Bangkok Christian College English Immersion Program

Course Scope for Core English and Literature Studies Mathayom 4

Semester 1/2024-2025 Teacher Jeff Tedlow

Date	Contents	Comments/ Remarks
13 - 17 May	**Unit 1 Reading Preparation Part 1 Places to Visit** • Learning languages discussion • Skimming and scanning • Lexical words • Sorting information • Reading Comprehension-answering questions on *Honeycomb Hives* article	
20 - 24 May	**Unit 1 Reading Preparation Part 1 Places to Visit** • Matching adjectives in *Honeycomb Hives* article to correct definitions • Countable and uncountable nouns • Articles and partitives • Correct usage of *some* and *any*	22 May Visakha Bucha
27-31 May	**Unit 1 Reading Preparation Part 2 Celebrities, Fame, and Entertainment** **Assessment-test on reading preparation Part 1** **Assign Project # 1 book report** • Group discussion about the advantages and disadvantages of being a celebrity • Listening and answering questions about a football press conference • Identifying factual and abstract information from a text • Identifying synonyms	
3-7 June	**Unit 1 Reading Preparation Part 2 Celebrities, Fame, and Entertainment** • Reading and answering questions on *The Shadow Side of Celebrity* article • Group discussion regarding privacy and social media • Present simple verb tense • Present continuous verb tense	
10 – 14 June	**Unit 1 Reading Preparation Part 3 History and Time** **Assessment- test on Reading Preparation Part 2** • Group discussion about history • Verifying text information as true, false, or not given • Identifying facts, ideas, and opinions • Reading and answering questions on *Biggest Dinosaur Ever* article	
17 – 21 June	**Unit 1 Reading Preparation Part 3 History and Time** • Phrasal verbs • Comparative and superlative adjectives • Group survey activity to practice comparative and superlative adjectives **Assessment- Test on Unit 1 Reading Preparation Part 3**	

24 – 28 June	**Book Report presentations**	
1-5 July	**Unit 2 Writing Preparation Part 4 Food and Drink** • Introduction to unit • Group discussion on food/healthy eating • Food vocabulary • Students in Groups create their own menu	
8-12 July	**Unit 2 Writing Preparation Part 4 Food and Drink** • Informal writing (informal register) • Writing informal emails and letters (proper format for both) • Analysis of two informal emails (which deserves higher marks and why?) • Collocations • Students write two informal emails to friends • Present perfect verb tense	
15-19 July	**Unit 2 Writing Preparation Part 5 Colours** **Assessment- test on Unit 2 Writing Preparation Part 4** **Assign Project # 2- students write a short story** • Group discussion about colors and their significance • Discussion of students matching their writing with the context and purpose they are given • Students in groups make notes about the layout and language features of letters, reports, and articles as well as the different types of audiences for these types of text • Students read and then have group discussion on *Come Rain or Shine* article	
22 – 26 July	**Unit 2 Writing Preparation Part 5 Colours** • Students write *Sports Day* letter to their head teacher • Idioms with colors in them (e.g. green with envy) • Past simple and present perfect verb tenses • Time expressions group activity	
29 July- 2 August	**Unit 2 Writing Preparation Part 6 Speech and Communication** **Assessment- test on Unit 2 Writing Preparation Part 5** • Students in groups discuss different types of social interactions, e.g. virtual vs. face to face • Students in pairs discuss which in a list of qualities given contribute to good conversation/social interaction • Presenting info in both formal and semi-formal contexts • Paraphrasing and summarizing • Students write summary of an article on dolphin communication	29 July King's Birthday
5 - 9 August	**Unit 2 Writing Preparation Part 6 Speech and Communication** • Students read and write a summary of How Babies Talk reading. • Communication verbs • Past continuous verb tense	

	• Proper usage of *would* and *used to*	
12 – 16 August	**Unit 3 Listening Preparation Part 1 The World of Work** **Assessment- Test on Writing Preparation Part 6**	12 August Mother's Day
19 - 23 August	**Students present their short stories**	
26 - 30 August	**Unit 3 Listening Preparation Part 1 The World of Work** • Students discuss their ideal job • Listening for the overall message • Students discuss the differences between *hear* and *listen* • Listening for detail-students practice by listening to a passage for dates, times, names, places, and events. • Nouns related to the workplace, e.g. customer, work experience, staff • *WH* questions • inversion	
2-6 September	**Unit 3 Listening Preparation Part 2 Pets** **Assessment- test on The World of Work Part 1** • Inversion • Identifying key points and detail • Identifying stated and implied viewpoints • Collocations • Prepositions of time	
9 -13 September	**Final Exam Review**	
16 -20 September	Final Exam Week	

Bangkok Christian College English Immersion Program

Course Scope for Science Mathayom 4

Semester 1/2024-2025 Teacher Ian Spellman

Date	Contents	Comments/ Remarks
13 - 17 May	Philosophy of Science Topic – How do we define "Life"?	
20 - 24 May	Philosophy of Science Topic – How do we define "Life"?	
27-31 May	Philosophy of Science Topic – How do we define "Life"?	
3-7 June	Intro to Genetics – macromolecules with emphasis on nucleic acids	
10 – 14 June	Intro to Genetics – The Central Dogma of Cell Biology	
17 – 21 June	Intro to Genetics – Cell Division	
24 – 28 June	Intro to Genetics – Meiosis and Inheritance	
1-5 July	Intro to Genetics – Biotechnology, ethical implications, etc.	
8-12 July	Genetics Conclusion – Esoteric, psychological, and mythological implications of genetics	
15-19 July	Review of basic human anatomy and physiology – skeletal, muscle, nervous system structures, etc.	
22 – 26 July	Review of basic human anatomy and physiology – immune system, cause of disease, human health, nutrition, etc.	
29 July- 2 August	Review of basic human anatomy – alternative perspectives, esoteric tie-ins	
5 - 9 August	Humans and the environment – ecology, symbiosis, impacts on local landscapes, "return to the earth" initiatives	
12 – 16 August	Humans and the environment – ecology, symbiosis, impacts on local landscapes, "return to the earth" initiatives	
19 - 23 August	Humans and the environment – ecology, symbiosis, impacts on local landscapes, "return to the earth" initiatives	
26 - 30 August	Selected Topics in Social Sciences and Psychology	
2-6 September	Selected Topics in Social Sciences and Psychology	
9 -13 September	Selected Topics in Social Sciences and Psychology	
16 -20 September	Final Exam Week	

Bangkok Christian College English Immersion Program

Course Scope for Biology Mathayom 4

Semester 1/2024-2025 Teacher Rick Reinders

Date	Contents	Comments/ Remarks
13 - 17 May	Introduction lesson (Teams, Onenote, expectations, skills, rules etc)	
20 - 24 May	Unit 1: The Science of Life. 1.1 The world of Biology	
27-31 May	Unit 1: The Science of Life. 1.2 Themes in Biology	
3-7 June	Unit 1: The Science of Life. 1.2 Biodiversity	
10 – 14 June	Unit 1: The Science of Life. 1.3 Study of Biology	
17 – 21 June	Unit 1: The Science of Life. 1.3 Set up Scientific Experiment (case study)	
24 – 28 June	Unit 1: The Science of Life. 1.3 Set up Scientific Experiment (case study)	
1-5 July	Unit 1: The Science of Life. 1.4 Tools and Techniques	
8-12 July	Unit 1: The Science of Life. 1.4 Microscope practice	
15-19 July	Unit 1: The Science of Life. 1.4 Microscope practice	
22 – 26 July	Unit 2 Chemistry of Life. 2.1 Composition of Matter	
29 July- 2 August	Unit 2 Chemistry of Life. 2.2 Energy	
5 - 9 August	Unit 2 Chemistry of Life. 2.3Water and Solutions	
12 – 16 August	Unit 3 Biochemistry. 3.1 Carbon compounds	
19 - 23 August	Unit 3 Biochemistry. 3.2 Molecules of Life	
26 - 30 August	Unit 4 Cell Structure and Function. 4.1 History of Cell Biology	
2-6 September	Unit 4 Cell Structure and Function. 4.2 Introduction to cells	
9 -13 September	Unit 4 Cell Structure and Function. 4.3 Cell organelles and Features	
16 -20 September	Unit 4 Cell Structure and Function. 4.4 Unique Features of Plant Cells	
	Final Exam Week	

Bangkok Christian College English Immersion Program

Course Scope for Chemistry Mathayom 4

Semester 1/2024-2025 Teacher Sep Alamouti

Date	Contents	Comments/ Remarks
3 - 17 May	Course Introduction and practical Overview	
20 - 24 May	Topic 1: Atomic Structure and The Periodic Table (1–7)	
27 - 31 May	Topic 1: Atomic Structure and The Periodic Table (8–19)	
3 - 7 June	Topic 1: Atomic Structure and The Periodic Table (20–25)	
10 - 14 June	Topic 5: Formulae, Equations and Amounts of Substance (6, 14–16)	
17 - 21 June	Topic 5: Formulae, Equations and Amounts of Substance (1–5)	
24 - 28 June	Topic 5: Formulae, Equations and Amounts of Substance (7–10)	
1 - 5 July	Topic 5: Formulae, Equations and Amounts of Substance (11–13)	
8 - 12 July	Topic 5: Formulae, Equations and Amounts of Substance (11–13)	
15 - 19 July	Topic 2A: Bonding (1–9)	
22 - 26 July	Topic 2A: Bonding (22)	
29 July – 2 Aug	Topic B: Structure (23–25)	
5 - 9 August	Topic 2A: Bonding (13–19, 20 iv)	
12 - 16 August	Topic 2A: Bonding (20 iv)	
19 - 23 August	Topic 2A: Bonding (10–12, 21 i, iii, iv)	
26 - 30 August	Topic 2A: Bonding (21 i, iii, iv)	
2 - 6 September	Topic 2B: Structure (26–27)	
9 - 13 September	Semester Project Week	
16 - 20 September	Semester Review	
23 - 27 September	Final Examination	

Bangkok Christian College English Immersion Program
Course Scope for General Science Mathayom 4
Semester 1/2024-2025 Teacher Steven Fournier

Date	Contents	Comments/ Remarks
13 - 17 May	Physics:Introductions—Review of Newton's Three Laws, and pg 488-493 on speed, velocity R=D/T, interpreting graphs + worksheet (plus learning how to use formula triangles) **Worksheet 1**	
20 - 24 May	Discussions on acceleration (deceleration, constant speed, and acceleration) and how to interpret on a velocity vs time chart. Learning a=(v –u)/t and understanding information from data. Introduce Project 1: Graphing a runner in velocity and acceleration. (**Project 1**—Due in 3 weeks)	
27-31 May	Finish up to pg 501 and complete chapter questions in class. Prepare for Project on aspects of speed, acceleration, vectors, and interpreting data. Introduce Forces and Shape. Assign 504-512.	
3-7 June	Discuss balanced forces vs unbalanced forces. Different kinds of force (thrust, gravity, friction, air resistance, drag, circular force, torque, elastic) and calculating in Newtons. Finish 512- 528 **Quiz 1 on Chapters 1, 2 and 3.**	
10 – 14 June	Evaluate **Project 1.** Introduce Biology: Unit 1 Organisms and Life Processes, Pg 1-25. Relate Forces in Motion to life processes. Diffusion, Osmosis, ATP, use of oxygen.	
17 – 21 June	Discussion of variety in life, function, how viruses are not living. Complete mock tests in book on page 28 and Unit test on 29-30 Introduction to Unit 2--Animal Physiology. Look at different systems: Breathing and Gas Exchange (pg 35-46), Food and Digestion, 48-63, and Blood and Circulation 64-75.	
24 – 28 June	**Lab 1**—heart rate after exercise, heart rate after eating. Creating different stimulus to affect heart rate.	
1-5 July	**Quiz 2** on Biology Unit 1 and 2 (parts 1,2,3 to pg 75). Review Physics and Biology chapters (Forces in Motion, Organisms and Life Processes and Animal Physiology). Students missing work can catch up here.	
8-12 July	**Midterm Tests**	
15-19 July	Review Midterm, Biology Unit 2: Continue body systems: Coordination 77-89, Chemical coordination 91-95,	
22 – 26 July	Homeostasis and Excretion 97-102, and Reproduction 104-110.	28 Jul – King's Birthday
29 July- 2 August	**Quiz 3** on all of animal physiology (80% 4,5,6,7) and discussion about different animal systems. Presentation 1: Introduce an animal/organism with a unique adaption.	
5 - 9 August	Unit 3 Plant Physiology: Project 2: Grow some plants with different variables to see effects on growth. OR Build a terrarium. Hypothesize and then use data to support or reject your hypothesis. Start plants and foods 121-135.	
12 – 16 August	Transport in plants (pg 136-143) Chemical coordination in plants (145-150) Looking at products used in photosynthesis and movements through the different levels of the cell **(Worksheet 2)**	14 Aug – Queen's Birthday
19 - 23 August	Lab 2—preparing slides of onion cells. Looking for key components in plant cells. Reproduction in plants. 151-160. Slight discussion into genetic breeds and GMO's	
26 - 30 August	Project 2 Presentations and Quiz 4 on Plants (pg 121-160)	
2-6 September	Physics: Unit 4: Energy. How is energy used in plants and animals, and how does it physically move through the environment. Looking at stored energy (chemical: fats) and how those are transferred into mechanical energy (hence movement). Talk about efficiency in plants, animals, solar cells and other mechanisms. (pg 590-595)	
9 -13 September	Use Sankey diagrams, conservation of energy, and concepts of energy loss. Review for the finals.	
16 -20 September	Final Exam Week	

Bangkok Christian College English Immersion Program

Course Scope for Computer Studies Mathayom4

Semester 1/2024-2025 Teacher James Cookson

Date	Contents	Comments/ Remarks
13 - 17 May	HTML Introduction	
20 - 24 May	HTML Images/Links	
27-31 May	HTML Lists/Tables	
3-7 June	CSS Introduction	
10 – 14 June	CSS Colors/Borders	
17 – 21 June	CSS Element Alignment	
24 – 28 June	Midterm Project Intro	
1-5 July	Midterm Project	
8-12 July	Midterm Project	
15-19 July	JavaScript Intro	
22 – 26 July	JavaScript- Data Types	
29 July- 2 August	JavaScript – String Methods	
5 - 9 August	JavaScript – If Statements	
12 – 16 August	JavaScript – Arrays	
19 - 23 August	JavaScript – Functions	
26 - 30 August	JavaScript – Loops	
2-6 September	Final Project	
9 -13 September	Final Project	
16 -20 September	Final Exam Week	

Bangkok Christian College English Immersion Program

Course Scope for PE Mathayom 4

Semester 1/2024-2025 Teacher Collen Steinbring

Date	Contents	Comments/ Remarks
13-17 May	• Ice-Breaker/Introduction • What you want out of PE?	
20-24 May	• Pre-Fitness Test 1 ○ Full length field sprint	22 May – Visakha Bucha

27 May – 31 May	• Sport of Survey Choice 1/4
	  ○ History of sport
	  ○ Famous players
	  ○ Academic work (player, team, etc.)
	  ○ Drills for sport	

3-7 June	• Health - Social Etiquette	3 June – Queen's Birthday
10-14 June	• Pre-Fitness Test 2 - HIIT	
17-21 June	• Health - Eating for Goals	

24 June – 28 June	• Sport of Survey Choice 2/4
	  ○ History of sport
	  ○ Famous players
	  ○ Academic work (player, team, etc.)
	  ○ Drills for sport	

1-5 July	• Post-Fitness Test 1 - Full length field sprint	
8-12 July	• Health - Social Health	
15-19 July	• Play Sport of Survey Choice 2/4	
22-26 July	• Post-Fitness Test 2 - HIIT	22 July - Buddhist Lent Jul 29 - King's Birthday

29 July – 2 Aug	• Sport of Survey Choice 3/4
	  ○ History of sport
	  ○ Famous players
	  ○ Academic work (player, team, etc.)
	  ○ Drills for sport	

5-9 Aug.	• Health - Drugs, PED, Alcohol, Cigarette	
12-16 Aug.	• Fitness Game - Never Have I Ever	12 Aug – Mother's Day

19 Aug. – 23 Aug.	• Sport of Survey Choice 4/4
	  ○ History of sport
	  ○ Famous players
	  ○ Academic work (player, team, etc.)
	  ○ Drills for sport	

26 Aug – 30 Aug.	• Play Sport of Survey Choice 4/4	
2-6 Sept.	• Review for Final Exam • Play new sport	
9-13 Sept	In class Final Exam	
16-20 Sept	Final Exam Week	

Bangkok Christian College English Immersion Program

Course Scope for Physics Mathayom 4

Semester 1/2024-2025 Teacher Nicholas Barrett

Date	Contents	Comments/ Remarks
13 - 17 May	Introduction	
20 - 24 May	Speed, Velocity and Acceleration	
27-31 May	Distance-Time graphs and their interpretation	
3-7 June	Speed-Time graphs and their interpretation	
10 – 14 June	Test: Motion graphs	
17 – 21 June	Motion Graphs Project: (BTS Skytrain motion with extension tasks featuring displacement, vectors, and velocity)	
24 – 28 June	Motion Graphs Project: (BTS Skytrain motion with extension tasks featuring displacement, vectors, and velocity)	
1-5 July	Mass, weight and gravity, centre of gravity and air resistance	
8-12 July	Newton's Three Laws and their applications	
15-19 July	The fundamental characteristics of waves (e.g amplitude, frequency, period and more) vs. SHM	
22 – 26 July	Mechanical vs. Electromagnetic waves: the real-life applications of waves	
29 July- 2 August	Longitudinal vs Transverse waves	
5 - 9 August	Reflection and Refraction	
12 – 16 August	Snell's Law and the Critical angle of medium with a given refractive index	
19 - 23 August	Diffraction	
26 - 30 August	Experiment: Wave ripple tank and slinkys	
2-6 September	Momentum	
9 -13 September	Changes in momentum and impulse	
16 -20 September	Final Exam Week	

Bangkok Christian College English Immersion Program
Course Scope for Physics Project Science and Technology Mathayom 4
Semester 1/2024-2025 Teacher Steven Fournier.

Date	Contents	Comments/ Remarks
13 - 17 May	Introductions—Review of Newton's Three Laws, and pg 488-493 on speed, velocity R=D/T, introduce interpreting graphs + worksheet (plus learning how to use formula triangles) **Worksheet 1**	
20 - 24 May	Discussions on acceleration (deceleration, constant speed, and acceleration) Learning a=(v – u)/t and understanding information from data. Prepare for suvat equations. (Graphing with Nick)	
27-31 May	Finish up to pg 501 and complete chapter questions in class. Prepare for Project on aspects of speed, acceleration, vectors, and interpreting data. Introduce **Project 1**: Graphing a runner in velocity and acceleration. (Project 1—Due in 3 weeks)	
3-7 June	Introduce Forces and Shape. Assign 504-512. Discuss balanced forces vs unbalanced forces. Different kinds of force (thrust, gravity, friction, air resistance, drag, circular force, torque, elastic) and calculating in Newtons. + Talk about the fundamental forces and how they play a role in all things (Gravity, Electromagnetism, Strong, Weak) **Quiz 1 on Chapters 1 and 2.**	
10 – 14 June	Pre read 514-525. Introduce kinematic equations, go into real world situations with breaking questions (thinking distance + breaking distance + frictional effects). Prepare for project presentations. Looking at terminal velocity.	
17 – 21 June	**Project 1 due—**presentations on graphing a runner and determining velocity and acceleration through different points in a run.	
24 – 28 June	Experiment: Paper Helicopters. Design experiments using independent variables. Explain motions by free body diagrams and analysis of forces. Designing your own experiment + writing it up (**Lab 1**)	
1-5 July	Review Forces in Motion, Review 489-527 Do the Unit questions and past papers as prep for **Quiz 2: Review on Forces in Motion**. Prepare for Midterm.	
8-12 July	**Midterm Tests and some counselling on scores. Also a chance for students to catch up on missing assignments/projects or other required elements.**	
15-19 July	Introduction to Energy: Pg 590-597. Discuss energy stores and transfers, the conservation of energy, and Sankey diagrams. **Worksheet 2**	
22 – 26 July	Pg 597-603,looking at aspects of heat, conduction, convection, effects on weather patterns, radiation, and experiments with heat.	
29 July- 2 August	**Project 2**: How should Thailand use its heat/energy to increase productivity? Assigned. (three weeks to develop). Research aspects of heat related power (solar, wind, heating water, hydroelectric, capturing kinetic energy from rain…). Also energy efficiency and its importance.	
5 - 9 August	**Using Air flow to create work (Hot air rises (lift), replaced by low air vacuum.)**	
12 – 16 August	Discussions on potential energy(pe=mgh), kinetic energy($ke=1/2mv^2$), how a pendulum works (pe relationship to ke) **Quiz 3** on Parts 1 and 2 + feedback. Introduction to Part 12, Pages 608-615.	
19 - 23 August	Aspects of Work. Work = Force x distance leading to Power = work/time. **Worksheet 2 on potential energy, kinetic energy and work. Lab 2: Calculating work (going up stairs) in groups.**	
26 - 30 August	**Project 2**: Introduction of Projects on converting energy in Thailand. Debate: What things should be improved with energy, what things should be eliminated? Oil/Coal burning factories, nuclear power, solar, hydro. (if time) about power creation and the future of power (nuclear, fusion, annihilation)	
2-6 September	Debate Lab 2 due. Unit questions 616-617, **Lab 3**—creating a bottle rocket (if time available) and **Quiz 4** on all of Energy	
9 -13 September	Prep for final exam. Past papers on Forces in Motion and Energy. Work catch up for those missing assignments. Lab 3 due (if time)	
16 -20 September	Review + Mock tests + Interviews with students over marks, missing assignments and one to one feedback.	
23 -27 Sept.	Final Exam Week	

Bangkok Christian College English Immersion Program

Course Scope for Course Scope for Statistics Mathayom 4
Semester 1/2024-2025 Teacher Vincent Ellison

Date	Contents	Comments/ Remarks
16-20 May	**Mathematical modelling:** Students will understand what mathematical modelling is. Design a simple mathematical model. **Measures of location and spread**: Students will recognize different types of data. Calculate measures of central tendency such as the mean, median and mode. Statistics book1 Chapter 1	16 May – Visakha Bucha
23-27 May	**Measures of central tendency:** Students will calculate measures of central tendency such as the mean, median and mode. Students will understand modal class and calculate estimated means and use the correct statistical language. **Measures of central tendency:** Students will calculate measures of central tendency such as the mean, median and mode Students will understand modal class and calculate estimated means and use the correct statistical language. Statistics book 1 Chapter 2	
30 May – 3 June	**Measures of central tendency:** Students will calculate measures of location such as quartiles and percentiles Students will understand modal class and calculate estimated means and use the correct statistical language. **Measures of central tendency:** Students will calculate measures of central tendency such as the mean, median and mode Students will understand modal class and calculate estimated means and use the correct statistical language.	3 June – Queen's Birthday
6-10 June	**Measures of central tendency:** Students will calculate measures of central tendency such as the mean, median and mode.Students will understand modal class and calculate estimated means and use the correct statistical language. **Measures of central tendency:** Students will calculate measures of central tendency such as the mean, median and mode.Students will understand modal class and calculate estimated means and use the correct statistical language. Statistics book 1 Chapter 2	

13-17 June	**Measures of central tendency:** Students will calculate measures of central tendency such as the mean, median and mode Students will understand modal class and calculate estimated means and use the correct statistical language. **Measures of central tendency:** Students will calculate measures of central tendency such as the mean, median and mode Students will understand modal class and calculate estimated means and use the correct statistical language. Statistics book 1 Chapter 2	
20-24 June	**Representations of data -histograms** Students will be able draw and interpret histograms Students will use the formula frequency density = frequency/class width. Book 1 chapter 3 **Draw and interpret boxplots** Students will calculate lower quartile,upper quartile and IQR. Students will compare boxplots and interpretate data. Book 1 chapter 3	
27 June – 1 July	**Representations of data – STEM AND LEAF DIAGRAMS** Students will be able draw and interpret STEM AND LEAF DIAGRAMS Students will be able to calculate LQ,UQ AND IQR. **Variance and Standard deviation** Students will calculate the spread of data by using formulae . Students will calculate estimates from tables. Book 1 Chapter 2 Book 1 Chapter 3	
4-8 July	**Representations of data – STEM AND LEAF DIAGRAMS** Students will be able to recognize the shape of the distribution using diagrams, measures of location. Students will be able to say if the diagram is symmetrical, have positive or negative skew. **Comparing data** Students will be able to compare data by measure of location.Students will calculate mean and standard deviation. Book 1 chapter 3	

	Book 1 chapter 2	
11-15 July	**Comparing data** Students will be able to recognize the shape of the distribution using diagrams, measures of location. Students will be able calculate mean, variance and standard deviation. **Venn diagrams** Students will be able to use the correct notation. Students will calculate probabilities and use the correct vocabulary. Book 1 chapter 3 Book 1 Chapter 4	Jul 13-15 Asalha Bucha / Bhuddist Lent Holidays
18-22 July	**Tree diagrams** Students will be able to label branches with either/fractions or percentages. Students will be able calculate probabilities, knowing probability adds to 1. Statistics Book 1 chapter 4	
25-29 July	**Correlation and regression** Students will be able to plot variables and recognise correlation. Students will be able to plot the line of best fit and estimate values. Book 1 chapter 5	Jul 28-29 King's Birthday
1-5 Aug. **8-12 Aug.**	**Linear regression** Students will be able to draw a line of best fit. Students will be able to use the regression line and formula $y = a + bx$. **Calculating least squares linear regression** Students will be able to plot bivariate data.Students will be able to predict values of the dependent (response) variable for given values of the independent (explanatory) variable. Statistics book 1 chapter 5 **The product moment correlation coefficient** Students will be able to recognize that the PMCC can take values between 1 and -1. Students will be able to use the formula. Statistics Book 1 chapter 5	Aug 12 – Queen's Birthday
15-19 Aug.	**Finding the cumulative distribution function for a discrete random variable** Students will know that if a particular value of X is x, the probability that X is less than or equal to x is written F(x). Students will be know that F(x) is found by adding together all the probabilities for those outcomes that are less than or equal to x. **Expected value of a discrete random variable**.	

	Students will be able to recognize the expected value is sometimes referred to as the mean, denoted by μ. Students will be able to write down the probability distribution of X. Statistics book 1 chapter 6	
22-26 Aug.	**Variance of a discrete random variable** Students will know that the variance is sometimes denoted by ð². Students will know that the variance of X is usually written as Var (X). **Variance of a discrete random variable** Students will know that the variance is sometimes denoted by ð². Students will know that the variance of X is usually written as Var (X). Statistics book 1 chapter 6	
29 Aug. – 2 Sept.	**Expected value and variance of a function of X** Students will calculate the value of g(X) using the formula E(g(X)) = ∑g(x)P(X=x). Students will calculate values from the probability distribution. **Expected value and variance of a function of X** Students will calculate the value of g(X) using the formula E(g(X)) = ∑g(x)P(X=x). Students will calculate values from the probability distribution. Statistics book 1 chapter 6	
5-9 Sept.	**Solving problems involving random variables** Students will deduce the mean and variance from two random variables. Students will rearrange to get an expression for X in terms of Y. **Solving problems involving random variables** Students will deduce the mean and variance from two random variables. Students will rearrange to get an expression for X in terms of Y. Statistics book 1 chapter 6	
12-16 Sept.	**Using discrete distribution as a model for the probability distribution of the outcomes of certain experiments.** Students will follow the conditions for discrete uniform distribution . Students will know each value is equally likely, in other words: P (X=x) =1/n for each x. **Using discrete distribution as a model for the probability distribution of the outcomes of certain experiments.** Students will follow the conditions for discrete uniform distribution . Students will know each value is equally likely, in other words: P (X=x) =1/n for each x . Statistics book 1 chapter 6	

19-23 Sept	**The normal distribution** Students will understand the normal distribution curve and its characteristics . Students will know that the area under a continuous probability distribution is equal to 1. **The normal distribution** Students will understand the normal distribution curve and its characteristics . Students will know that the area under a continuous probability distribution is equal to 1. Statistics book 1 chapter 7	

Bangkok Christian College English Immersion Program

Course Scope for Mathematics Mathayom 4 Track 2

Semester 1/2024-2025 Teacher Andrew Joslin

Date	Contents	Comments/ Remarks
13 - 17 May	Sets Set Notation Set Operations	
20 - 24 May	Subsets Venn Diagrams Applications	
27-31 May	Laws of indices Negative and Fractional Indices	
3-7 June	Expanding Brackets Simple Factorising	
10 – 14 June	Surds Rationalising Denominators	
17 – 21 June	Gradient of a Straight Line Plotting Straight Line graphs Straight Line Conversion Graphs	
24 – 28 June	Straight-Line Graphs Sketching Straight line graphs Parallel and Perpendicular Lines	
1-5 July	Quadratic Graphs The Quadratic Equation	
8-12 July	Solving Quadratic Equations The quadratic formula	
15-19 July	Linear Simultaneous Equations Graphs Elimination	
22 – 26 July	Substitution Quadratic Simultaneous Equations	
29 July- 2 August	Linear Inequalities Quadratic Inequalities	
5 - 9 August	Cubic Graphs Reciprocal Graphs	
12 – 16 August	Transforming graphs Single transformations Transforming functions	
19 - 23 August	Trigonometry SOHCAHTOA	
26 - 30 August	Trigonometry Bearings	
2-6 September	Trigonometry Sine rule and cosine rule	
9 -13 September	Review	
16 -20 September	Final Exam Week	