

SEMESTER STUDY PLAN
RESEARCH METHODS AND SCIENTIFIC PUBLICATIONS
(COMPULSORY COURSE)



DEPARTMENT OF MATHEMATICS AND DATA SCIENCE
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
UNIVERSITAS ANDALAS

2024



SEMESTER STUDY PLAN
STUDY PROGRAM: MASTER OF MATHEMATICS
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
UNIVERSITAS ANDALAS

Course Name	Course Code	URL <i>I-Learn</i>	Credits	Semester	Compilation Date
RESEARCH METHODS AND SCIENTIFIC PUBLICATIONS	MAT81101	https://sci.ilearn.unand.ac.id	3	2	May 6th, 2024
Person in Charge	Study Plan Creator			Head of the Study Program	
	Prof. Dr. Ferra Yanuar, M.Sc Dr. Haripamyu Dr. Dodi Devianto Dr. Susila Bahri Prof. Dr. Admi Nazra Dr. Arrival Rince Putri Dr. Mahdhivan Syafwan			Prof. Dr. Ferra Yanuar, M.Sc	
Intended Learning Outcomes (ILO) and Performance Indicators (PI)	ILO STUDY PROGRAM				
	ILO-1	Possesses good ethics and integrity PI-1 Possess academic ethics. PI-2 Demonstrate academic integrity.			

	ILO-2	Mastering mathematical concepts and applications (real analysis, advanced linear algebra, and statistics) in solving complex mathematical problems. PI-1. An ability to explain mathematical concepts (Real Analysis, Advanced Linear Algebra, and Statistics). PI-2. An ability to identify complex mathematical problems. PI-3. An ability to solve complex mathematical problems.
	ILO-3	Comprehensive mastery of one or several theories for development in the fields of analysis, algebra, applied mathematics, statistics and combinatorial mathematics. PI-1. Able to identify theories used in related mathematical problems. PI-2. Able to apply theories for advancement in related fields (advanced theory). PI-3. Able to use advanced theory to solve related mathematical problems.
Course Learning Outcome (CLO)		
1. Students are able to understand mathematical research models (ILO -1 , ILO -2)		
2. Students are able to browse literature (ILO -2, ILO - 3)		
3. Students are able to write proposals (ILO -2, ILO - 3)		
4. Students are able to know the procedures for writing a thesis (ILO -2, ILO - 3)		
5. Students are able to know international scientific publication tips (ILO -2, ILO - 3)		
6. Students are able to know the procedures for writing articles and presentations (ILO -2, ILO - 3)		
Brief Description	In this course, material is provided on how to conduct mathematical research , search for literature , write proposals , write a thesis , tips for international scientific publications and how to write articles and presentations .	
Study Materials	1. How to do mathematical research	

	2. How to search the literature 3. How to write a proposal 4. How to write a thesis 5. What are the tips for international scientific publications 6. How to write articles and presentations	
References	Main :	Thomas., CG 2021. <i>Research Methodology and Scientific Writing</i> . 2nd Edition. Springer Nature.
	Additional:	J. Paul TP Wong, <i>How to Write a Research Proposal</i> , Featured Article, May 8, 2002.
Learning Media	Software :	Hardware :
	<ul style="list-style-type: none"> ● LMS Unand (http://fmipa.ilearn.unand.ac.id/) ● Zoom meetings ● WhatsApp 	<ul style="list-style-type: none"> ● Computer/Laptop ● Smartphones
Team Teaching	Dr. Haripamyu Dr. Dodi Devianto Dr. Susila Bahri Prof. Dr. Admi Nazra Prof. Dr. Ferra Yanuar, M.Sc Dr. Arrival Rince Putri Dr. Mahdhivan Syafwan	
Required courses	-	
Academic Norms	Follow the Academic Regulations of the Andalas University Undergraduate Program	

<https://akademik.unand.ac.id/images/2022-03-30%20Peraturan%20Rektor%20Nomor%207%20Tahun%202022%20Penyelenggaraan%20Pendidikan-khusus%20Bab%20II.pdf>

1. Weekly Study Plan

WEEK (1)	COURSE OUTCOME (2)	INDICATORS (3)	ASSESSMENT (4)	LEARNING ACTIVITIES [ESTIMATED TIME]					LEARNING MATERIALS [REFERENCE] (10)	WEIGHT (11)
				Synchronous		Asynchronous		MEDIA (9)		
				Face to face Offline (5)	Face to face Online (6)	Independent (7)	Collaborative (8)			
1-2	CLO 1: Possesses good ethics and integrity (ILO - 1 , ILO - 2)	Discipline in implementing college contracts Accurate understanding of related material	Assign ment 1 (16.7 %)	Studying : - Introducti on to Study plan - discussion and question and answer course material [2 x 3 x 50 minutes]		Presentation and Discussion [2 x 3 x 12 0] minutes		LMS (ilearn UNAND)	What does it mean by Mathematical research, types and models.	16.7%
3-4	CLO 2: Ability to browse literature (ILO - 2, ILO-3)	<ul style="list-style-type: none"> Accurate understandi ng of related material 	Quiz (16.7 %)	Accuracy in understandi		Students look for references and study material		LMS (ilearn UNAND)	Techniques and strategies browse the literature	16.7%

		<ul style="list-style-type: none"> • Accuracy in answering assignment questions • Neatness of task execution • Originality of task results 		ng related material [2 x 3 x 50 minutes]		[2 x 3 x 120 minutes]		Zoom		
5- 6	CLO 3: Ability to write proposals (ILO -2, ILO -3)	<ul style="list-style-type: none"> ◆ Accuracy in understanding related material ◆ Accuracy in carry out a task . ◆ Neatness and originality of tasks 	Assignment 2 (16.7 %)	Accuracy in understand related material [2 x 3 x 50 minutes]	Studying : - concept explanation - discussion and question and answer course material [2 x 3 x 50 minutes]	Activeness and routine tasks [2 x 3 x 60 minutes]		Presentati on and Discussion	Proposal parts	16.7%
UTS										
7-9	CLO 4: Ability to write a thesis (ILO -2, ILO -3)	<ul style="list-style-type: none"> • Accurate understanding of related material • Neatness of task execution • Originality of task results 	Midterm (16.7 %)	Studying : - discussion and question and answer course material [3 x 3 x 50] minutes		Students look for references and study material [3 x 3 x 120] minutes			Thesis parts	16.7%

10-11	CLO 5: Tips for international scientific publications (ILO -2, ILO -3)	<ul style="list-style-type: none"> • Accurate understanding of related material • Neatness in completing tasks • Originality of task results 	Prese ntation (16.5 %)	Studying : - concept explanation - discussion and question and answer course material [2 x 3 x 50 minutes]	Studying : - concept explanation - discussion and question and answer course material [2 x 3 x 50 minutes]	Students look for references and study lecture material [2 x 3 x 12 0 minutes]		<ul style="list-style-type: none"> • LMS • Zoom 	Things that need to be understood in scientific publications	16.5%
12-14	CLO 6: Ability to write articles and presentations (ILO -2, ILO -3)	<ul style="list-style-type: none"> • Accurate understanding of related material • Neatness in completing tasks • Originality of task results 	Final exam (16.7 %)	Studying : - concept explanation - discussion and question and answer course material [3 x 3 x 50 minutes]	Studying : - concept explanation - discussion and question and answer course material [3 x 3 x 50 minutes]	Students look for references and study lecture material [3 x 3 x 12 0 minutes]		LMS	<ul style="list-style-type: none"> • Parts of article writing • How to present 	16.7%
UAS										

2. Indicators, Criteria and Assessment Weights

A. Assessment Weight for Each Form of Assessment

NO	COMPONENT EVALUATION	WEIGHT (%)
Results Assessment		
1	Assignment 1	16.7
2	Quiz	16.7
3	Assignment 2	16.7
4	Midterm exam	16.7
5	Presentation	16.5
6	Final exam	16.7
TOTAL		100

B. Assessment Weight for Each Course Learning Outcome

- CLO-1: 16.7 %
- CLO 2: 16.7 %
- CLO 3: 16.7 %
- CLO 4: 1 6.7 %
- CLO 5: 16.5 %
- CLO 6: 16.7%

3.Assessment Plan Table

Form of assessment	Assignment 1	Quiz	Assignment 2	Midterm Exam	Presentation	Final Exam	Total of Proportion
Course Learning Outcomes (CLO)							
1. Students are able to understand mathematical research models (ILO-1);	16.7%						16.7%
2. Students are able to browse literature (ILO -2, ILO -4)		16.7%					16.7%
3. Students are able to write proposals (ILO -2, ILO 4)			16.7%				16.7%
4. Students are able to know the procedures for writing a thesis (ILO -2, ILO -4)				16.7%			16.7%
5. Students are able to know international scientific publication tips (ILO -2, ILO -4)					16.5%		16.5%
6. Students are able to know the procedures for writing articles and presentations (ILO -2, ILO -4)						16.7%	16.7%

