شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية

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الخطة الفصلية المسار المتقدم - بريدج

التواصل الاجتماعي بحسب الصف الحادي عشر المتقدم

روابط مواد الصف الحادي عشر المتقدم على تلغرام

التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات

المزيد من الملفات بحسب الصف الحادي عشر المتقدم والمادة رياضيات في الفصل الثالث

1	حل أسئلة الامتحان النهائي الالكتروني بريدج وريفيل
2	حل أسئلة الاختبار التحريبي نخبة
3	أسئلة نموذج تدريبي ريفيل
4	حل مراجعة أسئلة وفق الهيكل الوزاري
5	أسئلة الاختبار التحريبي الأول نخبة

UNITED ARAB EMIRATES
MINISTRY OF EDUCATION

الإمارات العربية المتحدة
وزارة التربية والتعليم

Grade 11 Advanced Stream
Scheme of Work, Term 3, Academic Year 2022-2023

Purpose
- to define the **required** Advanced 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 eight teaching weeks, allowing the coverage of topics within each week to be flexible.

Assessment
- Assessment details for Term 3 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: April 17 – 21, 2023 (Ramadan ends ~April 20; Eid al-Fitr ~April 20 – 23)		
Chapter 8 – Polar Coordinates and Complex Numbers		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
8-1 Polar Coordinates	• Graph points with polar coordinates. • Graph simple polar equations.	**N.CN.4** Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number. **N.CN.5** Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. *For example,* $(-1+\sqrt{3}i)^3 = 8$ *because* $(-1+\sqrt{3}i)$ *has modulus* 2 *and argument* $120°$. **N.CN.6** Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.

Week 2: April 24 – 28, 2023		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
8-2 Graphs of Polar Equations	• Graph polar equations. • Identify and graph classical curves.	**N.CN.4** Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number. **N.CN.5** Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. *For example,* $\left(-1+\sqrt{3}i\right)^3 = 8$ *because* $\left(-1+\sqrt{3}i\right)$ *has modulus* 2 *and argument* $120°$. **N.CN.6** Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.
8-3 Polar and Rectangular Forms of Equations	• Convert between polar and rectangular coordinates. • Convert between polar and rectangular equations.	

Week 3: May 1 – 5, 2023		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
8-5 Complex Numbers and De Moivre's Theorem	• Convert complex numbers from rectangular to polar form and vice versa. • Find products, quotients, powers, and roots of complex numbers in polar form.	**N.CN.4** Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number. **N.CN.5** Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. *For example,* $\left(-1+\sqrt{3}i\right)^3 = 8$ *because* $\left(-1+\sqrt{3}i\right)$ *has modulus* 2 *and argument* $120°$. **N.CN.6** Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.

Week 4: May 8 – 12, 2023		
Chapter 9 – Sequences and Series		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
C9L1 – Sequences as Functions	• Relate arithmetic sequences to linear functions. • Relate geometric sequences to exponential functions.	**F.IF.3** Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by* $f(0) = f(1) = 1$, $f(n+1) = f(n) + f(n-1)$ *for* $n \geq 1$. **F.BF.1** Write a function that describes a relationship between two quantities. **F.BF.1a** Determine an explicit expression, a recursive process, or steps for calculation from a context.
C9L2 – Sequences, Series, and Sigma Notation	• Investigate several different types of sequences. • Use sigma notation to represent and calculate sums of series.	

Week 5: May 15 – 19, 2023		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
C9L3 – Arithmetic Sequences and Series	• Find the nth term and arithmetic means of arithmetic sequences. • Find sums of arithmetic series.	**F.BF.2** Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms. **F.LE.1** Distinguish between situations that can be modeled with linear functions and with exponential functions. **F.LE.1a** Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. **F.LE.2** Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). **A.SSE.4** Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems.
C9L4 – Geometric Sequences and Series	• Find the nth term and geometric means of geometric sequences. • Find sums of geometric series.	

Week 6: May 22 – 26, 2023		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
C9L5 – Infinite Geometric Series	• Find sums of infinite geometric series. • Write repeating decimals as fractions.	**F.BF.2** Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms. **F.LE.1** Distinguish between situations that can be modeled with linear functions and with exponential functions. **F.LE.1a** Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. **F.LE.2** Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).
C9L6 – Recursion and Iteration	• Recognize and use special sequences. • Recognize recursive functions.	**F.IF.3** Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by* $f(0) = f(1) = 1$, $f(n+1) = f(n) + f(n-1)$ *for* $n \geq 1$. **F.BF.1** Write a function that describes a relationship between two quantities. **F.BF.1a** Determine an explicit expression, a recursive process, or steps for calculation from a context.

Week 7: May 29 – June 2, 2023		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
C9L7 – The Binomial Theorem	• Use Pascal's Triangle to write binomial expansions. • Use the Binomial Theorem to expand powers of binomials.	**A.APR.5** Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle. (*The Binomial Theorem can be proved by mathematical induction or by a combinatorial argument.*)

Week 8: June 5 – 9, 2023		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
C9L8 – Proof by Mathematical Induction	• Prove statements by using mathematical induction. • Disprove statements by finding a counterexample.	**A.APR.5** Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle. (*The Binomial Theorem can be proved by mathematical induction or by a combinatorial argument.*)

Week 9: June 12 – 16, 2023 Week 10: June 19 – 23, 2023 Week 11: June 26 – 30, 2023
Term 3 Revision and End-of-Term Exam **Exam date to be determined by the Assessment Directorate**