UNITED ARAB EMIRATES
MINISTRY OF EDUCATION

الإمارات العربية المتحدة
وزارة التربية والتعليم

Grade 11 General Stream
Scheme of Work, Term 2, Academic Year 2022-2023

Purpose

- to define the **required** General Stream Mathematics Student Learning Outcomes to be covered during the term for this grade
- to **recommend** the pace at which the Student Learning Outcomes are to be covered. The term's content is broken down into nine teaching weeks, allowing the coverage of topics within each week to be flexible.

Assessment

- Assessment details for Term 2 will be communicated separately.

Teachers should incorporate the Standards for Mathematical Practice (SMPs) in their instruction when and where appropriate. The Standards for Mathematical Practice are

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Why are the Standards for Mathematical Practice important?

The Standards for Mathematical Practice set expectations for using mathematical language and representations to reason, solve problems, and model in preparation for careers and a wide range of college majors.

Week 1: Jan. 2 – Jan. 6, 2023				
CHAP NBR	**CHAP TITLE**	**LESSON NBR**	**LESSON TITLE**	**Slo.EN**
know your students, establish classroom routines, and finalize class lists. It is also an opportunity to review .prerequisite concepts and skills which students will need for Grade 11 and to administer teacher-created diagnostics				
Chapter 5	**الدوال والعلاقات العكسية والجذرية Inverses and Radical Functions and Relations**	**Lesson 1**	**العمليات على الدوال Operations on Functions**	**MAT.5.06.03.001 Find the sum, difference, product, and quotient of functions MAT.5.06.03.002 Find the composition of functions**
Chapter 5	**الدوال والعلاقات العكسية والجذرية Inverses and Radical Functions and Relations**	**Lesson 2**	**العلاقات والدوال العكسية Inverse Functions and Relations**	**MAT.5.06.03.003 Find the inverse of a function or relation MAT.5.06.03.004 Determine whether two functions or relations are inverses**

Week 2: Jan. 9 – 13, 2023				
CHAP NBR	**CHAP TITLE**	**LESSON NBR**	**LESSON TITLE**	**Slo.EN**
Chapter 5	**الدوال والعلاقات العكسية والجذرية Inverses and Radical Functions and Relations**	**Lesson 3**	**دوال الجذر التربيعي والمتباينات Square Root Functions and Inequalities**	**MAT.5.07.02.001 Graph and analyze radical functions MAT.2.02.14.002 Graph square root inequalities**

Chapter 5	الدوال والعلاقات العكسية والجذرية Inverses and Radical Functions and Relations	Lesson 4	الجذور النونية nth Roots	MAT.2.02.14.003 Simplify radicals MAT.2.02.14.004 Use a calculator to approximate radicals
Chapter 5	الدوال والعلاقات العكسية والجذرية Inverses and Radical Functions and Relations	Lesson 5	العمليات الحسابية على التعابير الجذرية Operations with Radical Expressions	MAT.2.02.14.005 Simplify radical expressions MAT.2.02.14.006 Add, subtract, multiply, and divide radical expressions

Week 3: Jan. 16 – 20, 2023				
CHAP NBR	CHAP TITLE	LESSON NBR	LESSON TITLE	Slo.EN
Chapter 5	الدوال والعلاقات العكسية والجذرية Inverses and Radical Functions and Relations	Lesson 6	الأسس النسبية Rational Exponents	MAT.2.02.14.008 Write expressions with rational exponents in radical form and vice versa MAT.2.02.14.010 Simplify expressions in exponential or radical form
Chapter 5	الدوال والعلاقات العكسية والجذرية Inverses and Radical Functions and Relations	Lesson 7	حل المعادلات الجذرية والمتباينات Solving Radical Equations and Inequalities	MAT.2.02.14.011 Solve equations containing radicals MAT.2.02.14.012 Solve inequalities containing radicals

Week 4: Jan. 23 – 27, 2023				
CHAP NBR	**CHAP TITLE**	**LESSON NBR**	**LESSON TITLE**	**Slo.EN**
Chapter 6	**الدوال والعلاقات الأسيّة واللوغاريتمية Exponential and Logarithmic Functions and Relations**	**Lesson 1**	**اللوغاريتمات والدوال اللوغاريتمية Logarithms and Logarithmic Functions**	**1. Evaluate logarithmic expressions. 2. Graph logarithmic function**
Chapter 6	**الدوال والعلاقات الأسيّة واللوغاريتمية Exponential and Logarithmic Functions and Relations**	**Lesson 2**	**حل المعادلات والمتباينات اللوغاريتمية Solving Logarithmic Equations and Inequalities**	**1. Solve logarithmic equations. 2. Solve logarithmic inequalities**
Chapter 6	**الدوال والعلاقات الأسيّة واللوغاريتمية Exponential and Logarithmic Functions and Relations**	**Lesson 3**	**خواص اللوغاريتمات Properties of Logarithms**	**1. Simplify and evaluate expressions using the properties of logarithms. 2. Solve logarithmic equations using the properties of logarithms.**

Week 5: Jan. 30 – Feb. 3, 2023				
CHAP NBR	**CHAP TITLE**	**LESSON NBR**	**LESSON TITLE**	**Slo.EN**

Chapter 6	**الدوال والعلاقات الأسيّة واللوغاريتمية Exponential and Logarithmic Functions and Relations**	**Lesson 4**	**اللوغاريتمات العادية Common Logarithms**	**1. Solve exponential equations and inequalities using common logarithms. 2. Evaluate logarithmic expressions using the Change of Base Formula.**
Chapter 6	**الدوال والعلاقات الأسيّة واللوغاريتمية Exponential and Logarithmic Functions and Relations**	**Lesson 5**	**واللوغاريتمات الطبيعية e الأساس Base e and Natural Logarithms**	**1. Evaluate expressions involving the natural base and natural logarithm. 2. Solve exponential equations and inequalities using natural logarithms.**
Chapter 6	**الدوال والعلاقات الأسيّة واللوغاريتمية Exponential and Logarithmic Functions and Relations**	**Lesson 6**	**استخدام الدوال الأسيّة واللوغاريتمية Using Exponential and Logarithmic Functions**	**1. Use logarithms to solve problems involving exponential growth and decay. 2. Use logarithms to solve problems involving logistic growth.**

Week 6: Feb. 6 – 10, 2023				
CHAP NBR	**CHAP TITLE**	**LESSON NBR**	**LESSON TITLE**	**Slo.EN**

Chapter 7	الدوال والعلاقات النسبية Rational Functions and Relations	Lesson 1	ضرب التعابير النسبية وقسمتها Multiplying and Dividing Rational Expressions	1. Simplify rational expressions. 2. Simplify complex fractions
Chapter 7	الدوال والعلاقات النسبية Rational Functions and Relations	Lesson 2	جمع التعابير النسبية وطرحها Adding and Subtracting Rational Expressions	1. Determine the LCM of polynomials. 2. Add and subtract rational expressions.
Chapter 7	الدوال والعلاقات النسبية Rational Functions and Relations	Lesson 3	تمثيل دوال المقلوب بيانيًا Graphing Reciprocal Functions	1. Determine properties of reciprocal functions. 2. Graph transformations of reciprocal functions.

Week 7: Feb. 13 – 17, 2023				
CHAP NBR	CHAP TITLE	LESSON NBR	LESSON TITLE	Slo.EN
Chapter 7	الدوال والعلاقات النسبية Rational Functions and Relations	Lesson 4	التمثيل االبياني للدوال النسبية Graphing Rational Functions	1. Graph rational functions with vertical and horizontal asymptotes. 2. Graph rational functions with oblique asymptotes and point discontinuity
Chapter 7	الدوال والعلاقات النسبية Rational Functions and Relations	Lesson 5	حل المعادلات والمتباينات النسبية Solving Rational Equations and Inequalities	1. Solve rational equations. 2. Solve rational inequalities.

Week 8: Feb. 20 – 24, 2023				
CHAP NBR	**CHAP TITLE**	**LESSON NBR**	**LESSON TITLE**	**Slo.EN**
Chapter 8	**المتتاليات والمتسلسلات Sequences and Series**	**Lesson 1**	**المتتاليات كدوال Sequences as Functions**	**1. Relate arithmetic sequences to linear functions. 2. Relate geometric sequences to exponential functions.**
Chapter 8	**المتتاليات والمتسلسلات Sequences and Series**	**Lesson 2**	**المتتاليات والمتسلسلات الحسابية Arithmetic Sequences and Series**	**1. Use arithmetic sequences. 2. Find sums of arithmetic series.**
Chapter 8	**المتتاليات والمتسلسلات Sequences and Series**	**Lesson 3**	**المتتاليات والمتسلسلات الهندسية Geometric Sequences and Series**	**1. Use geometric sequences. 2. Find sums of geometric series.**

Week 9: Feb. 27 – Mar. 3, 2023				
CHAP NBR	**CHAP TITLE**	**LESSON NBR**	**LESSON TITLE**	**Slo.EN**
Chapter 8	**المتتاليات والمتسلسلات Sequences and Series**	**Lesson 4**	**نظرية ذات الحدين The Binomial Theorem**	**1. Use Pascal's Triangle to write binomial expansions. 2. Use the Binomial Theorem to write and find the coefficients of specified terms in binomial expansions.**
Chapter 8	**المتتاليات والمتسلسلات Sequences and Series**	**Lesson 5**	**الاستقراء الرياضي Mathematical Induction**	**1. Use mathematical induction to prove summation formulas**

				and properties of divisibility involving a positive integer n. **2. Use extended mathematical induction.**

Week 10: March 6 –10, 2023 **Week 11: March 13 –17, 2023** **Week 12: March 20 –24, 2023**
Term 2 Revision/EOT Exams