503       Bahasa Indonesia for Scientific Communication       2       Passed Statistical Methods I         4.       SST-501       Applied Multivariate Statistics       2       Passed Applied Regression Analysis         5.       SST-502       Time Series Analysis       2       Passed Statistical Methods II         7.       SST-503       Statistical Consulting       3       Passed Statistical Methods II         7.       SST-504       Data Visualization       2       Passed Statistics (SMT); must be taken Applied Multivariate Statistics         8.       SST-505       Applied Multivariate Statistics       1       Moderate/have taken Applied Multivariate Statistics (SMT); must be taken when first taking SMT         9.       SST-506       Time Series Analysis Practicum       1       Currently/have taken Time Series Analysis (ARW); must be taken when first taking ARW         10.       SST-507       Data Visualization Practicum       1       Currently/have taken Data Visualization         11.       UNI-601       Islam Rahmatan Li 'Alamin       3       -         12.       SST-602       Final Project 1       3       Have taken at least 80 credits			Number of credits	21		
2.       UNI-502       English       2       -         3.       UNI-503       Bahasa Indonesia for Scientific Communication       2       Passed Statistical Methods I         4.       SST-501       Applied Multivariate Statistics       2       Passed Introduction to Mathematical Statistics I         5.       SST-502       Time Series Analysis       2       Passed Applied Regression Analysis         6.       SST-503       Statistical Consulting       3       Passed Statistical Methods II         7.       SST-504       Data Visualization       2       Passed Exploratory Data Analysis Practicum         8.       SST-505       Applied Multivariate Statistics Practicum       1       Moderate/have taken Applied Multivariate Statistics (SMT); must be taken when first taking SMT         9.       SST-506       Time Series Analysis Practicum       1       Currently/have taken Time Series Analysis (ARW); must be taken when first taking MW         10.       SST-507       Data Visualization Practicum       1       Currently/have taken Data Visualization; must be fetched when first fetching Data Visualization         11.       UNI-601       Islam Rahmatan Lil 'Alamin       3       -         2.       SST-602       Final Project 1       3       Have taken at least 80 credits         3.       SST-602       Final		-	Semester 5			
3.       UNI-503       Bahasa Indonesia for Scientific Communication       2       Passed Statistical Methods I         4.       SST-501       Applied Multivariate Statistics       2       Passed Introduction to Mathematical Statistics I         5.       SST-502       Time Series Analysis       2       Passed Applied Regression Analysis         6.       SST-503       Statistical Consulting       3       Passed Statistical Methods II         7.       SST-504       Data Visualization       2       Passed Exploratory Data Analysis Practicum         8.       SST-505       Applied Multivariate Statistics Practicum       1       Moderate/have taken Applied Multivariate Statistics (SMT); must be taken when first taking SMT         9.       SST-506       Time Series Analysis Practicum       1       Currently/have taken Time Series Analysis (ARW); must be taken when first taking ARW         10.       SST-507       Data Visualization Practicum       1       Currently/have taken Data Visualization; must be fetched when first fetching Data Visualization         11.       UNI-601       Islam Rahmatan Lil 'Alamin       3       -         2.       SST-602       Final Project 1       3       Have taken at least 80 credits         3.       SST-602       Final Project 1       3       Have taken at least 90 credits         3.	1.		· · ·		-	
4.       SST-501       Applied Multivariate Statistics       2       Passed Introduction to Mathematical Statistics I         5.       SST-502       Time Series Analysis       2       Passed Applied Regression Analysis         6.       SST-503       Statistical Consulting       3       Passed Statistical Methods II         7.       SST-504       Data Visualization       2       Passed Exploratory Data Analysis Practicum         8.       SST-505       Applied Multivariate Statistics Practicum       1       Moderate/have taken Applied Multivariate Statistics (SMT); must be taken when first taking SMT         9.       SST-506       Time Series Analysis Practicum       1       Currently/have taken Time Series Analysis (ARW); must be taken when first taking ARW         10.       SST-507       Data Visualization Practicum       1       Currently/have taken Data Visualization; must be fetched when first fetching Data Visualization         10.       SST-507       Data Visualization Practicum       18         2.       SST-601       Internship       4       Have taken at least 80 credits         3.       SST-602       Final Project 1       3       Have taken at least 90 credits         3.       SST-602       Final Project 1       3       Have taken at least 90 credits         3.       SST-602       Final Project					-	
1.       Mathematical Statistics I         5.       SST-502       Time Series Analysis       2       Passed Applied Regression Analysis         6.       SST-503       Statistical Consulting       3       Passed Statistical Methods II         7.       SST-504       Data Visualization       2       Passed Exploratory Data Analysis Practicum         8.       SST-505       Applied Multivariate Statistics Practicum       1       Moderate/have taken Applied Multivariate Statistics (SMT); must be taken when first taking SMT         9.       SST-506       Time Series Analysis Practicum       1       Currently/have taken Time Series Analysis (ARW); must be taken         10.       SST-507       Data Visualization Practicum       1       Currently/have taken Data Visualization; must be fetched when first fetching Data Visualization         11.       UNI-601       Islam Rahmatan Lil 'Alamin       3       -         2.       SST-602       Final Project 1       3       Have taken at least 80 credits         3.       SST-602       Final Project 1       3       Have taken at least 90 credits         1.       UNI-701       Community Development Participation       2       Have taken at least 90 credits         2.       SST-701       Comprehensive Test       1       Have taken at least 120 credits	3.	UNI-503	Communication	2		
6.       SST-503       Statistical Consulting       3       Passed Statistical Methods II         7.       SST-504       Data Visualization       2       Passed Exploratory Data Analysis Practicum         8.       SST-505       Applied Multivariate Statistics Practicum       1       Moderate/have taken Applied Multivariate Statistics (SMT); must be taken when first taking SMT         9.       SST-506       Time Series Analysis Practicum       1       Currently/have taken Time Series Analysis (ARW); must be taken when first taking ARW         10.       SST-507       Data Visualization Practicum       1       Currently/have taken Data Visualization; must be fetched when first fetching Data Visualization         11.       UNI-601       Islam Rahmatan Lil 'Alamin       3       -         2.       SST-602       Final Project 1       3       Have taken at least 80 credits         3.       SST-602       Final Project 1       3       Have taken at least 90 credits         1.       UNI-701       Community Development Participation       2       Have taken at least 90 credits         2.       SST-701       Comprehensive Test       1       Have taken at least 120 credits         3.       SST-702       Final Project 2       6       Ever/currently taking Final Project 1	4.	SST-501	Applied Multivariate Statistics	2		
6.       SST-503       Statistical Consulting       3       Passed Statistical Methods II         7.       SST-504       Data Visualization       2       Passed Exploratory Data Analysis Practicum         8.       SST-505       Applied Multivariate Statistics Practicum       1       Moderate/have taken Applied Multivariate Statistics (SMT); must be taken when first taking SMT         9.       SST-506       Time Series Analysis Practicum       1       Currently/have taken Time Series Analysis (ARW); must be taken when first taking ARW         10.       SST-507       Data Visualization Practicum       1       Currently/have taken Data Visualization; must be fetched when first fetching Data Visualization         11.       UNI-601       Islam Rahmatan Lil 'Alamin       3       -         2.       SST-602       Final Project 1       3       Have taken at least 80 credits         3.       SST-602       Final Project 1       3       Have taken at least 90 credits         1.       UNI-701       Community Development Participation       2       Have taken at least 90 credits         2.       SST-702       Final Project 2       6       Ever/currently taking Final Project 1	5.	SST-502	Time Series Analysis	2		
7.       SST-504       Data Visualization       2       Passed Exploratory Data Analysis Practicum         8.       SST-505       Applied Multivariate Statistics Practicum       1       Moderate/have taken Applied Multivariate Statistics (SMT); must be taken when first taking SMT         9.       SST-506       Time Series Analysis Practicum       1       Currently/have taken Time Series Analysis (ARW); must be taken when first taking ARW         10.       SST-507       Data Visualization Practicum       1       Currently/have taken Data Visualization; must be fetched when first taking Data Visualization         10.       SST-507       Data Visualization Practicum       1       Currently/have taken Data Visualization; must be fetched when first fetching Data Visualization         11.       UNI-601       Islam Rahmatan Lil 'Alamin       3       -         2.       SST-602       Final Project 1       3       Have taken at least 80 credits         3.       SST-602       Final Project 1       3       Have taken at least 90 credits         1.       UNI-701       Community Development Participation       2       Have taken at least 90 credits         2.       SST-702       Final Project 2       6       Ever/currently taking Final Project 1	6.	SST-503	Statistical Consulting	3		
8.       SST-505       Applied Multivariate Statistics Practicum       1       Moderate/have taken Applied Multivariate Statistics (SMT); must be taken when first taking SMT         9.       SST-506       Time Series Analysis Practicum       1       Currently/have taken Time Series Analysis (ARW); must be taken when first taking ARW         10.       SST-507       Data Visualization Practicum       1       Currently/have taken Data Visualization; must be fetched when first fetching Data Visualization         11.       UNI-601       Islam Rahmatan Lil 'Alamin       3       -         2.       SST-602       Final Project 1       3       Have taken at least 80 credits         3.       SST-602       Final Project 1       3       Have taken at least 90 credits         1.       UNI-701       Community Development Participation       2       Have taken at least 90 credits         2.       SST-702       Final Project 2       6       Ever/currently taking Final Project 1	7.	SST-504		2		
International of the formula of the	8.	SST-505		1	Moderate/have taken Applied Multivariate Statistics (SMT); must	
Image: Number of creditsImage: Number of creditsImage: Number of creditsNumber of credits18Semester 6Image: Number of creditsImage: Number of credits1.UNI-601Islam Rahmatan Lil 'Alamin32.SST-601Internship4Have taken at least 80 credits3.SST-602Final Project 13Have taken at least 90 creditsMumber of credits10Semester 71.UNI-701Community Development Participation2Have taken at least 90 credits2.SST-701Comprehensive Test1Have taken at least 120 credits3.SST-702Final Project 26Ever/currently taking Final Project 1	9.	SST-506	Time Series Analysis Practicum	1	Analysis (ARW); must be taken	
Semester 61.UNI-601Islam Rahmatan Lil 'Alamin32.SST-601Internship4Have taken at least 80 credits3.SST-602Final Project 13Have taken at least 90 creditsNumber of credits10Semester 71.UNI-701Community Development Participation2Have taken at least 90 credits2.SST-701Comprehensive Test1Have taken at least 120 credits3.SST-702Final Project 26Ever/currently taking Final Project 1	10.	SST-507			Visualization; must be fetched when	
1.       UNI-601       Islam Rahmatan Lil 'Alamin       3       -         2.       SST-601       Internship       4       Have taken at least 80 credits         3.       SST-602       Final Project 1       3       Have taken at least 90 credits         3.       SST-602       Final Project 1       3       Have taken at least 90 credits         Number of credits         10         Semester 7         1.       UNI-701       Community Development Participation       2       Have taken at least 90 credits         2.       SST-701       Comprehensive Test       1       Have taken at least 120 credits         3.       SST-702       Final Project 2       6       Ever/currently taking Final Project 1				18		
2.       SST-601       Internship       4       Have taken at least 80 credits         3.       SST-602       Final Project 1       3       Have taken at least 90 credits         Number of credits         Number of credits         10         Semester 7         1.       UNI-701       Community Development Participation       2       Have taken at least 90 credits         2.       SST-701       Comprehensive Test       1       Have taken at least 120 credits         3.       SST-702       Final Project 2       6       Ever/currently taking Final Project 1						
3.       SST-602       Final Project 1       3       Have taken at least 90 credits         Number of credits       10         Semester 7         1.       UNI-701       Community Development Participation       2       Have taken at least 90 credits         2.       SST-701       Comprehensive Test       1       Have taken at least 120 credits         3.       SST-702       Final Project 2       6       Ever/currently taking Final Project 1				3		
Number of credits     10       Semester 7       1.     UNI-701       Community Development     2       Participation     2       2.     SST-701       Comprehensive Test     1       3.     SST-702       Final Project 2     6						
Semester 7           1.         UNI-701         Community Development Participation         2         Have taken at least 90 credits           2.         SST-701         Comprehensive Test         1         Have taken at least 120 credits           3.         SST-702         Final Project 2         6         Ever/currently taking Final Project 1	3.	SST-602			Have taken at least 90 credits	
1.UNI-701Community Development Participation2Have taken at least 90 credits2.SST-701Comprehensive Test1Have taken at least 120 credits3.SST-702Final Project 26Ever/currently taking Final Project 1				10		
ParticipationParticipation2. SST-701Comprehensive Test13. SST-702Final Project 26Ever/currently taking Final Project 1		1				
2.SST-701Comprehensive Test1Have taken at least 120 credits3.SST-702Final Project 26Ever/currently taking Final Project 1	1.	UNI-701	<b>v</b> 1	2	Have taken at least 90 credits	
3.     SST-702     Final Project 2     6     Ever/currently taking Final Project 1	2.	SST-701	Comprehensive Test	1	Have taken at least 120 credits	
Number of credits 9	3.	SST-702	Final Project 2	6	Ever/currently taking Final Project 1	
			Number of credits	9		

Starting in semester 4, students are required to take limited elective courses according to their concentration. The following is a table of limited choice courses from 6 concentrations that can be taken by students



No	MK Code	Course Name	cre dits	Precondition
		Semester 4		
1.	SST-409	Data Engineering (DS)	3	-
2.	SST-410	Remote Sensing in Statistics (SK)	3	Passed Disaster Management
3.	SST-411	Business Decision Analysis (BS)	3	Passed Statistical Methods II
4.	SST-412	Life Insurance 1 (AK)	3	Passed Introduction to Probability
5.	SST-413	Work Measurement & Method (ID)	3	-
6.	SST-414	Introduction to Bioinformatics (BIO)	3	-
	Number of I	Limited Elective Credits offered	18	
		Semester 5	-	
1.	SST-507	Business Intelligence (DS)	3	Passed Database
2.	SST-508	Introduction to Spatial Statistics (SK)	3	Passed Disaster Management
3.	SST-509	Econometric for Business (BS)	3	Passed Applied Regression Analysis
4.	SST-510	Life Insurance 2 (AK)	3	Passed Life Insurance 1
5.	SST-511	Production Planning & Control (ID)	3	Passed Statistical Methods II
6.	SST-512	Introduction to Linux and Shell Scripting (BIO)	3	Passed Database
	Number of l	Limited Elective Credits offered	18	
		Semester 6		
1.	SST-603	Artificial Intelligence for Data Scientist (DS)	3	-
2.	SST-604	Spatial Data Science (SK)	3	Passed Geographic Informatior Systems
3.	SST-605	Marketing Research & Strategy (BS)	3	Passed Statistical Methods II
4.	SST-606	General Insurance (AK)	3	Passed Introduction to Probability
5.	SST-607	Total Quality Management (ID)	3	Passed Statistical Quality Control
6.	SST-608	Health Analytics and Data Mining (BIO)	3	-
	Number of	Limited Elective Credits offered	18	-

Table 6.	Distribution	of Limited Electiv	e Courses Concer	ntration per Semester
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Furthermore, students can also take free-choice courses starting in semester 3, namely courses that are not a graduation requirement and are taken to support certain concentrations. The following table lists the free-choice courses that students can take.

No	MK Code	Course Name	credits	Precondition
	O	dd Semester (Semester 3, 5, 7, etc)		
1.	SST-311	Nonparametric Statistics	3	Passed Statistical Methods II
2.	SST-312	Simulation Techniques	3	Passed Programming and
				Algorithms
3.	SST-313	Financial Analysis	3	-
4.	SST-314	Advanced Official Statistics	3	Passed Official Statistics
5.	SST-315	Financial Statistics	3	Passed Introduction to Probabil
6.	SST-316	Project Management	3	-

**Table 7.** List of Free Elective Courses



7.	SST-317	Engineering Economics	3	Passed Introduction to Probability
8.	SST-318	Facility Planning and Layout Design	3	-
9.	SST-319	Managerial Accounting	2	-
10.	SST-320	Hydrology and Climatology	2	-
11.	SST-321	Cost Accounting	2	-
12.	SST-322	Introduction to Management	2	-
13.	SST-323	Psicometry	2	-
	Number	of Free Choice Credits offered	34	
	Ev	ven Semester (Semester 2, 4, 6, etc)		
1.	SST-609	Operations Research	3	Passed Introduction to Mathematical Statistics I
2.	SST-610	Production Systems	3	currently/have taken Production Planning & Control
3.	SST-611	Introduction to Survival Analysis	3	Passed Introduction to Probability
4.	SST-612	Introduction to Reliability Model	3	Passed Introduction to Mathematical Statistics I
5.	SST-613	Response Surface Metodology	2	Passed Applied Regression Analysis
6.	SST-614	Applied Modern Multivariate Statistics	2	Passed Applied Multivariate Statistics
7.	SST-615	Trending Topics on Statistics	3	Passed Statistical Methods II
8.	SST-616	Computational Analysis of Variance Covariance	2	Passed Statistical Methods II
9.	SST-617	Actuarial Advanced	3	-
10.	SST-618	R for Transcriptomics Data Analytics	3	-
11.	SST-619	R for NGS Data Analytics	3	-
12.	SST-620	Success Skill	1	-
	Number	of Free Choice Credits offered	31	

If a student takes a limited-choice course outside of his/her concentration, then the course is considered a free-choice course. In addition, free-choice courses can also be taken through the Merdeka Belajar Kampus Merdeka (MBKM) activity. The Free Elective Courses are related to the six concentrations offered in the 2022 curriculum. These links are shown in **Table 8** below.

No	Code	Course Name	Credits	Linkages
	Course			
1.	SST-310	Nonparametric Statistics	3	AK, BIO, BS, DS, ID, SK
2.	SST-311	Simulation Techniques	3	AK, BIO, BS, DS, ID, SK
3.	SST-312	Financial Analysis	3	BS, DS
4.	SST-313	Advanced Official Statistics	3	AK, BIO, BS, DS, ID, SK
5.	SST-314	Financial Statistics	3	AK, BS
6.	SST-315	Project Management	3	ID
7.	SST-316	Engineering Economics	3	AK, BS
8.	SST-317	Facility Planning and Layout	3	ID
		Design		
9.	SST-318	Managerial Accounting	2	BS

**Table 8.** Relation of The Free Elective Courses with Study Concentration



10.	SST-319	Hydrology and Climatology	2	SK
11.	SST-320	Cost accounting	2	BS
12.	SST-320	Introduction to Management	2	ID
12.	SST-322	Psychometry	2	AK, BIO, BS, DS, ID, SK
14.	SST-409	Data Engineering	3	DS
15.	SST-410	Remote Sensing in Statistics	3	SK
15.	SST-410	Business Decision Analysis	3	BS
10.	SST-411 SST-412	Life Insurance 1	3	AK
17.	SST-412 SST-413	Work Measurement & Method	3	ID
<u>18.</u> 19.	SST-415	Introduction to Bioinformatics	3	BIO
20.	SST-507	Business Intelligence (DS)	3	DS
20.	SST-508	Introduction to Spatial Statistics	3	SK
		(SK)		
22.	SST-509	Econometric for Business (BS)	3	BS
23.	SST-510	Life Insurance 2 (AK)	33	AK
24.	SST-511	Production Planning & Control (ID)	3	ID
25.	SST-512	Introduction to Linux and Shell Scripting (BIO)	3	BIO
26.	SST-603	Artificial Intelligence for Data Scientist (DS)	3	DS
27.	SST-604	Spatial Data Science (SK)	3	SK
28.	SST-605	Marketing Research & Strategy (BS)	3	BS
29.	SST-606	General Insurance (AK)	3	AK
30.	SST-607	Total Quality Management (ID)	3	ID
31.	SST-608	Health Analytics and Data Mining (BIO)	3	BIO
32.	SST-609	Operations Research	3	BS, ID
33.	SST-610	Production Systems	3	ID
34.	SST-611	Introduction to Survival Analysis	3	BS, BIO, DS
35.	SST-612	Introduction to Reliability Model	3	BS, BIO, DS
36.	SST-613	Response Surface Methodology	2	BS, BIO
37.	SST-614	Applied Modern Multivariate Statistics	2	AK, BIO, BS, DS, ID, SK
38.	SST-615	Trending Topics on Statistics	3	AK, BIO, BS, DS, ID, SK
39.	SST-616	Computational Analysis of Variance Covariance	2	
40.	SST-617	Actuarial Advanced	3	
41.	SST-618	R for Transcriptomics Data Analytics	3	BIO, BS
42.	SST-619	R for NGS Data Analytics	3	BIO, BS
43.	SST-620	Success Skill	1	BIO, BS BS, ID
- Ј.	551-020	Success SKIII	1	D0, ID

During lectures at the Statistics Study Program, students are required to take a minimum of 145 credits. In addition, students are also required to participate in student activities as listed in Table 9. below. **Table 9.** Compulsory Student Activities



Code	Student Activity Name	Learning Form	Participation Credit Unit (SKP )
UNI1660	Deepening of Basic Islamic Values	Boarding	20 skp
UNI1661	The Qur'anic Self-Development	Boarding and Taklim	20 skp
UNI1662	Self Development Training	Boarding	5 skp
UNI1663	Leadership Training and Da'wah	Boarding	5 skp
UNI701	Community Development	Direct entry in the	10 skp
	Participation	community	

Then the student learning load while in Statistics Study Program can be written in the following table as follows:

Compulsory Courses	122 sks	
Limited Elective Courses	9 sks	
Free Elective Courses /	minimum 14 sks	
Merdeka Belajar		Minimum 145 sks
Student Activities	60 skp	
Required		
Student Activities	Number of skp based on	
Choice	Merdeka Belajar activities	Minimum 60 skp

 Table 10.
 Recapitulation of Student Learning Load

### University Compulsory Courses and Student Activities

1. Learning activities are carried out through University Compulsory Courses (MKWU) measured in credits (sks)

No	University Compulsory Courses	Credits
1	Islamic Religion Education	2
2	Islam Ulil Albab	3
3	Islam Rahmatan lil"alamin	3
4	Civics Education	2
5	Pancasila	2
6	English	2
7	Bahasa Indonesia for Scientific Communication	2
8	Entrepreneurship	2
9	KKN	2
	Total	20

2. Student activities are measured in participation credit units (skp) and can be organized by universities, faculties, study programs, student institutions. One (1) skp is equivalent to 240 minutes of activity (4 hours)

No	Activity	skp	Trait
1	Deepening of Basic Islamic Values	20	Compulsory
2	The Qur'anic Self-Development20Compulsory		Compulsory
3	Self Development Training5Compulsory		Compulsory
4	Leadership Training and Da'wah5Compulsory		Compulsory
5	Leadership Practice	5	Elective
6	KKN	10	Compulsory
7	Merdeka Belajar Activities	Customized	Elective

Table 12.	Student	Activity	Value
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#### Kegiatan Merdeka Belajar Kampus Merdeka (MBKM) implementation plan

In the 2022 curriculum, students can also take credits for Free Choice Courses through MBKM activities. Although there are many schemes for MBKM activities, what FORSTAT has agreed and is allowed to carry out are:

- a. Internship / Work Practice.
- b. Research.
- c. Studies / Independent Project
- d. Community Development Participation (KKN).

Students who are allowed to take part in MBKM activities are those who have taken a minimum of 80 credits. The MBKM program can be followed through programs organized by the Directorate General of Higher Education (Ditjen Dikti). The list of courses that will be used for the conversion of MBKM activities is listed in **Table 13** 

No	Code	Course Name	SKS
1.	MBK-001	Planning Management	4
2.	MBK-002	Risk Management	3
3.	MBK-003	Cost Estimation and Schedulling	2
4.	MBK-004	Teamwork	2
5.	MBK-005	Literature Review	2
6.	MBK-006	Academic Writing	2
7.	MBK-007	Research Problem Seeking	2
8.	MBK-008	Methodology and Modeling	3
9.	MBK-009	Research Report Writing	2
10.	MBK-010	Data Organization	4
11.	MBK-011	Data Insight	2
12.	MBK-012	Data Analytics	3
13.	MBK-013	Data Interpretation (Advanced Visualization)	2
14.	MBK-014	Strategic Management	3
15.	MBK-015	Business and Finance Analysis	3

 Table 13. Courses for MBKM Activities



16	MDV 016	D	2
16.	MBK-016	Programming Ability	3

Credit conversion for MBKM activities can also be obtained through KKN and Student Creativity Program (PKM). For MBKM activities through KKN and PKM, Statistics Study Program follows the policies of the Directorate of Research and Community Service (DPPM) and the University

#### **Measurement of Learning Outcomes**

Measurement of the fulfillment of Learning Outcomes (CP) will be carried out to find out the results of the process that has been carried out. The results of the CP measurement, both CPL and CPMK can be used to support the continuous improvement process related to the learning process. In addition, the measurement of CP can be used as a tool to control and evaluate whether each graduate has met the established CP standards. Some of the CP measurement models planned by the Statistics Study Program are as follows:

- 1. Assignments or special exams on certain competencies, for example Competency Tests which can be in the form of quizzes, assignments, projects, or making scientific papers.
- 2. The accumulation of CPMK fulfillment levels, which can be done through the Mid-Semester Examination (UTS) and the Final Semester Examination (UAS).

#### 6. Study Program Admission Selection Process

- A. Qualifications of prospective students: -
- B. Special requirements for Study Program (if any): -
- C. New Student Admission: refer to the web www.pmb.uii.ac.id

#### 7 Other Specialties of Study Program

The Statistics Study Program UII has six concentrations, namely: Social Business Statistics, Industrial Statistics, Actuarial, Data Science, Spatial and Disaster Statistics, and Bioinformatics. The concentration of Spatial Statistics and Disasters is only found in the Statistics Study Program UII and not yet in other universities that organize Statistics Study Programs in Indonesia.

The program is offered with English as the language of instruction, and the number of students in the classroom is limited to 35 to ensure the quality of the classroom.

IP students are also exclusively supported by various facilities to make the most of their study experience. Students must enroll in the Bridging Program at the start of their studies to learn academic writing, reading, and presentation skills.

IP students are provided with numerous opportunities for global experience that will broaden their perspective and cultural understanding. IP students participate in programs and activities such as Data Science Certification, Student Exchange, Joint Thesis Supervision, International Conferences, and many other international conferences.

