VIA MEDILIA

IMAT 2026 · FULL SYLLABUS

The full IMAT syllabus.

Every topic in the official Ministry annex, in plain English. Medicine & Surgery (LM-41) and Dentistry (LM-46), taught in English.

60	100	5
QUESTIONS	MINUTES	SECTIONS

HOW THE PAPER SPLITS

Section	Questions
Reading skills & knowledge from studies	4
Logical reasoning & problem solving	5
Biology	23
Chemistry	15
Physics & Mathematics	13
Total	**60 in 100 minutes**

No calculators or dictionaries. Every question is in English, including the symbols. The split above is the official 2026/27 breakdown.

READING SKILLS AND KNOWLEDGE ACQUIRED IN STUDIES

- **Vocabulary in context** — You need to understand difficult, unusual or specialist words by how they are used in the text.
- **Cohesion and coherence** — You need to see how the parts of a text connect and make sense together as one clear piece.
- **Finding and inferring information** — You need to pick out details stated in the text and work out ideas that are suggested but not stated.
- **Types of texts** — The passages are short and can be scientific essays, classic or modern fiction, or news and magazine articles (general or specialist).
- **Historical and cultural events** — You need to know when and where major historical and cultural events happened.
- **National and international institutions** — You need to know the main institutions in your country and around the world.
- **Legal, economic and citizenship matters** — You need to understand basic ideas about law, money and economy, and the rights and duties of citizens.

Every question is in English, so reading skill matters throughout the exam, and you will meet short texts that test your English understanding as well as what you already know about history, institutions, law, economics and current public debates.

LOGICAL REASONING AND PROBLEMS

- **Completing a line of reasoning** — You are asked to finish an argument by choosing the step or conclusion that logically follows.
- **Staying consistent with the premises** — Your answer must fit with what the premises say and must not contradict them.
- **Premises in symbolic or verbal form** — The starting facts may be written as symbols or as ordinary words.
- **Cases or problems, including abstract ones** — The premises can be about real-style situations or about abstract problems that are not tied to everyday life.
- **Different forms of logical reasoning** — Solving the questions needs more than one kind of logical thinking, depending on the problem.

You get questions with given premises, in symbols or words, and you must pick the answer that follows logically and agrees with those premises.

BIOLOGY

- **The chemistry of living things** — This is about the chemicals that make up living things and how they work in the body.
- **Weak interactions** — This is about why weak attractions between molecules matter for life.

- **Organic molecules and enzymes** — This covers the main carbon-based molecules in living things, what they do, and the role of enzymes.
- **The cell, cell theory and viruses** — This covers the cell as the basic unit of life, cell size, how simple (prokaryotic) and complex (eukaryotic, animal and plant) cells differ, and what viruses are.
- **Cell membrane and cell structures** — This covers how the cell membrane is built, what it does, how things cross it, and what each part of the cell does.
- **Cell cycle, mitosis and meiosis** — This covers how cells grow and divide in two ways (mitosis and meiosis), plus chromosome sets and chromosome maps.
- **Reproduction, inheritance and life cycles** — This covers how living things reproduce (sexually and asexually), pass on traits, and go through life cycles.
- **Mendelian genetics** — This covers Mendel's laws and how to use them.
- **Classical genetics** — This covers the idea that chromosomes carry inheritance, and the patterns by which traits are passed on.
- **Molecular genetics** — This covers DNA structure and copying, the genetic code, making proteins, prokaryotic DNA, eukaryotic chromosome structure, and how genes are controlled.
- **Human genetics** — This covers how traits controlled by one factor or by many factors are passed on in humans, and how autosomal and X-linked diseases are inherited.
- **Mutations, selection and evolution** — This covers mutations, natural and artificial selection, evolutionary theories, the genetic basis of evolution, and how heredity and environment interact.
- **Biotechnology** — This covers recombinant DNA technology (combining DNA from different sources) and what it is used for.
- **Animal and human anatomy and physiology** — This covers animal tissues, how human organs and systems are built and work together, and how the body keeps a stable inside environment (homeostasis).
- **Bioenergetics** — This covers ATP as the cell's energy currency, redox reactions, and the energy processes of photosynthesis, glycolysis, aerobic respiration and fermentation.

> This is the Biology part of the IMAT syllabus, so you need to know every topic above, from basic cell chemistry through genetics and body systems to energy processes.

CHEMISTRY

- **Composition of matter** — It covers the states of matter, the difference between mixed and uniform systems, and the difference between compounds and elements.
- **Ideal gas laws** — These are the rules that describe how an ideal gas behaves.
- **Atomic structure** — It covers the particles inside atoms, atomic and mass numbers, isotopes, and how electrons are arranged in atoms.
- **The periodic table** — It covers groups, periods and transition elements, how properties like atomic radius, ionisation potential, electron affinity and metallic character change across the table, and how electron structure, position and properties are linked.
- **Chemical bonding** — It covers ionic, covalent and metallic bonds, bond energy, bond polarity, electronegativity and the bonds between molecules.
- **Basics of inorganic chemistry** — It covers the names and main properties of oxides, hydroxides, acids and salts.
- **Chemical reactions and stoichiometry** — It covers atomic and molecular mass, Avogadro's number, the mole, simple calculations, balancing simple reactions and the different types of reaction.
- **Solutions** — It covers why water works as a solvent, solubility, and the main ways of expressing concentration.
- **Equilibria in aqueous solution** — It covers balanced (equilibrium) situations in reactions that happen in water.
- **Chemical kinetics and catalysis** — It covers the basics of how fast reactions go and how catalysts affect them.
- **Oxidation and reduction** — It covers oxidation numbers, oxidising and reducing agents, and balancing simple reactions of this type.

- **Acids and bases** — It covers what acids and bases are, whether a water solution is acidic, neutral or basic, pH, hydrolysis and buffer solutions.
- **Basics of organic chemistry** — It covers carbon–carbon bonds, molecular and structural formulas, isomerism, aliphatic, alicyclic and aromatic hydrocarbons, the main functional groups (alcohols, ethers, amines, aldehydes, ketones, carboxylic acids, esters, amides) and the basics of naming.

> The syllabus lists these as Chemistry topics that you need to know for the exam, so study each one, but this section does not say how many questions there are or what the question format is.

MATHEMATICS

- **Number sets** — Natural, integer, rational and real numbers are different families of numbers, each one wider than the last.
- **Ordering and comparison** — Deciding which numbers are bigger or smaller and putting them in order.
- **Order of magnitude and scientific notation** — Describing how big or small a number is, and writing very large or small numbers using powers of 10.
- **Operations and their properties** — The rules for adding, subtracting, multiplying and dividing numbers.
- **Proportions and percentages** — Comparing quantities as ratios and as parts out of 100.
- **Powers (integer and rational exponents)** — Repeated multiplication and its extension to fractional exponents, with the rules for working with them.
- **Radicals** — Roots such as square roots, and the rules for working with them.
- **Logarithms (base 10 and e)** — The reverse of powers: finding the exponent, using base 10 or base e, and the rules for working with them.
- **Basics of combinatorics** — Counting the ways things can be chosen or arranged.
- **Algebraic expressions and polynomials** — Expressions that use letters and numbers, including those with several terms in powers of a letter.
- **Special products, powers of a binomial, factorising** — Standard patterns for expanding brackets, expanding a two-term expression to the nth power, and splitting polynomials into factors.
- **Algebraic fractions** — Fractions that have letters (algebraic expressions) in the top, the bottom, or both.
- **First- and second-degree equations and inequalities** — Finding the values that satisfy equations or inequalities where the letter is at most squared.
- **Systems of equations** — Finding values that satisfy several equations at the same time.
- **Function basics and graphs** — Understanding what a function is and reading its graph, including domain, codomain, sign, continuity, highest and lowest points, and where it goes up or down.
- **Elementary functions** — The main function types: polynomial, rational, exponential, logarithmic and trigonometric.
- **Composite and inverse functions** — Putting one function inside another, and undoing a function.
- **Trigonometric equations and inequalities** — Finding the angles that satisfy equations or inequalities involving trigonometric functions.
- **Polygons** — Shapes with straight sides and their properties.
- **Circumference and circle** — The circle, its boundary, and their properties.
- **Lengths, areas and volumes** — Measuring the size of lines, flat shapes and solids.
- **Isometries, similarity and equivalence** — Ways shapes can be moved, scaled or compared in the plane.
- **Geometric loci** — The set of all points that follow a given rule.
- **Angles in degrees and radians** — Two ways of measuring angles.
- **Sine, cosine, tangent and notable values** — The three basic trigonometric ratios and their well-known values at standard angles.
- **Trigonometric formulas** — The standard rules that link trigonometric functions.
- **Solving triangles** — Finding unknown sides and angles of a triangle.
- **Cartesian plane** — Describing points on a flat surface using x and y coordinates.
- **Distance and midpoint** — Finding how far apart two points are and the point halfway between them.

- **Equation of a line** — Writing a straight line as an equation.
- **Parallel and perpendicular conditions** — The rules that tell you whether two lines are parallel or meet at right angles.
- **Distance from a point to a line** — Finding how far a point is from a line.
- **Circle, parabola, hyperbola, ellipse** — Their equations and the graphs they make.
- **Pythagoras' theorem** — The rule linking the three sides of a right-angled triangle.
- **Euclid's theorems (first and second)** — Two rules about right-angled triangles.
- **Frequency distributions and charts** — Organising data by the type of characteristic measured and showing it in the main kinds of chart.
- **Random experiment and event** — An experiment whose result is left to chance, and the outcomes you can look at within it.
- **Probability and frequency** — How likely something is, and how often it actually happens.

Mathematics is one section of the IMAT syllabus, so you should be ready for questions on any of these topics, from basic number work and algebra to functions, geometry, probability and statistics.

PHYSICS

- **Units & Dimensions** — Learn the basic and derived physical quantities, their units (International and Technical), prefixes, scientific notation, unit conversions, and the difference between scalars and vectors, including how to work with vectors.
- **Kinematics** — Describe how things move using velocity, angular velocity, acceleration and centripetal acceleration, in uniform linear, uniformly accelerated, uniform circular and harmonic motion.
- **Dynamics** — Study how forces cause motion, including Newton's three laws, weight, elastic force, friction, impulse, momentum, torque, work, energy, power, and the conservation of momentum and mechanical energy.
- **Fluid mechanics** — Study liquids and gases at rest and in motion, including density, pressure, the principles of Pascal, Stevin and Archimedes, flow rate, the continuity equation, Bernoulli's equation and viscous forces.
- **Thermodynamics** — Study temperature, heat and how it moves, specific heat, changes of state, the ideal gas laws, and the first and second laws of thermodynamics.
- **Electricity and electromagnetism** — Study electric charges, Coulomb's law, fields, potential, capacitors, current, resistance, Ohm's law, circuits with Kirchhoff's laws, direct and alternating current, magnetic fields and forces on currents, and electromagnetic induction.

Physics is one section of the exam, and these six areas are the official list to study. Optics and waves are not on the list, but a concave-mirror question appeared in 2020 and a wave-coherence question in 2026, so it is worth a quick look at them too.