



**PADANG PANJANG INDONESIAN INSTITUTE OF THE ARTS
FACULTY OF FINE ARTS AND DESIGN
CRAFT ART STUDY PROGRAM**

SEMESTER LEARNING PLAN (RPS)

COURSES	MK CODE	THE MK CLUSTER	CREDITS	SEMESTER	REVISED	DATE
Basic Natural Sciences	6170101MKI07	Institute Courses	2	2		06-02-2023
AUTHORIZATION	RPS DEVELOPER		COURSE COORDINATOR		Head of Study Program	
	Hijratur Rahmi, S.Pd., M.Si		Hijratur Rahmi, S.Pd., M.Si			
Learning Outcomes (CP)	CPL-Study Program charged to the Constitutional Court					
	CPL-S11	Have integrity in carrying out education				
	CPL-P8	Have the ability to realize expertise in the field of knowledge that is linked to other disciplines				
	CPL-P9	Have literary skills in the discipline they are engaged in				
	Course Learning Outcomes (CPMK)					
	CPMK	Students are able to elaborate on concepts and theories to analyze natural events and phenomena that occur around their environment.				
	CPL => Sub-CPMK					
	CPMK1	Able to explain the concept of the human mind and its development (S11, P9)				
	CPMK2	Able to explain the development and development of natural sciences (S11, P8, P9)				
	CPMK3	Able to explain myths, reasoning and knowledge (S11, P9)				
CPMK4	Able to explain the theory of the earth and the universe (S11, P9)					
CPMK5	Able to explain the concept of natural resources and the environment (S11, P8, P9)					
CPMK6	Able to analyze natural sciences and technology for human life (S11, P8, P9)					
CPMK7	Able to analyze environmental pollution that occurs (S11, P8, P9)					
CPMK8	Able to analyze current environmental issues (S11, P8, P9)					

Brief Description of MK	In this course, students learn about all concepts, approaches, theories to analyze and understand phenomena related to humans and the environment.	
Study Materials: Learning Materials	<ol style="list-style-type: none"> 1. The Nature of the Human Mind and Its Development 2. Development of Natural Sciences 3. Myths, Reasoning, and Knowledge 4. Earth and the Universe 5. Natural Resources and Environment 6. Natural Sciences and Technology 7. Environmental Pollution 8. Environmental Issues 	
Book	<ol style="list-style-type: none"> 1. Arnyana, Ida Bagus Putu, et al. 2009. <i>Basic Natural Sciences</i>. Copyright © 2019 Undiksa Press. All Rights Reserved. 2. Rahmi, Hijratur. 2021. <i>Basic Natural Sciences</i>. Yogyakarta: Dee Publishing 3. Sahlan. 2020. <i>Basic Natural Sciences</i>. Bandung: Mujahid Press 4. MKD.2018 Drafting Team. <i>IAD-ISD-IBD</i>. Surabaya: UIN Sunan Ampel Press 	
Learning Media	<i>Software :</i>	<i>Hardware :</i>
	<ol style="list-style-type: none"> a. Presentation slides b. Video player c. Internet Browser d. Photo/Images 	<ol style="list-style-type: none"> a. Laptop b. Hp
Lecturer	Hijratur Rahmi, S.Pd., M.Si	
Assessment	Individual, UTS, and UAS Scalable Tasks	

Sunday	Sub-CPMK (Expected Final Ability)	Study Materials (Learning Materials)	Learning Forms and Methods	Estimated Time	Student learning experience	Valuation	
						Criteria and form of Assessment	Indicators
1	Students understand the subjects, learning methods,	<ul style="list-style-type: none"> ●Tuition Contract ●Lecture Overview ●References to books and the 	Shape: Online lectures Method:	2x50 minutes	<ul style="list-style-type: none"> ● Listen to the explanation of the RPS and the lecture contract 	Criterion: <ul style="list-style-type: none"> ● Accuracy and understanding 	Suitability material explanation with ideas and livelin

	learning outcomes, assessment systems, academic norms and main references	essence of basic natural science courses	Informational discussion and Q&A Media: <i>Ppt, Hp, laptop</i>		<ul style="list-style-type: none"> • Guiding RPS as a learning guide • Read the material in the reference book that has been given • Compile a summary of the nature of basic natural science lectures 	<ul style="list-style-type: none"> • Descriptive rubric 	
2	Able to explain the concept of the human mind and its development (CPMK1)	<ul style="list-style-type: none"> •The nature and curiosity of man •The natural development of the human mind •History of Knowledge in Humans 	Shape: Online lectures Method: PjBL Media: <i>Ppt, Hp, laptop</i>	2x50 minutes	<ul style="list-style-type: none"> • Read the material in the reference book that has been given • Elaboration of knowledge by doing Task 1 (look for an expert in one of the fields and compare it with Marvel characters who have the same character) 	Criteria: <ul style="list-style-type: none"> • Accuracy and mastery • Descriptive rubrics Non-test form: <ul style="list-style-type: none"> • Task Work 	Suitability material explanation and creativity in task creation
3	Able to explain the Development and Development of Natural Sciences (CPMK2)	<ul style="list-style-type: none"> •Scientific Method •Development of Science •Development of IPA 	Shape: Online Method: PjBL Media: <i>Ppt, Hp, laptop</i>	2x50 minutes	<ul style="list-style-type: none"> • Listen to the introduction of the material from the lecturer or from the sources provided by the lecturer • Pour the understanding of the material into the preparation of the paper according to the steps of the scientific method collected in the form of Task-2 (interpreting the history of the community) 	Criteria: <ul style="list-style-type: none"> • Accuracy and mastery • Descriptive rubrics Non-test form: <ul style="list-style-type: none"> • Summary writing 	Suitability explanation with ideas, creativity and liveliness

					<p>or region related to an event that has occurred)</p> <ul style="list-style-type: none"> • Elaboration of knowledge • Active in discussions 		
4-5	Able to explain Myths, Reasoning, Knowledge (CPMK3)	<ul style="list-style-type: none"> • Definition of Myth • Limitations of Reasoning and Curiosity 	<p>Shape: Online and self-study Method: PjBL Media: <i>Ppt, Hp, laptop</i></p>	2x50 minutes	<ul style="list-style-type: none"> • Listen to the introduction of the material from the lecturer • Associating Task 2 with myths in the surrounding area to add to the completeness of Task 2 • Elaboration of knowledge • Active in group discussions is evidenced by weekly reports related to Task 2 	<p>Criteria:</p> <ul style="list-style-type: none"> • Accuracy and mastery • Descriptive rubrics <p>Non-test form:</p> <ul style="list-style-type: none"> • Tasks 	Suitability mastery of the material activeness group discussion
6-8	Able to explain the earth and the universe (CPMK4)	<ul style="list-style-type: none"> • Explaining the parts of the earth • Explains the formation of continents and oceans • Explaining atmospheric changes • Explaining the concept of the universe • Explaining the theory of the 	<p>Shape: Online lectures Method: PjBL Media: <i>Ppt, Hp, laptop</i></p>	2x50 minutes	<ul style="list-style-type: none"> • Access material from reference books and a variety of other sources • Exploring the history of space exploration and exploration of mars (Task-3) • Active in group discussions and Q&A • Listening to the reinforcement of material from lecturers 	<p>Criteria:</p> <ul style="list-style-type: none"> • Accuracy and mastery • Descriptive rubrics <p>Non-test form:</p> <ul style="list-style-type: none"> • Summary 	Suitability mastery of the material activeness group discussion

		<p>formation of the universe</p> <ul style="list-style-type: none"> • Explaining the galactic and solar system parts 					
9	Mid-Semester Exam						
10-11	<p>Able to explain the concept of natural resources (CPMK5)</p>	<ul style="list-style-type: none"> • Classification of natural resources and the environment • Concept of natural resource management • Principles and Efforts for the Conservation of Natural Resources and the Environment 	<p>Shape: Online lectures Method: Information discussion, questions and answers, PjBL Media: <i>Ppt, Hp, laptop</i></p>	<p>2x50 minutes</p>	<ul style="list-style-type: none"> • Discuss examples of recyclable items that can be reused and have an impact on the environment around us (Task-4) • Active in discussions and presentations 	<p>Criteria:</p> <ul style="list-style-type: none"> • Accuracy and mastery • Descriptive rubrics <p>Non-test form: Assignment</p>	<p>Suitability material, feasibility writing assignment</p>
12-13	<p>Able to explain the development of science and technology (CPMK6)</p>	<ul style="list-style-type: none"> • Parallel to human civilization and technological development • Natural science as the basis for technological development • Technological developments • Benefits and impacts of natural sciences and technology 	<p>Shape: Online lectures Method: PjBL Media: <i>Ppt, Hp, laptop</i></p>	<p>2x50 minutes</p>	<ul style="list-style-type: none"> • Discuss what kind of technology or work can be used to protect the environment and the process of making it in a paper (Task 5) 	<p>Criteria:</p> <ul style="list-style-type: none"> • Accuracy and mastery • Descriptive rubrics <p>Non-test form:</p> <ul style="list-style-type: none"> • Tasks 	<p>Suitability material, feasibility writing assignment</p>

		<ul style="list-style-type: none"> • Local wisdom technology and the latest technology • Technological advances and their effects 					
14-15	Able to analyze environmental pollution and the latest environmental issues (CPMK 7 and 8)	<ul style="list-style-type: none"> • Environmental definition • Types of environmental pollution • Causes of environmental pollution • Handling of environmental pollution • Global environmental issues • National environmental issues • Local environmental issues 	<p>Shape: Online lectures, assignments, discussions, presentations</p> <p>Method: <i>Project based learning</i></p> <p>Media: <i>Ppt, Hp, laptop</i></p>	2x50 minutes	<ul style="list-style-type: none"> • Active in discussion • Produce a work or prototype of a work that has been designed in task 5 personally (Task 6) 	<p>Criteria:</p> <ul style="list-style-type: none"> • Accuracy and mastery • Descriptive rubrics <p>Non-test form:</p> <ul style="list-style-type: none"> • Presentations and discussions • Works 	Suitability material, feasibility assignment work
16	UAS / End of Semester Evaluation: validating the final assessment and determining student graduation						

Assessment Rubric

Yes	ASPECTS	SCORE (1-5)				
1	PLANNING	Accuracy in selecting experts in the specified field	Lack of accuracy in selecting experts in a specified field	Not being precise in choosing experts in a given field		
		Sharpness of comparison of experts and marvel figures	Less sharp in comparing experts and marvel figures	Not sharp in comparing experts and marvel figures		

LECTURE UNITS

Meeting 2

Learning Outcomes: Able to explain the natural development of the human mind and the development of natural science based on the times

Learning Objectives:

- a. Explaining the nature and development of the human mind
- b. Explaining the development of natural science

Task 1

"Making History, Making History"

History is a process of interpretation and perspective placement. In this project, students conduct research related to the history of their neighborhood (kampung) and use the main material sources to learn the experiences and perspectives of community members in the surrounding community such as the indigenous people of the area, immigrant or transmigrant communities, colonials, slaves, or people who belong to different classes who have a relationship with an event or event. Students use the knowledge gained through lectures to document and share the various (and sometimes conflicting) histories that coexist in their local communities.

Key Standards:

- Analysis of the relationship between events that occurred and developments in a broader historical context
- Analysis of factors that can affect people's perspective on different historical eras
- Analyze how people's perspectives affect what information is available in the historical sources they create

Core Standards

- Conduct a brief research project to answer questions, draw from multiple sources and generate additional questions that are relevant and focused for further research and investigation.
- Analyzes how two or more authors writing on the same topic shape their presentation of key information by emphasizing different evidence or advancing different interpretations of facts.
- Write informative/explainer texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content

Main Products

- Individual Products

A historian's oath that describes the most important actions a historian can take to create an accurate historical narrative

- Team/Whole Class Products

Historical markers (physical posters or digital QR code signs) that combine the original expository text and primary source images, document aspects of the event from at least three perspectives and cite evidence from research

- Making It Public

Educational walking/driving tours of the many histories that exist in their local communities based on the historical markers that students have developed.

Assessment Rubric

Aspects assessed

1. Do Students know about the history of their local community
2. How do you make this project meaningful for students who are new to the community as well as students whose families may have been in the community longer?
3. How do students' backgrounds and identities inform the ways in which they can understand the historical record?
4. How you can utilize, develop and expand the perspectives that students bring to this assignment

Consider the Context

1. What specific events make the most sense to focus on given your community's history and your state standards?
2. What events in your community are connected to larger contexts across regions and time periods?
3. What primary and secondary source materials might be available to support student learning about people and events in your local community? What might be missing and how do you fill in those gaps?

4. What local experts (e.g., historians, elders, activists) or institutions (e.g., historical societies, universities, tribal councils, museums) could serve as partners in this project?

Consider Content & Skills

1. What models and examples of narratives and historical markers can you provide students?
2. How will you improve students' research and writing skills during this project? What literacy strategies, chart organizers, and feedback protocols can you use to support students and build their skills?
3. How will you support your students in learning to hold and/or use a variety of perspectives? What might be challenging about this?
4. How can you ensure that students learn and share stories of rejection and resilience among marginalized communities, rather than just focusing on stories of removal?

Task 2

How can humans explore Mars safely?

Project summary

In this interdisciplinary project, students explore the history of space travel and the science of Mars exploration. The student team explored the history of space exploration, conditions on Mars, and the scale of the universe. They use the engineering design process to identify problems related to the exploration and design of Mars and test discoveries that help solve those problems.

Learning objectives

Key standards

Common Core Country Standards—ELA Literacy

W.4.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

SL.4.4 Report a topic or text, tell a story, or retell an experience in an organized manner, using appropriate facts and relevant descriptive details to support the main idea or theme; speaks clearly at an understandable pace.

RI.4.9 Integrate information from two texts on the same topic to write or speak about the subject with knowledge.

Next-Generation Science Standards

3-5-ETS1-1 Defines a simple design problem that reflects a need or desire that includes material, time, or cost success criteria and constraints.

3-5-ETS1-2 Generate and compare several possible solutions to a problem based on how well each is likely to meet the criteria and limitations of the problem.

4-LS1-1 Make the argument that plants and animals have internal and external structures that serve to support survival, growth, behavior, and reproduction.

(CCSS is listed for Class 4, but the project can be implemented in Grades 3–5.)

Main Products

Individual Products

Detailed engineering plan that explains how the device works and includes detailed sketches

Team/Whole Class Products

Prototype of a device that allows humans to safely explore Mars

Making It Public

Virtual or in-person science exhibition-style exhibitions to share prototypes with experts in the field

Consideration

Consider Your Students

- What might students already know about space exploration and conditions on Mars? How will you connect, build, and close gaps in students' background knowledge of this topic?
- How will you help students see themselves reflected in this project? Can you feature astronauts and space scientists from different backgrounds? How can you help students imagine a Martian colony that includes a variety of voices and identities?

Consider the Context

- What materials do students need to create their prototypes? How will you get these ingredients?
- How can you help students connect with industry professionals during this project?

Consider Content & Skills

- How will you structure and support the engineering design process for students during this project?
- What texts and activities can help build a background of students' knowledge of space exploration, Mars, and engineering design? How can you use these texts to support students' content knowledge and literacy skills?