

K to 12 BASIC EDUCATION CURRICULUM
SENIOR HIGH SCHOOL – SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) SPECIALIZED SUBJECT

Grade: 12

Subject Title: Research/Capstone Project

Quarter: Second

No. of Hours/ Semester: 80 hours

Prerequisite (if needed):

Subject Description: In this course, students, under the guidance of a research adviser, will identify a scientific, technological, or mathematical problem, design and apply an appropriate methodology, formulate hypothesis, and draw conclusions based on their investigation. At the end of the semester students will prepare a scientific report/paper to be presented/defended in a forum.

Note: The culminating activity may take the form of a schoolwide S&T project exposition.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
The Scientific Problem	<i>The learners demonstrate an understanding of...</i> 1. a scientific problem or question 2. applied and basic research problems	<i>The learners shall be able to...</i> Present the study conducted both orally and in writing through a public presentation or defense, and submission of a complete technical report or scientific paper	<i>The learners...</i> 1. identify a scientific problem or question	STEM_RP12-IIa-e-1
			2. differentiate applied and basic research problems	STEM_RP12-IIa-e-2
The Scientific Literature	3. the scientific literature and its relevance to the chosen scientific problem		3. set selection criteria for studies relevant to a chosen scientific problem	STEM_RP12-IIa-e-3
			4. review, digest, and concisely state the relevance of the studies cited	STEM_RP12-IIa-e-4
Hypothesis	4. hypothesis formulation		5. formulate possible outcomes of the investigation, or in the case of mathematics research, conjectures about the mathematical problem or topic	STEM_RP12-IIa-e-5
Methodology	5. designing investigatory methodologies		6. design a strategy or sequence of steps that will address the scientific question at hand	STEM_RP12-IIa-e-6

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
Data Collection	6. establishing appropriate method of data collection		7. select appropriate methods of data collection	STEM_RP12-IIa-e-7
			8. develop the criteria that will address the completeness of the data collection method	STEM_RP12-IIa-e-8
Data Analysis	7. extracting useful information from data sets		9. analyze the data obtained from the investigation	STEM_RP12-IIa-e-9
Conclusions	8. drawing logical conclusions		10. draw logical conclusions supported by processed data	STEM_RP12-IIa-e-10
Recommendations	9. the purpose of making relevant recommendations		11. make recommendations that are relevant to the study	STEM_RP12-IIa-e-11
The Scientific Report/Paper	10. the different components of a scientific report/paper		12. write a complete scientific report/paper	STEM_RP12IIf-j -12
			13. defend the science project before a panel	STEM_RP12IIf-j -13

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Code Book Legend

Sample: STEM_RP12-IIa-e-1

LEGEND		SAMPLE	
First Entry	Learning Area and Strand/ Subject or Specialization	Science, Technology, Engineering and Mathematics	STEM_RP12
	Grade Level	Grade 12	
Uppercase Letter/s	Domain/Content/ Component/ Topic	Research/Capstone Project	
			-
Roman Numeral <i>*Zero if no specific quarter</i>	Quarter	Second Quarter	II
Lowercase Letter/s <i>*Put a hyphen (-) in between letters to indicate more than a specific week</i>	Week	Weeks one to five	a-e
			-
Arabic Number	Competency	identify a scientific problem or question	1