Cambridge International Advanced Subsidiary & Advanced Levels - Computer Science (9618)

Cambridge International Advanced Level is one of the most recognised qualifications around the world. For over 50 years, A Levels have been accepted as proof of academic ability for entry to universities and institutes of higher education. A Levels are also important to employers who frequently demand A Levels as a condition of job entry.

Computer science is the study of the foundational principles and practices of computation and computational thinking and their application in the design and development of computer systems. This syllabus aims to encourage the development of computational thinking, that is thinking about what can be computed and how by the use of abstraction and decomposition.

Introduction

This syllabus provides a general understanding and perspective of the development of computer technology and systems, which will inform their decisions and support their participation in an increasingly technologically dependent society; It also provides the necessary skills and knowledge to seek employment in areas that use computer science; Students' knowledge and understanding of computer science can be developed through entry to higher education, where this qualification will provide a useful foundation for further study of computer science or more specialist aspects of computer science.

Scheme of Assessment

Candidates may choose to:

◊ *take Papers 1, 2, 3 and 4 in the same examination series, leading to the full Cambridge International A Level.*

◊ *follow a staged assessment route by taking Papers 1 and 2 (for the AS Level qualification) in one series, then Papers 3 and 4 (for the full Cambridge International A Level) in a later series.*

◊ *take Papers 1 and 2 only (for the AS Level qualification).*

ADVANCED SUBSIDIARY LEVEL (AS Level)

Paper	Type	Duration	Marks	Weight
Paper 1 Theory Fundamentals	Written	1 hr 30 mins	75	25%
Paper 2 Fundamental Problem-solving & Programming Skills	Written	2 hrs	75	25%

ADVANCED LEVEL (A Level)

In addition to Papers 1 and 2.

Paper	Type	Duration	Mark	Weight
Paper 3 Advanced Theory	Written	1 hr 30 mins	75	25%
Paper 4 Practical	Practical	2 hrs 30 mins	75	25%

All 4 papers will take place at FUTUREKIDS Computer Learning Center, by means of a CIE-set assessments, under controlled examination conditions. Paper 1, 2 and 3 are written papers. Candidates answer all questions. Paper 4 is a practical paper. Candidates answer all questions on a computer without internet or email facility.

Examinations Schedule

International A and AS Level examination sessions occur twice a year, in June and November, with results issued in August and January respectively.

Grading System

Subjects are graded A* through to E. Grade A* is awarded for the highest level of achievement, grade E for the lowest.

Recognition

International A Level and AS Level have widespread international recognition as educational qualifications. This recognition is because:

◊ *International A and AS Level qualifications are recognised by universities as equivalent in value to UK A and AS Levels*

◊ *Good grades at A and AS Level can result in one full year of advanced standing or credit at universities in the USA and Canada*

◊ *Good A and AS Level grades are vital for admission to all the world's major English-speaking universities and many non-English-speaking universities*

Curriculum Content

The curriculum content is set out in twenty interrelated sections. These sections should be read as an integrated whole and not as a progression. The sections are as follows:

At AS Level (Theoretical)	At AS Level (Programming Skills)
1. Information representation 2. Communication 3. Hardware 4. Processor fundamentals 5. System software 6. Security, privacy and data integrity 7. Ethics and ownership 8. Database	9. Algorithm design and problem-solving 10. Data type and structures 11. Programming 12. Software development
At A2 Level (Theoretical)	At A2 Level (Programming Skills)
13. Data representation 14. Communication and Internet technologies 15. Hardware and virtual machine 16. System software 17. Security 18. Artificial Intelligence (AI)	19. Computational thinking and problem-solving 20. Further programming

Course Outline

Module	Section(s) Covered	Study Hours
AS Level		
Module 1: Programming Basics	9, 10, 11	24 (12 Lessons)
Module 2: Algorithm Design & Problem-solving	11, 12	24 (12 Lessons)
Module 3: Computer Systems & Organisations	1, 3, 4, 5	20 (10 Lessons)
Module 4: Databases & Communication Technologies	2, 6, 7, 8	28 (14 Lessons)
A2 Level (A Level)		
Module 5: Advanced Problem Solving Methods	13, 18, 19	32 (16 Lessons)
Module 6: Programming Paradigms	19, 20	20 (10 Lessons)
Module 7: Communication Technologies & Security	13, 14, 17	20 (10 Lessons)
Module 8: System Software & Artificial Intelligence	15, 16, 18	24 (12 Lessons)

Prerequisite

Applicants should:

◊ Either, have grade B or above in Information Communication Technology at IGCSE;

◊ Or, have grade C or above in Computer Science at IGCSE;

◊ Or, have 4 point or above in Information Communication Technology (Software module) at HKDSE;

◊ Or, pass a written and practical entry test.

Further Enquiries

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Schedule

The course is scheduled every Thursday or Friday 4:30 – 6:30pm or Saturday from 10:30am - 12:30pm / 1:30 – 3:30pm / 3:00 - 5:00pm

Module	Period	Lessons	Fee
Module 1: Programming Basics (I)	2025 Sep 04 to 2025 Oct 11	**6 lessons**	$5,520
Programming Basics (II)	2025 Oct 16 to 2025 Nov 22	**6 lessons**	$5,520
Module 2: Algorithm Design & Problem-solving (I)	2025 Nov 27 to 2026 Jan 03	**6 lessons**	$5,520
Algorithm Design & Problem-solving (II)	2026 Jan 08 to 2026 Feb 14	**6 lessons**	$5,520
Module 1 & Module 2 Practical & Written Test : Date and time to be confirmed			$500
Module 3: Computer Systems & Organisations	2026 Feb 19 to 2026 Apr 25	**10 lessons**	$9,200
Module 4: Databases & Communication Technologies (I)	2026 Apr 30 to 2026 Jun 13	**7 lessons**	$6,440
Databases & Communication Technologies (II)	2026 Jun 18 to 2026 Aug 01	**7 lessons**	$6,440
Module 3 & Module 4 Written Test : Date and time to be confirmed			$500
Module 5: Advanced Problem-Solving Methods (I)	2026 Aug 06 to 2026 Sep 26	**8 lessons**	$7,360
Advanced Problem-Solving Methods (II)	2026 Oct 01 to 2026 Nov 21	**8 lessons**	$7,360
Module 6: Programming Paradigms	2026 Nov 26 to 2027 Jan 30	**10 lessons**	$9,200
Module 5 & Module 6 Practical & Written Test : Date and time to be confirmed			$500
Module 7: Communication Technologies & Security	2027 Feb 04 to 2027 Apr 10	**10 lessons**	$9,200
Module 8: System Software & Artificial Intelligence (I)	2027 Apr 15 to 2027 May 22	**6 lessons**	$5,520
System Software & Artificial Intelligence (II)	2027 May 27 to 2027 Jul 03	**6 lessons**	$5,520
Module 7 & Module 8 Written Test : Date and time to be confirmed			$500
AS Examination For the student who has completed module 1 - module 4 Oct - Nov 2026 (details will be announced later)			
A2 Examination For the student who has completed module 1 - module 8 Oct - Nov 2026 (Details will be announced later)			

Remarks:

1. Full payment should be made one week before the commencement date of each module.
2. Any make up class other than the scheduled time will require a $200 administration fee.
3. No class on public holiday, make-up class will be arranged.
4. Students will study a selected course book, available for purchase from Futurekids or any online retailer.
5. Enhancement courses and mock examinations will be held before the examination for students to re-enforce their knowledge in each module covered and familarise the examination patterns. Details of the schedule will be announced later.
6. Prices are subject to change in due course; details will be announced one month before the module begins.