1.Course Identity

Course name (*Nama mata kuliah*)	Geostatistics I		
Faculty (*Fakultas*)	Science and Mathematics	**Study Program (*Program Studi*)**	Statistics
Code (*Kode*)	SST-509	**Credit poin Sks (*Bobot Sks*)**	3
Group (*Grup*)	Study Program	**Enrollment obligatory (*Sifat pengambilan*)**	~~mandatory~~/ optional*
Semester(s) in which the course is taught (*Semester*)	V	**Availability (*Ketersediaan*)**	Only available on Statistics Study Program
Learning method (*Bentuk pembelajaran*)	~~blended learning~~/online learning*	**Media (*Media*)**	Zoom, Google Classroom, and Video
Course category (*Rumpun mata kuliah/blok*)	~~university compulsory course~~/ ~~SSP compulsory course~~/ ~~practicum/~~ compulsory of scientific interest~~/ elective course*~~	**Requirements (*Prasyarat*)**	Geographic Information System (GIS)
Lecture (*Dosen pengampu*)	Achmad Fauzan, S.Pd.,M.Si Tuti Purwaningsih, S.Stat., M.Si	**Semester/ Academic year (*Semester/ Tahun Akademik*)**	Odd Semester 2020/2021

*) cross the unnecessary ones

2a. PROGRAM LEARNING OUTCOME (*CAPAIAN PEMBELAJARAN LULUSAN*)

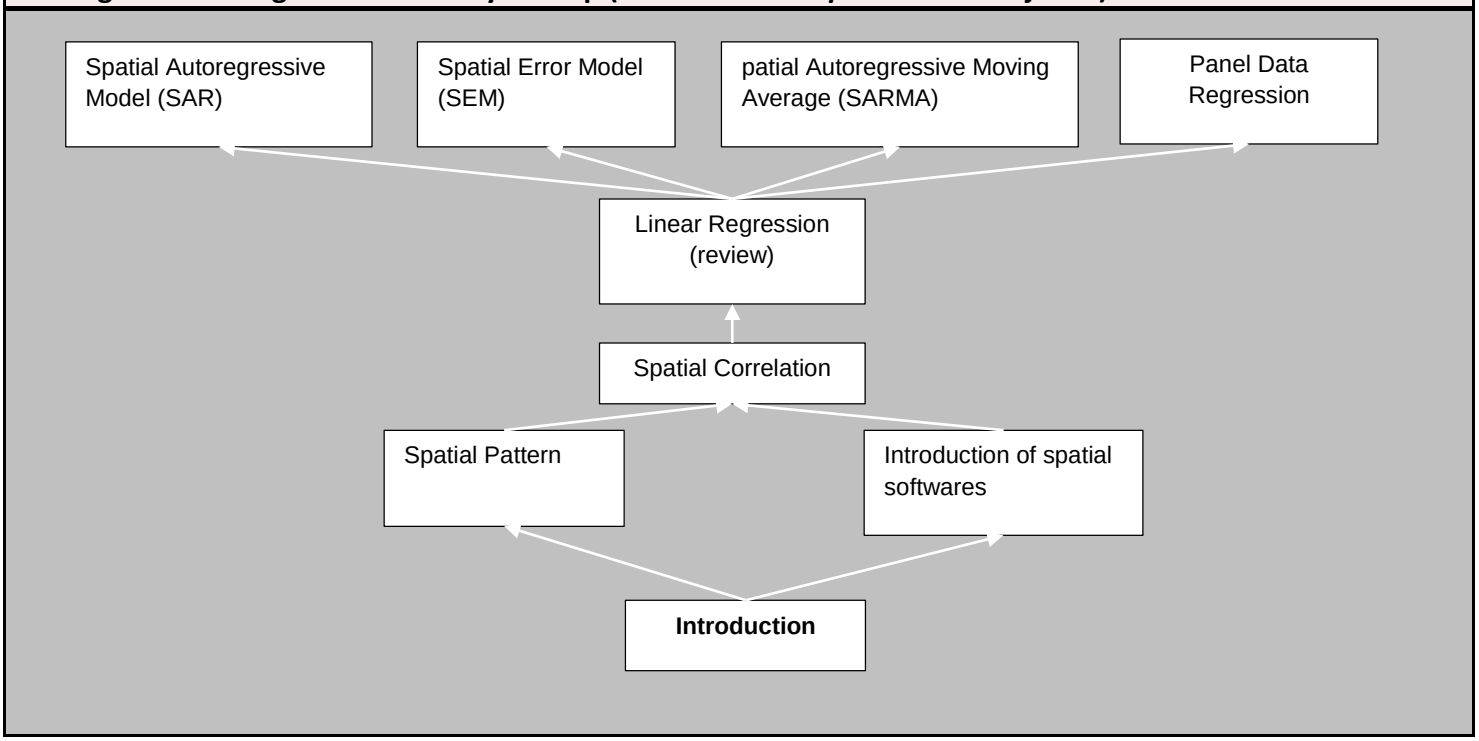
LO Code (*Kode CPL*)	LO Description (*Rumusan CPL*)
PP(b)	Mastering several statistical methodologies (methods and models) to be used in solving problems in several fields
Ku(a)	Able to apply logical, critical, systematic, and innovative thinking in the context of the development or implementation of science and technology that pays attention to and applies humanities values in accordance with their field of expertise.

2b. COURSE OUTCOME (*CAPAIAN PEMBELAJARAN MATA KULIAH*)

Supported PLO Code (*Kode CPL yang didu-kung*)	CO Code (*Kode CPMK*)	CO Descriptions and Indicators (*Rumusan CPMK dan Indikator*)	Learning Experience (*Pengalaman Pembelajaran*)	Assessment (*Asesmen/penilaian*)	Weight (*Bo-bot*)
PP(b)	PPb1	Students are able to explain the concept of Spatial Data.	1. Students are able to explain spatial data including kinds of spatial patterns. 2. Students are able to understand and understand	Paperwork	15%

			several uses of spatial software		
	PPb2	Students are able to explain the concept of Spatial Correlation.	Students are able to explain the definition of spatial correlation.	Midterm Exam	30%
Ku(a)	Kua1	Review of linear regression concept.	Students are able to explain the linear regression concept.	Paperwork	5%
	Kua2	Students are able to explain the Spatial Autoregressive Model (SAR).	1. Students are able to explain the concepts and types of regression models 2. Students are able to explain the definition of Autoregressive Model (SAR) 1. Students are able to implement the SAR method in the given case study	Essay Task	10%
	Kua3	Students are able to explain the Spatial Error Model (SEM).	1. Students are able to explain the definition of Spatial Error Model (SEM) 2. Students are able to implement the SEM method in the given case study	Essay Task	10%
	Kua4	Students are able to explain Panel Data Regression.	1. Students are able to explain the definition of Panel Data Regression 2. Students are able to explain the definition of Spatial Data Panel 3. Students are able to implement Panel Data Regression and Panel Data Spatial Methods	Final Exam	30%

3. Program Learning Outcome Analysis Map (*Peta Analisis Capaian Pembelajaran*)



4. Reference (*Referensi*)

[1] Spatial Statistics oleh Brian D. Ripley. 1952. John Wiley & Sons

[2] Anselin L. 2009. Spatial Regression. Fotheringham AS, PA Rogerson, editor, Handbook of Spatial Analysis. London: Sage Publications.

[3] Baltagi BH. 2005. Econometrics Analysis of Panel Data. Ed ke-3. England : John Wiley and Sons, LTD.

[4] Elhorst JP. 2010. Spatial Panel Data Models. Fischer MM, A Getis, editor, Handbook of Applied Spatial Analysis. New York : Springer.

[5] Fotheringham A.S., Brunsdon C., Chartlon M. 2002. Geographically Weighted Regression, the analysis of spatially varying relationships, John Wiley and Sons, LTD.

[6] Fotheringham AS, Rogerson PA. 2009. Spatial Analysis. London: Sage Publications, Inc.

[7] Lee LF, Yu J. 2009. Some recent developments in spatial panel data models. Regional Science and Urban Economics:REGEC-02729; No of Pages 17.

[8] Oliver Schabenberger, Carol A. Gotway. 2005. Statistical methods for spatial data analysis. Chapman & Hall/CRC

5. Detail of Learning Activities (*Rincian Aktivitas Pembelajaran*)

Session (sesi)	**LOC/Sub-LOC/Criterion (*CPMK/Sub-CPMK/ Kriteria*)**	**Study Material (*Bahan Kajian*)**	**Activity Design and Duration (*Rancangan Aktivitas dan Durasi*)**	**Mode**	**Learning Media/ Reference (*Media Pembelajaran/ Referensi*)**
1-3	PPb1	Spatial Data Concepts & Point distribution in spatial	1. Lecturer gives an explanation about the definition of spatial data concept&point distribution in spatial. 2. Students are doing some exercises about the definition of spatial data concept&point distribution in spatial.	FFO	1, 2
4-6	PPb2	the concept of Spatial Correlation	1. Lecturer gives an explanation about the concept of Spatial Correlation. 2. Students discuss about the type of spatial correlation.	CAA	1,2
7	Kua1	Review of linear regression concept.	1. Lecturer gives an explanation about the linear regression concept. Students are doing some exercises about the linear regression.	FFO	2
8		**Midterm Exam.**			
9-10	Kua2	Spatial Autoregressive Model (SAR).	3. Lecturer gives an explanation about the concept of spatial autoregressive model (SAR). 4. Students discuss about the concept of spatial autoregressive model (SAR).	FFO & SAA	1,2
11-12	Kua3	Spatial Error Model (SEM).	2. Lecturer gives an explanation about the concept of Spatial Error model (SEM) 3. Students are doing some exercises about the definition Spatial Error Model (SEM).	FFO & SAA	1,2
13-15	Kua4	Panel Data Regression.	5. Lecturer gives an explanation about the concept of panel data regression. 6. Students discuss about the panel data regression.	FFO & SAA	1,2
16		**Final Examination**			

Information:

For mode, enter one of the following codes

• FF = activities that require **face-to-face** meetings in class (*aktivitas yang memerlukan tatap muka (TM) langsung di kel*as);

• FFO = activities that require **face to face online** (*aktivitas yang memerlukan tatap muka secara daring (tatap maya/TMD)*);

• SAA = standalone asynchronous online activity (*aktivitas daring asinkron mandiri/ASM*);

• CAA = collaborative asynchronous online activities (*aktivitas daring asinkron kolaborasi/ASK*);

Learning / reference media can be in the form of (1) self-produced results, (2) curated results: media sourced from the internet or other sources chosen by the lecturer, and / or (3) students' own exploration results.

6. Assessment and Evaluation System (*Sistem Penilaian dan Evaluasi*)	
Assessment System (*Sistem Penilaian*)	Benchmark Reference Assessment = PAP (Penilaian Acuan Patokan)
Evaluation System (*Sistem Evaluasi*)	Each student must achieve a minimum grade / predicate of C for each CLO. If it has not fulfilled it, then the student is obliged to take an examination / remedial assignment for the related CLO.

Date:	Date:	Date:
Validated by (*Disyahkan oleh*)	Examined by (*Diperiksa oleh*)	Prepared by (*Disiapkan oleh*)
Head of SSP-UII Dr. Edy Widodo, M.Si.	Scientific Interest Coordinator Achmad Fauzan, S.Pd., M.Si.	Lecture Achmad Fauzan, S.Pd., M.Si.