SAMSENWITTAYALAI SCHOOL
ENGLISH PROGRAM

COURSE OUTLINE

Subject: Computer Technology (SC30261)
Learning Period: 2 Periods/Week (40 Hours)
Grade Level: Mattayomsuksa 5
Learning Area: Science
Teacher: Mr. Donjie Mejia Bardos

Course Classification: Additional
Credit Unit: 1.0
Semester 2 **Academic Year** 2022
Samsenwittayalai School English Program

I.COURSE DESCRIPTION

The course is aimed to apply the knowledge and other skills, including the resources, to do the project work to solve the problem or develop work. Computer technology collects, analyzes data and uses computer science knowledge, digital media, information technology to solve the problem or increase the value of products or services in daily life creatively.

By studying the different concepts in collecting information, data analysis and enable to understand the computer science, learning digital media and information technology, studying the design thinking process, identifying and interpreting problems, concept development, creating solutions to the problems, project development using engineering design process, data collection and conceptualization and keeping rights and protection of works.

For applying the knowledge and developing it in their daily life. It enables students to learn the design and make products that solve genuine, relevant problems within different contexts whilst considering their own and others' needs, wants and values. It encourages students to acquire a broad range of subject knowledge and draw on additional disciplines such as mathematics, science, engineering, computing and art. The course is designed to produce innovative students.

II. INDICATORS

1. SC4.2.1 Apply the knowledge and other skills, including the resources, to do the project work to solve the problem or develop work.

2. SC4.2.1 Collecting, analyzing data and using computer science knowledge, digital media, information technology to solve the problem or increase the value of products or service in daily life creatively.

III. TENTATIVE COURSE OUTLINE

Week	Topic	Indicators	Period(s)
1.	Design Technology in the 21st Century Research Presentation	2	2
2.	Unit 1. Knowledge and Design Thinking for problem solving • Basic Knowledge • Knowledge and skills at work	2	2
3.	Design thinking and problem solving • Identifying and interpreting problems • Concept Development	2	2
4.	Creating solution to the Problems	2	2
5.	Unit 2. Project work and problem solving • Problem solving by project work	2	2
6.	Project development using engineering design processes	2	2
7.	Project Development Phase	2	2
8.	Data collection and conceptualization related to the problem	2	2
	MIDTERM EXAM		
9.	Project Writing	2	2
10.	Steps for Planning and implementing solutions	2	2
11.	Project Presentation Phase	2	2
12.	Project report writing	2	2
13.	Project presentation with posters	2	2
14.	Project presentation with software *kidsbright programming language*	2	2
15.	Creating Benefit from work • Benefits • Value Adding	2	2
16.	Value Creation • Continuing Development • Expanding the market or finding new target groups	2	2
17.	Keeping rights and protection of works • Patents • Invention patents • Product Design Patents	2	2
18.	Modernized Project Presentation with the working model	2	2

Remarks: *The course outline is subject to change as appropriate.*

IV. Teaching Methods and Management

□ Experiment	□ Lecture/Discussion	□ Group work
□ Individual work	□ Game	□ Song
□ Self-learning	□ Demonstration	□ Role play
□ Project	□ Experience	□ ICT
□ Local Wisdom based	□ Others	

V. Teaching Materials/ Supplements

□ Handouts(soft copy)	□ Worksheets(Softcopy)	□ Teacher's textbook
□ Graphs/ Diagrams	□ Maps	□ Pictures
□ Samples/ Models	□ Exercises	

□ Commercial Text Book

□ DVD/VCD

- Website
  - https://design-technology.org/
  - http://www.design-technology.info/home.htm
  - https://www.ucas.com/job-subjects/design-technology
  - https://www.data.org.uk/campaigns/what-is-design-and-technology/
  - https://www.teachengineering.org/k12engineering/designprocess
  - https://www.sciencebuddies.org/science-fair-projects/engineering-design-process/engineering-design-process-steps
  - https://www.instructables.com/id/What-Is-the-Engineering-Design-Process/

□ Others

VI. ASSESSMENT AND EVALUATION

Indicator / Score from SGS	**Formative I**			**Midterm**	**Formative II**					**Final**
	1	2	3		10	11	12	13		
Total score	**10**	**10**		**20**	**10**	**10**	**10**	**10**		
1.Learners' reading, analytical thinking					10					
2. Learners' desirable characteristics						10				
3. SC4.2.1	10			20			10			
4. SC4.2.2		10						10		20
Total	**20**			**20**	**40**					**20**

VII. ASSIGNMENT

SGS No.	Score (points)	Assignment	Deadline	Type			Remark
				Test	Individual	Group	
12	5	Project Based Learning Research Methodology	3rd week of May. 2022		✓		
12	5	PBL Topic Presentation	June (4th week) 2021			✓	
13	10	Four C's of DESIGN LEARNING integration with Programming and Design Process	July 2022			✓	
MIDTERM	15	Midterm Test	August 2022	✓			
14	20	Making Actual/Working Model	September 2022			✓	
FINAL	20	Final Test	Week 18	✓			
		Total					