Grade 12 AP Mock Exam 1 Study List

Wednesday, October 16 – Wednesday, October 23	Grade 12 Eng/CS/ Medical

Subject	Unit/Lesson	Pages/Reference
AP Computer Science A **CS/Eng Students**	**Unit 1: Variables** 1.2 Variable & Data Types 1.3 Expression & Assignment Operators 1.4 Compound Assignment Operators 1.5 Casting and Ranges of Variables Unit 2: Using Objects 2.1 Objects: Instances of Classes 2.2 Creating and Storing Objects (Instantiation) 2.3 Calling a Void Method 2.7 String Methods 2.8 Wrapper Classes: Integer and Double 2.9 Using the Math Class **Unit 3: Boolean Expressions and IF statements** 3.1 Boolean Expressions 3.2 if Statements and Control Flow 3.3 if-else Statements 3.4 else if Statements 3.5 Compound Boolean Expressions 3.6 Equivalent Boolean Expressions 3.7 Comparing Objects **Unit 4: Iteration** 4.2 for Loops 4.3 Developing Algorithms Using Strings 4.3 Developing Algorithms Using Strings **Unit 6: Array** 6.1 Array Creation and Access 6.2 Traversing Arrays	AP Classroom. Presentation on LMS. 5 Steps to a 5 in AP CS A.

	6.3 Enhanced for Loop for Arrays 6.4 Developing Algorithms Using Arrays	
AP Calculus AB	**Unit 1** • Introducing Calculus - Can Change Occur at an Instant? • Defining Limits and Using Limit Notation • Estimating Limit Values from Graphs • Estimating Limit Values from Tables • Determining Limits Using Algebraic Properties of Limits • Determining Limits Using Algebraic Manipulation • Selecting Procedures for Determining Limits • Determining Limits Using the Squeeze Theorem • Connecting Multiple Representations of Limits • Exploring Types of Discontinuities • Defining Continuity at a Point • Confirming Continuity over an Interval • Removing Discontinuities • Connecting Infinite Limits and Vertical Asymptotes • Connecting Limits at Infinity and Horizontal Asymptotes • Working with the Intermediate Value Theorem (IVT) **Unit 2** • Defining Average and Instantaneous Rates of Change at a Point • Defining the Derivative of a Function and Using Derivative Notation • Estimating Derivatives of a Function at a Point	• The main source for exam questions is the AP Classroom website • For studying, all the presentations, Quizzes, Unit tests and Homeworks. • For more practice, use Khan Academy.

	• Connecting Differentiability and Continuity - Determining When Derivatives Do and Do Not Exist • Applying the Power Rule • Derivative Rules - Constant, Sum, Difference, and Constant Multiple • Derivatives of cos x, sin x, ex, and ln x • The Product Rule • The Quotient Rule • Finding the Derivatives of Tangent, Cotangent, Secant, and/or Cosecant Functions **Unit 3** • The Chain Rule • Implicit Differentiation • Differentiating Inverse Functions • Differentiating Inverse Trigonometric Functions • Selecting Procedures for Calculating Derivatives • Calculating Higher-Order Derivatives	
AP Physics C: Mechanics	**Unit 1** 1.1 Scalars and Vectors 1.2 Displacement, Velocity, and Acceleration 1.3 Representing Motion 1.4 Reference Frames and Relative Motion 1.5 Motion in Two or Three Dimensions **Unit 2** 2.1 Systems and Center of Mass 2.2 Forces and Free-Body Diagrams 2.3 Newton's Third Law 2.4 Newton's First Law 2.5 Newton's Second Law 2.6 Gravitational Force 2.7 Kinetic and Static Friction 2.8 Spring Forces	

	2.9 Resistive Forces 2.10 Circular Motion	
AP Chemistry	**Unit 1** 1.1 Moles and Molar Mass 1.2 Mass Spectroscopy of Elements 1.3 Elemental Composition of Pure Substances 1.4 Composition of Mixtures 1.5 Atomic Structure and Electron Configuration 1.6 Photoelectron Spectroscopy 1.7 Periodic Trends 1.8 Valence Electrons and Ionic Compounds **Unit 2** 2.1 Types of Chemical Bonds 2.2 Intramolecular Force and Potential Energy 2.3 Structure of Ionic Solids 2.4 Structure of Metals and Alloys 2.5 Lewis Diagrams 2.6 Resonance and Formal Charge 2.7 VSEPR and Bond Hybridization **Unit 3** 3.1 Intermolecular Forces 3.2 Properties of Solids 3.3 Solids, Liquids, and Gases 3.4 Ideal Gas Law 3.5 Kinetic Molecular Theory 3.6 Deviation from Ideal Gas Law 3.7 Solutions and Mixtures 3.8 Representations of Solutions 3.9 Separation of Solutions and Mixtures Chromatography	**AP Classroom** **LMS**

	3.10 Solubility 3.11 Spectroscopy and the Electromagnetic Spectrum 3.12 Photoelectric Effect 3.13 Beer-Lambert Law **Unit 4** 4.1 Introduction for Reactions 4.2 Net Ionic Equations 4.3 Representations of Reactions 4.4 Physical and Chemical Changes 4.5 Stoichiometry **Unit 5** 5.1 Reaction Rates 5.2 Introduction to Rate Law 5.3 Concentration Changes Over Time 5.4 Elementary Reactions 5.5 Collision Model 5.6 Reaction Energy Profile 5.7 Introduction to Reaction Mechanisms 5.8 Reaction Mechanism and Rate Law 5.9 Steady-State Approximation 5.10 Multistep Reaction Energy Profile 5.11 Catalysis	
AP Biology **Medical Students**	Unit 1 1.1 Structure of Water and Hydrogen Bonding 1.2 Elements of Life 1.3Introduction Biological Macromolecules 1.4Properties of Biological Macromolecules 1.5 Structure and Function of Biological Macromolecules 1.6 Nucleic Acids	AP Classroom, LMS, Khan Academy, McGraw Hill-5 Steps

	Unit 2 2.1 Cell Structure: Subcellular Components 2.2 Cell Structure and Function 2.3 Cell Size 2.4 Plasma Membranes 2.5 Membrane Permeability 2.6 Membrane Transport 2.10 Cell Compartmentalization Unit 3 3.1Enzyme Structure 3.2Enzyme Catalysis 3.3Environmental Impacts on Enzyme Function 3.4 Cellular Energy 3.5 Photosynthesis 3.6 Cellular Respiration Unit 4 4.1 Cell Communication 4.2 Introduction to Signal Transduction 4.3 Signal Transduction 4.4 Changes in Signal Transduction Pathways 4.5 Feedback 4.6 Cell Cycle 4.7 Regulation of Cell Cycle 4.8 Mitosis Unit 5 5.1 Meiosis 5.2 Meiosis and Genetic Diversity 5.3 Mendelian Genetics 5.4 Non-Mendelian Genetics 5.5 Environmental Effects on Phenotype 5.6 Chromosomal Inheritance	
English	• Topic Sentences and their Use • Essay structure (Intro, BP etc.) • Modifying Nouns • SAT L1 Vocab • GW Unit 1 Vocab • Subject-Verb Agreement	• IXL J1 and J2 • MyELT Review Activities • GW Unit 1 – p19 • SAT Vocab Folder • GW Vocab Folder • IXL AA1

الحفظ	قصيدة غربة وحنين من 1 إلى 7 قصيدة صدى الحياة من 1 إلى 10	اللغة العربية
القضايا الأدبية	مدرسة الإحياء المدرسة الرومانسية	
البلاغة:	التشبيه والاستعارة المحسنات البديعية	
الكلمة والجملة	أفعال المقاربة والرجاء والشروع أدوات الشرط الجازمة أدوات الشرط غير الجازمة	
القراءة	إقناعي شعري خاطرة قصة قصيرة	
الكتابة	نص نقاشي نص تفسيري	

	-أحكام التجويد (المدود - أحكام الميم الساكنة). حفظ سورة الحشر (1-10). - تقوى الله والاعتصام بدينه. - إعجاز القرآن الكريم. - أثر العقيدة الاسلامية في بناء شخصية المسلم. - أحكام الجهاد.	**التربية الإسلامية**

مع تمنياتنا لأبنائنا الطلبة بالتوفيق والنجاح