SEMESTER STUDY PLAN

CAPITA SELECTA ALGEBRA 1

(ELECTIVE COURSE)

(Case Base Method)

DEPARTMENT OF MATHEMATICS AND DATA SCIENCE

FACULTY OF MATHEMATICS AND NATURAL SCIENCES

UNIVERSITAS ANDALAS

2024

SEMESTER STUDY PLAN (SSP)
BACHELOR PROGRAM OF MATHEMATICS
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
UNIVERSITAS ANDALAS

Course Name	Course Code	URL *I-Learn*	Credits	Semester	Compilation Date
Capita Selecta Algebra 1	MAT62214	https://sci.ilearn.unand.ac.id	3	6	11 May 2024

Person In Charge	Study Plan Creator	Head of Research Group	Head of Study Program
	Prof. Dr. Admi Nazra	Nova Noliza Bakar, M.Si	Dr. Noverina Alfiany

Intended Learning Outcomes (ILO) and Performance Indicator (PI)	**Intended Learning Outcomes**	
	ILO-4	An ability to use concept and fundamental technique of mathematics in solving simple mathematical problems PI-1: An ability to choose appropriate basic mathematical concepts and techniques in solving simple mathematical problems PI-2: An ability to illustrate simple mathematical problems based on appropriate basic mathematical concepts and techniques PI-3: An ability to solve simple mathematical problems using appropriate basic mathematical concepts and techniques
	ILO-7	An ability to communicate effectively especially in the area of mathematics in with diverse communities PI-1: An ability to convey ideas or study results orally, especially in the field of mathematics PI-2: An ability to present ideas or study results in writing, especially in the field of mathematics
	ILO-8	An ability to work in team PI-1: An ability to actively participate in a team with full responsibility PI-2: An ability to respond well to any feedback within the team
	Course Learning Outcomes	

	1	An ability to explain motivation and definitions as well as examples of N-soft set (NSS) (ILO-4) (ILO -7)
	2	An ability to define specific and complementary forms and examples of each from NSS (ILO -4) (ILO -7)
	3	An ability to define operations on NSS and examples (ILO -4) (ILO -7)
	4	An ability to prove the properties of NSS (ILO -4) (ILO -7)
	5	An ability to design a decision making algorithm on NSS (ILO -4) (ILO -7)
	6	An ability to provide application examples of NSS using existing algorithms (ILO -4) (ILO -7)
	7	An ability to search articles, explore and make simple developments of NSS and present (ILO -4) (ILO -7) (ILO -8)
Brief Description	This course will discuss several concepts of NSS and its development by taking several articles that are only given at a glance. Students are asked to dissect the article with the understanding possessed by the student. In this course, students are expected to be able to make a scientific assignment report with the theme of NSS, its development and application.	
Course Materials	N-Soft Sets (NSS) Development of NSS, (Fuzzy N-soft sets, Parameter Reduction of N-soft sets)	
References	**Main:** 1. N-soft sets and their decision making algorithms | SpringerLink Fuzzy N-soft sets: A novel model with applications - IOS Press **Additional:** 1. Scientific article: Students actively seek their own.	
Learning Media	**Software:**	**Hardware:**
	• LMS Unand (http://fmipa.ilearn.unand.ac.id/) • Zoom meeting	• Computer/Laptop • Smartphone

	• Whatsapp	
Team Teaching	Prof. Dr. Admi Nazra	
Assessment	Homework, Mid-Term exam, Project Presentation, Project Report	
Required courses	-	
Academic Norms	https://akademik.unand.ac.id/images/2022-03-30%20Peraturan%20Rektor%20Nomor%207%20Tahun%202022%20Penyelenggaraan%20Pendidikan-khusus%20Bab%20II.pdf	

Weekly Study Plan

Week / Meet (1)	Course Outcomes (2)	Indicator (3)	Assessment (4)	Activities/Forms of Learning [Time estimated]					Subject, references (10)	Weight (11)
				Synchronous*		Asynchronous**		Media (9)		
				Face to face Offline (5)	Face to face Online (6)	Individual (7)	Collaboration (8)			
1	Able to explain motivation and definitions as well as examples of N-soft set (NSS)	Discipline in carrying out college contracts • Accuracy in explaining motivations and definitions as well as examples of N-soft set (NSS)		- introduction of RPS - The lecturer explained the basic concepts of soft sets and fuzzy sets to open students' horizons related to the topic of NSS competition.		Students are looking for references to basic concepts of soft sets and fuzzy sets [1 x 3 x 120 minutes]		LMS (ilearn UNAND) •	Assessment Rules, RPS, Syllabus, Tuition Contract Soft Set and Fuzzy Set	Nothing yet

				- The lecturer explains the article that is the main reference for lectures - Discussion and Q&A of Lecture Material - Group Division - Before next week's meeting MHS groups are asked to study and discuss in groups about: NSS motivation, definitions and examples [1 x 3 x 50 minutes]						
2	Able to explain motivation and definitions as well as examples	• Accuracy in explaining motivations and	Presentation Task 1 (Rubric 1)	- Several group representatives presented		Students look for references and study related materials	Students discuss in groups	LMS (ilearn UNAND) •	N-soft set (NSS)	10

	of N-soft set (NSS)	definitions as well as examples of N-soft set (NSS)		motivations and definitions as well as examples of N-soft sets (NSS) - Discussion and Q&A [1 x 3 x 50 minutes]		[1 x 3 x 60 minutes]	[1 x 3 x 60 minutes]			
3	Able to define specific forms and complements as well as examples of each from NSS	• Accuracy in defining and explaining specific and complementary forms and examples of each from the NSS	Presentation Task 1 (Rubric 1)	- Several group representatives presented about specific forms and complements as well as their respective examples of NSS from N-soft set (NSS) - Discussion and Q&A [1 x 3 x 50 minutes]		Students look for references and study related materials [1 x 3 x 60 minutes]	Students discuss in groups [1 x 3 x 60 minutes]	LMS (ilearn UNAND) •	special forms and complements and examples of each from the NSS	10
4	Able to define operations on NSS and examples	• Accuracy in defining and describing operations on the NSS and examples	Presentation Task 1 (Rubric 1)	- Several group representatives presented abou operations on		Students look for references and study related materials	Students discuss in groups	LMS (ilearn UNAND) •	operations on the NSS and examples	10

				the NSS as well as examples of - Discussions and Q&As [1 x 3 x 50 minutes]		[1 x 3 x 60 minutes]	[3x60]			
5	Able to prove the properties of NSS	• Accuracy in proving the properties of NSS	Presentation Task 1 (Rubric 1)	- Several representatives of the group presented about the evidence for the properties of the NSS - Discussion and Q&A [1 x 3 x 50 minutes]		Students look for references and study related materials [1 x 3 x 60 minutes]	Students discuss in groups [1 x 3 x 60 minutes]	LMS (ilearn UNAND) •	properties of the NSS	10
6	CPMK 5 Mampu merancang suatu algoritma pengambilan keputusan pada NSS	• Ketepatan dalam merancang suatu algoritma pengambilan keputusan pada NSS	Presentation Task 1 (Rubric 1)	- Several representatives of the group presented about the design a decision-making algorithm for a Network Security System (NSS) - Discussion and Q&A [3x50 menit]		Students look for references and study related materials [1 x 3 x 60 minutes]	Students discuss in groups [1 x 3 x 60 minutes]	LMS (ilearn UNAND) •	decision making algorithm on NSS	10

7/7	CPMK 6 Mampu memberikan contoh aplikasi dari NSS menggunakan algoritma yang ada	• Ketepatan dalam memberikan contoh aplikasi dari NSS menggunakan algoritma yang ada	Presentation Task 1 (Rubric 1)	- Several representatives of the group presented about the examples of NSS applications using the algorithm - Diskusi dan tanya jawab [3x50 menit]		Students look for references and study related materials [1 x 3 x 60 minutes]	Students discuss in groups [1 x 3 x 60 minutes]	LMS (ilearn UNAND) •	application examples of NSS using existing algorithms	10
8	**MID-TERM EXAM**									
9 - 15	Able to search articles, explore and make simple developments from NSS as well as present	• Accuracy in searching articles, exploring and making simple developments of NSS as well as presenting	Presentation Tasks (Rubric 1)	- Each group reports on the progress of its assignments in each lecture week as well as presenting in front of other groups. - Discussion and Q&A [7 x 3 x 50 minutes]		Students look for references and study related materials and group discussions [7x 3 x 60 minutes]	Students discuss in groups [7 x 3 x 60 minutes]	LMS (ilearn UNAND) •	search articles, explore and make simple developments of NSS as well as present	**40**
									Total Weight	100%

1 credit = 50 minutes face-to-face meeting, 60 minutes structured study, 60 minutes independent study
Each meeting duration is 3 credits = 3×50 minutes

I. Indicators, criteria and weights of assessment

1. Assessment Weight of Each Form of Assessment

No	Form of Assessment	Weight
1	Mid- Term Exam	30%
2	Group Presentation (every meeting)	40%
3	Group Task Final Report	30%
	Liveliness	bonus
	Total	100 + Bonus

Rubric 1: Assessment Rubric for each meeting at the time of the group presentation

No	Form of Assessment	Weight
1	Readiness and Slideshow	15
2	Presentation skills	25
3	Mastery of the Material Delivered	35
4	Ability to respond to questions	25
	Liveliness	bonus
	Rubric	100 + Bonus

2. Assessment Weight of Each Course Learning Achievement

- CLO-1 : 10%
- CLO-2 : 10%
- CLO-3 : 10 %
- CLO-4 : 10 %
- CLO-5 : 10%
- CLO-6 : 10 %
- CLO-7 : 40%

II. Assessment Plan Table

Form of assessment	Mid-Term Exam	Group Presentation (every meeting)	Group Task Final Report	Total weight
CLO				
1. Able to explain motivation and definitions as well as examples of N-soft set (NSS) (CPL-4) (CPL-7)	5%	5%		10%
2. Able to define specific and complementary forms and examples of each from NSS (CPL-4) (CPL-7)	5%	5%		10%
3. Able to define operations on NSS and examples (CPL-4) (CPL-7)	5%	5%		10%
4. Able to prove the properties of NSS (CPL-4) (CPL-7)	5%	5%		10%
5. Able to design a decision making algorithm on NSS (CPL-4) (CPL-7)	5%	5%		10%
6. Able to provide application examples of NSS using existing algorithms (CPL-4) (CPL-7)	5%	5%		10%
7. Able to search articles, explore and make simple developments of NSS and present (CPL-4) (CPL-7) (CPL-8)		10%	30%	40%
Total Bobot	30%	40%	30%	100%