

## **LC Accounting H Course 1**

### **Interpretation of Accounts (Ratio Analysis) – 100m**

- List of Formulas & Explanations.
- Technic & Explanation of how-to best answer Part B.
- Part C Theory from previous years included.
- Full 100m worked solution with notes included.

### **Cash Flow Statements – 60m & 100m**

- Answer Template given for both 60m & 100m.
- All Theory included from previous years.
- Full 60m & 100m worked solution with notes included.

## **LC Accounting H Course 2**

### **Tabular Statements**

- Answer Template given for both 60m & 100m.
- All Theory included from previous years.
- Full 60m & 100m worked solution with notes included.

### **Published Accounts**

- Answer Template given for both 60m & 100m.
- All Theory included from previous years.
- Full 60m & 100m worked solution with notes included.

## **LC Accounting H Course 3**

### **Suspense Accounts**

- Answer Template given for both 60m & 100m.
- All Theory included from previous years.
- Full 60m & 100m worked solution with notes included.

### **Incomplete Records A**

- Answer Template given for both 60m & 100m.
- All Theory included from previous years.
- Full 60m & 100m worked solution with notes included.

## **LC Accounting H Course 4**

### **Club Accounts**

- Answer Template given for both 60m & 100m.
- All Theory included from previous years.
- Full 60m & 100m worked solution with notes included.

### **Farm Accounts**

- Answer Template given for both 60m & 100m.
- All Theory included from previous years.
- Full 60m & 100m worked solution with notes included.

### **Depreciation Fixed Assets**

- Answer Template given for both 60m & 100m.
- All Theory included from previous years.
- Full 60m & 100m worked solution with notes included.

## LC Applied Maths H Course 1

### **Question 1:**

- Uniform Acceleration: Solved Exam Problems (These techniques are vital to the rest of the examination).

### **Question 2:**

- Projectiles: Both Horizontal & Vertical Displacements.

### **Question 4:**

- Connected Particles: This is basically an application of Newton's Laws. Overview of style of 3 (With Sub Styles) Main Broad Question Types posed over the last 40 years.

### **Question 5:**

- Application of Newton's Laws from Question 4. Overview of 5 LCH Main Question Types posed over the last 40 years.

## LC Applied Maths H Course 2

### **From Murphy:**

- *Chapter 9:* Differentiation & Integration.
- *Chapter 10:* Differential Equations.

## **LC Ag Science H Course 1**

- Crop Management.
- Sheep.
- Dairy.
- Kale.
- Project Information.

## **LC Ag Science H Course 2**

- Grassland.
- Soil.
- Beef.
- Pigs.
- Project Information.

## **LC Biology H Course 1**

- Digestive System.
- Respirations.
- Enzymes.
- Food.

## **LC Biology H Course 2**

- Variation & Evolution.
- Genetic Engineering.
- Genetic Crosses.
- DNA & RNA.

## **LC Biology H Course 3**

- Reproductive System.
- Circulatory System.
- Breathing System.
- Nervous System.

## **LC Biology H Course 4**

- Defence System.
- Cell Division.
- Bacteria.
- Viruses.
- Fungi.

## **LC Biology H Course 5 – Easter Only**

- Plant Reproduction.
- Plant Transport.
- Plant Structure.
- Plant Responses.

## **LC Biology H Course 6 – Easter Only**

- Skeleton & Muscle System.
- Photosynthesis.
- Excretion.
- Senses.

## **LC Business H Course 1**

- Units 1, 2 & 3 (ABQ Focused).

## **LC Business H Course 2**

- Units 4 & 5.

## **LC Business H Course 3**

- Units 6 & 7.

## Computer Science

- For the Project which is to be submitted March 2024.
- ALT 3 & 4.

### APPLIED LEARNING TASK 4: EMBEDDED SYSTEMS

The design and application of computer hardware and software are a central part of computer science. In this applied learning task, students will implement a microprocessor system that uses sensors and controls digital inputs and outputs as part of an embedded system. By building the component parts of a computer system, students will deepen their understanding of how computers work and how they can be embedded in our everyday environments.

Students learn about:	Students should be able to:
Embedded systems	3.11 use and control digital inputs and outputs within an embedded system
Computing inputs and outputs	3.12 measure and store data returned from an analogue input
Computer systems	3.13 develop a program that utilises digital and analogue inputs
Design process	3.14 design automated applications using embedded systems





## **LC Chemistry H Course 1**

- Chemical Equilibrium & Le Chatelier's Principle.
- Rates Of Reaction.

## **LC Chemistry H Course 2**

- Organic Chemistry Reactions.
- Practical Organic Chemistry.

## **LC Chemistry H Course 3**

- Generic Titration Q1 on Acid – Base Titrations.
- Acid/Bases/pH/Indicators.
- pH Titres.

## **LC Chemistry H Course 4**

- Properties of Gases & Gas Laws.
- Fuels/Octane Numbers – Q6.
- Thermochemistry.
- Radioactivity.

## **LC Chemistry H Course 5**

- Redox Titrations in Q1.
- Oxidation & Reduction.

## **LC Economics H Course 1**

### **Microeconomics**

In Light of the new Syllabus introduced in 2021 & Sample Papers published, Emphasis is on Problem Solving.

- Fundamentals of Economics.
- Supply, Demand & Equilibrium in Markets.
- Market Failure.
- Factors of Production.
- Cost Structure of the Firm.
- Firm Structures.

*We will illustrate such with new syllabus emphasis.*

## **LC Economics H Course 2**

### **Macroeconomics**

In Light of the new Syllabus introduced in 2021 & Sample Papers published, Emphasis is on Problem Solving.

- National Income & Econometric Measures of such.
- Unemployment & Inflation.
- International Trade.
- National Budget & National Debt.
- History of Economic thought.

*We will illustrate such with new syllabus emphasis.*

## **LC English H Course 1**

- Paper 1.
- Unseen Elements of Paper 2.
  - Comprehending Question A.
  - Writing about Visual Texts.
  - Comprehending Question B.
  - Composing.
  - Unseen Poetry.

## **LC English H Course 2**

### **Hamlet**

- Comprehensive Analysis of the Plot.
- Detailed Description of the Main Characters.
- Analysis of Character Relationships.
- Overview of the Main Themes in the Drama.

## **LC English H Course 3**

### **Comparative Study**

- All 3 Registers.
- Popular Novels, Plays & Films Covered.
- Writing Techniques – E.g., Linking etc.

### **Poetry – Eileen Ní Chuilleanain**

- Themes & Style Features.
- Exam Questions.

### **Paper 1 – Question B**

- Functional Writing Formats (Written & Spoken Word).
- Sample Responses.

## **LC English H Course 4**

### **Hamlet**

- Dramatic Characters.
- Relationship between Hamlet & Ophelia.
- Imagery in this Tragedy.

### **Poetry**

- John Donne.
- W.B Yeats.

## **LC English H Course 5**

- Paper 1 – Comprehensions & Section A & B.
- Poetry
  - Hopkins.
  - Donne.

## LC French H

### Introduction

- Overview of Paper.
- Timing.

### Section 1

- Exam Grammar.
- Grammar.

### Section 2

- Useful Phrases for Opening/Closing & Main Body of Opinion Pieces & Journal Intime.
- Sample of H1's & H2's.
- Key Grammatical Structures.
- Written Expressions.
- Standardisation of Topics.

### Section 3

- Looking at the Marking Scheme to see How/Where Marks are Awarded.
- Recurring Words & Phrases.
- Aural Comprehension.
- Transcript Review.

## **LC Geography H Course 1**

- Plate Boundaries.
- Volcanoes.
- Earthquakes.
- Fold Mountains.
- Rocks.
- Weathering.
- Surface Processes & Isostatic Movements.

## **LC Geography H Course 2**

- Characteristics of a Biome.
- Biome Adaptations.
- Human Interference with Biomes.
- Soil Forming Factors.
- Soil Processes.
- Human Interference with Soils.

## LC German H

- Overview of Paper & Timing.
- Key Grammar Topics & Past Paper Exercises.
- Aural Comprehensions & Recurring Vocabulary.
- *Writing* – Word Order Rules, Key Vocabulary, German Idioms, Opening/Closings, Marking Scheme, Past Paper Examples.



## **LC Home Economics H Course 1**

- Nutrients.
- Food Commodities.

## **LC Home Economics H Course 2**

- Microbiology.
- Sensory Analysis.

## **LC Home Economics H Course 3**

- Family Resource Management.



## **HPAT Course 1**

- Section A: Logical
- Main emphasis will be interpretation of graphical, tabular data.
- Review of the main logical questions reflecting game theory, patterns genetics, four colour problem & basic IQ Questions.

## **HPAT Course 2**

- Section B: Verbal
- Main emphasis will be review of high frequency vocabulary in the HPAT practice tests – (Great for a Refresher for Exam).
- Section B is weighted 40% of the marks – (The highest fluctuation in Students results is Section B).

## **LC History H Course 1**

### **DBQ**

- Stalin's Show Trial's.
- The Nuremberg Rallies.
- The Jarrow March.

## **LC History H Course 2**

### **Essay Topic's**

- The Pursuit of Sovereignty.
- Impact of Partition 1912 – 1949.
- Politics of Society in Northern Ireland 1949 – 1993.

## LC Irish H

### Páipéar 1

- An Aiste: Multiple Sample Essay's Given.

### Páipéar 2

- *Dánta*: The 3 most likely Poems to come up in 2024 will be covered.
- *Prós*: The 3 most likely Prós to come up in 2024 will be covered.

## LC Maths H Course 1

### Differentiation Calculus

- Applying the Rules of Differentiation: This includes using the product, quotient, and chain rule. Applying these rules to differentiate Trigonometric, Exponential, Logarithmic and Inverse Trigonometric Functions.
- Limits, Asymptotes & Continuity of Functions.
- Differentiation using first principles.
- Applications of Differentiation: Turning Points, The Second Derivative Test, Maximum & Minimum Points, Increasing & Decreasing Functions.
- Differentiation Word Problems: Maximum & Minimum Word Problems, Rates of Change & Related Rates of Change.
- Exam Questions from Section A & Section B of the Exam Papers on Differentiation.

## LC Maths H Course 2

### **Probability and Statistics**

- Statistics: The Correlation Coefficient & Line of Best Fit. The Normal Distribution, Z Scores & Solving problems using the Normal Distribution Tables.
- Probability: The Addition Rule, The Multiplication Rule, Independent Events, Mutually Exclusive Events, Conditional Probability, Expected Value, Bernoulli Trials & The Binomial Distribution, Difficult Word Problems on Probability.
- Inferential Statistics: The Central Limit Theorem, Confidence Intervals & Hypothesis Testing using sample means, Proportions & P Values.
- Exam Questions from Section A & Section B of the Exam Papers on Probability & Statistics.

## LC Maths H Course 3

### Co Ordinate Geometry of the Line & Circle

- Co Ordinate Geometry of the Line: The Area of a Triangle, Internal & External Division of a Line Segment, The Perpendicular Distance Formula, The Angle Between 2 Lines, Finding the Circumcentre, Orthocentre & Centroid of a Triangle using Co Ordinate Geometry.
- Co Ordinate Geometry of the Circle: Finding the Centre & Radius of Circles, The Intersection of a Line & Circle, Tangents & Circles, More Difficult Problems in finding the Equation of a Circle when you are given certain restrictions.
- Exam Questions from Section A & Section B of the Exam Papers on Co Ordinate Geometry of the Line & Circle

## LC Maths H Course 4

### Trigonometry

- The Sine Rule, Cosine Rule, Area of a Triangle & 3 Dimensional Problems.
- Solving Trigonometric Equations using CAST.
- The Graphs of Trigonometric Functions.
- Using the Formulae from The Log Tables to prove Trigonometric Identities.
- Exam Questions from Section A & Section B of the Exam Papers on Trigonometry.

## LC Maths H Course 5

### Functions, Indices & Logarithms

- Functions: Composite Functions, Completed Square Form, Inverse Functions, Injective Surjective & Bijective Functions.
- Indices: Solving Quadratic Equations Using Indices.
- Logarithms: Solving Log Equations, Writing Expressions a Single Logs.
- Using the Natural Log to get a Power Down, Log Word Problems.
- Exam Questions from Section A & Section B of the Exam Papers on Functions, Indices & Logarithm.

## LC Maths H Course 6

### Financial Maths

- Lump Sum & Deprecation Questions.
- Annuity, Savings & Investment Questions.
- Amortisation Schedules & Using the Amortisation Formula.
- The Present Value Series.
- Problems Involving Bonds & Pensions.
- Deriving the Amortisation Formula.
- Exam Questions from Section A & Section B of the Exam Papers on Financial Maths.



## **LC Maths P Course 1**

### **Unit 1: Algebra**

- Algebraic Operations on Polynomials & Rational Functions.
- Addition, Subtraction, Multiplication & Division & the use of Brackets & Surds.
- Laws of Indices.
- Factorisation of such Polynomials (The Linear & Quadratic Factors having Integer Coefficient).
- Solution of Cubic Equations with at least One Integer Root.
- Quadratic Equations by Factoring or using the -B Formula.
- Form a Quadratic from its Roots.
- Inequalities with X.
- Solving for X as a Power.

### **Unit 2: Functions with Differential Calculus**

- Differentiation by Rule & First Principles.
- Rules of Sums, Products & Quotients.
- First Derivatives of Polynomials, Rational, Power.
- First Derivatives of Products.
- First Derivatives of Quotients.
- Simple Second Derivatives.

- Maxima & Minima.

### **Unit 3: Complex Numbers**

- Real & Imaginary Part to Complex Numbers.
- Adding/Subtracting Complex Numbers.
- Multiplying Complex Numbers.
- The Conjugate.
- Dividing Complex Numbers.
- Plotting Complex Numbers on a Graph (Argand Diagrams).
- The Modules.
- Quadratic Equations with Complex Numbers.
- Transformations with Complex Numbers.

## LC Maths P Course 2

### Unit 1: Co Ordinate Geometry of the Straight Line & Circle

- General Equation of the Line in Form  $-ax + by + c = 0$ .
- Length of Perpendicular from  $(x_1, y_1)$  to  $ax + by + c = 0$ .
- Angle Between Two Lines with Slopes  $m_1$  &  $m_2$ .
- Equation Circle Centre  $(0,0)$  & Radius  $r$  ( $x^2 + y^2 = r^2$ ).
- Equation of Tangent at  $(x_1, y_1)$  to  $x^2 + y^2 = r^2$ .
- Intersection of Line & Specific Circle.

### Unit 2:

- Probability of an Outcome with one event happening.
- Probability of an Outcome with two events happening.
- Fundamental Principle of Counting.
- Arrangements – Permutations.
- Expected Frequency.
- Or Rule (Add): Mutually Exclusive Events.
- And Rule/The Multiplication Rule – Bernoulli Trial.
- Tree Diagram.
- Expected Values – Law of Large Numbers.

### **Unit 3: Trigonometry**

- Calculate the Area of a Sector of a Circle & the Length of an Arc & Solve Problems Involving these Calculations.
- Pythagoras Theorem.
- Use Trigonometry to Calculate the Area of a Triangle.
- Use the Sine & Cosine Rules to Solve Problems 2D & 3D.
- Define Sine A, Cos A & Tan A for all values of A.

## LC Physics H Course 1

- Optics: Reflection & Mirrors.
- Optics: Refraction & Lenses.
- Current Electricity: Circuits, Ohm's Law, Resistivity, Resistance, Wheatstone & Metre Bridges.
- Circuit Problems: Resistors, Inductance Coils, Diodes with DC & AC Sources.

## LC Physics H Course 2

- Sound: Sound Intensity, Decibel Scale, Velocity of Sound, Doppler Effect.
- Sound: Travelling Waves, Standing Waves, Open & Closed Pipes, Sonometer.
- Electrostatics: Coulomb Law, Definition of Charge, Electroscope.
- Capacitance: Parrell Plate, Van De Graaf Generator, Energy Heat & Temperature, Calibration, Latent & Specific Heat, Heat Exchangers, Heat Engines, Heat Pumps, Refrigerators.

## LC Physics H Course 3

- Atomic Theory: Rutherford, Millikan, Planck, Bohr, Electromagnetic Radiation & Spectrum, Electron, Photon, Line & Continuous Spectra.
- Photoelectric Effect: Importance & Photocells.
- X- Rays: Rontgen, X-Ray Tubes, Applications.
- Cathode Ray Tubes: Electric & Magnetic Fields, Faraday, Fluorescence.
- Semiconductors: Theory, Diodes.
- Radioactivity: Detectors, Nuclear Decay Processes.
- Fission & Fusion: Nuclear Processes, Reactors, Link to Heat Exchangers & Power.

## LC Physics H Course 4

- Vectors: Addition, Equilibrium.
- Newton's Laws: Force, Momentum, Momentum Conservation, Friction.
- Kinematics: Equations & Problem Solving.
- Work: Energy & Power, Mechanical Energy.
- Conservation Centripetal Forces: Types of Centripetal Forces, Radians, Problem Solving.
- Gravitation: Satellites, Weightlessness, Earth Spin, Link to Doppler & Speed of Light.
- Simple Harmonic Motion: Pendulums, Spring Constants.
- Moments: Equilibrium, Couples.
- Archimedes: Flotation, Hot Air Ballons, Density, Boyle's Law.

## **LC Physics H Course 5**

- Mechanics.
- Electricity.
- Sound.
- Optics.
- Heat.
- Light.





## **LC Spanish H**

### **Section 1**

- Comprehension Strategies.

### **Section 2**

- Opinion Piece & Writing Skills.

### **Section 3**

- Verbs & Tenses Practice.

### **Section 4**

- Vocabulary Learning & Synonym Skills.

### **Section 5**

- Aural & Oral Exam Strategies.