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

Cambridge International A Level

*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.*

**Futurekids Computer Learning Center (Sch Reg No: 29075, 29076)**
**Registered Cambridge International School**
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## 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 | Marks | 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 two 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)***

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*

***At AS Level (Programming Skills)***

9. *Algorithm design and problem-solving*
10. *Data type and structures*
11. *Programming*
12. *Software development*

***At A2 Level (Theoretical)***

13. *Data representation*
14. *Communication and Internet technologies*
15. *Hardware and virtual machine*
16. *System software*
17. *Security*
18. *Artificial Intelligence (AI)*

***At A2 Level (Programming Skills)***

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.

### 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 $200 administration fee.
3. No class on public holiday, make-up class will be arranged.
4. A course book will be chosen for student to study, student can buy the book through Futurekids or from other online bookshop.
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 schedule will be announced later.
6. Price are subject to change in due course, details will be announced one month before the module begins.

# General Certificate of Education (International) Advanced Level - Computer Science (9618)

## Summer 2026 Application Form (M5 - M8) (A2 Level)

I would like my child _____to register for the General Certificate of Education (International) A2 Level - Computer Science of the following modules:

Please ✓ in the appropriate boxes.

| Module | Course Code | Date & Time | Fee | Items Selected |
|---|---|---|---|---|
| M5: Advanced Problem Solving Methods (I) & (II) (Mon-Fri:16 Lessons) | SDB15 | Jul 2, 3, 6, 7, 8, 9, 10, 13,14, 15, 16, 17, 20, 21, 22, 23 02:00 pm - 04:00 pm | $14,720 | |
| M6: Programming Paradigms (Mon-Fri:10 Lessons) | SDB16 | Jul 24, 27, 28, 29, 30, 31 Aug 3, 4, 5, 6 02:00 pm - 04:00 pm | $9,200 | |
| M5 + M6 Module Test (Sat) | SDB16A | Date to be confirmed | $500 | |
| | | Total | | |
| | | | | |
| M7: Communication Technologies & Security (Mon-Fri:10 Lessons) | SDB17 | Jul 2, 3, 6, 7, 8, 9, 10, 13, 14, 15 11:00 am - 01:00 pm | $9,200 | |
| M8: System Software & Artificial Intelligence (I) & (II) (Mon-Fri:12 Lessons) | SDB18 | Jul 16, 17, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31 11:00 am - 01:00 pm | $11,040 | |
| M7 + M8 Module Test (Sat) | SDA18A | Date to be confirmed | $500 | |
| | | Total | | |
| Remarks | | | | |
| **A2 Examination:** For the student who has completed module 5 - module 8 ; Exam June/November : (details will be announced later) | | | | |