



**SAMSEN WITTAYALAI SCHOOL
ENGLISH PROGRAM**

COURSE OUTLINE

Subject: Elementary Mathematics (MA32101)	Course Classification: Fundamental
Learning Period: 3 Periods/Week	Credit Unit: 1.5
Grade Level: Mattayomsuksa 5 (Grade 11)	Semester 1, Academic Year 2022
Learning Area: Mathematics Program	Samsenwittayalai School English
Teacher: T.Panuwat Tansatian	

I. COURSE DESCRIPTION

Sequence and series. The students will learn about how to find a general form of the sequence and also the recursive form of the sequence. They will learn the definition of the finite sequence and also the infinite sequence. Some well-known sequences such as arithmetic, geometric, and harmonic, will be learned. Students will be able to find the general form of them and understand their characteristics. They will learn their series and how to use the summation sign.

Probabilities. The students will understand the definition of related words in probability (Random Experiment, Trial & outcome, Event, Sample space, Favorable Event, Equally likely event, Mutually exclusive event). They will know how to apply the law of multiplication and law of addition. After that, the probability of an event will be introduced.

By using the scientific processes, searching data, discussion, analyzing, comparing, presentation, testing, prediction, investigation and experimenting.

For improving the scientific knowledge, thoughts and understanding so that the students can make use of the knowledge to make decision, use the 21st century skills in information technology, critical thinking and problem-solving, communicating. They can also use the knowledge in every day's life, leading to scientific mind, ethics, virtues and appropriate attitudes.

II. LEARNING OUTCOMES

1. Learners' reading, analytical thinking and writing skills meet the criteria prescribed by the respective educational institutions.
2. Learners' desirable characteristics meet the criteria prescribed by the respective educational institutions.

3. Learners are able to understand the graphs of exponential functions and logarithms, and solve problems using them.
4. Learners are able to solve exponential equations and inequalities, and logarithmic equations and inequalities.
5. Learners are able to understand trigonometric functions and their graphs.
6. Learners are able to apply the concepts of trigonometric functions to solve a problem.
7. Learners are able to solve trigonometric equations.
8. Learners are able to use the sine and cosine rules to solve a problem.

III. TENTATIVE COURSE OUTLINE

Week	Topics / Contents	Learning outcome	Period(s)
1.	Sequence and series	Introduction to sequences and series	3
2.		Sequences : arithmetic, geometric and harmonic	3
3.		Limit of sequences	3
4.		Finite series	3
5.		Series : arithmetic, geometric	3
6.		Series : A&G, harmonic, telescopic, etc	3
7.		Infinite series	3
8.		Limit of series	3
9.		The sum of infinite series	3
10.	Midterm Examination		
11.	Probability	Introduction to combinatorics	3
12.		Law of multiplication	3
13.		Law of addition	3
14.		Permutation	3
15.		Combination	3
16.		Binomial Theorem	3
17.		Introduction to Probability	3
18.		Probability problems	3
19.		Applications	3
20.	Final Examination		

IV. TEACHING METHODS AND MANAGEMENT

- Lecture/Discussion
- Individual work

V. TEACHING MATERIALS/SUPPLEMENTS

- Handouts
- Worksheets
- Exercises

VI. ASSESSMENT AND EVALUATION

The ratio of the formative score and final score is 80 : 20.

Indicator/ learning outcome Scores from SGS	Formative 1		Midterm	Formative 2					Final	Total
	1	Total		10	11	12	13	Total		
Learner's reading and analytical thinking		15		10				55		100
Learner's desirable characteristics					10					
Categorize each kind of sequence and series	15									
Able to apply the sequence and series to related problems				10			15			
Able to calculate the probability of the given situation									20	
Total		15	10					55	20	100

VII. ASSIGNMENT

No.	Assignment	Score (points)	Dead line	Type		Remark
				Individual	Group	
1.	Quiz	10	August	✓		
2.	homework/worksheet	5	Before Midterm Exam.	✓		
3.	Quiz	15	October	✓		
4.	homework/worksheet	5	August	✓		
Total		30				

