



### Subject: Computer Science

The aim of the Cambridge International AS and A Level Computer Science course is to encourage learners to develop an understanding of the fundamental principles of computer science and how computer programs work in a range of contexts.

Learners will study topics including information representation, communication and Internet technologies, hardware, software development, and relational database modelling. As they progress, learners will develop their computational thinking and use problem solving to develop computer-based solutions using algorithms and programming languages. This will help learners develop a range of skills such as thinking creatively, analytically, logically and critically

Year group	Term 1 (Aug – Oct)	Term 2 (Oct – Dec)	Term 3 (Jan – Mar)	Term 4 (Mar – Jun)
<b>AS Level Year 12</b>	<ul style="list-style-type: none"> <li>Information representation</li> <li>Communication and Internet technologies</li> <li>Algorithm design and problem solving</li> <li>Programming using python</li> </ul>	<ul style="list-style-type: none"> <li>Hardware</li> <li>Processor fundamentals</li> <li>Data representation</li> <li>Software development</li> </ul>	<ul style="list-style-type: none"> <li>System software</li> <li>Security, privacy and data integrity</li> </ul> <p>Pre-release material sent from the exam board</p>	<ul style="list-style-type: none"> <li>Ethics and ownership</li> <li>Database and data modelling</li> </ul> <p>Pre-release material sent from the exam board</p>
<b>A Level Year 13</b>	<ul style="list-style-type: none"> <li>Data representation</li> <li>Communication and Internet technologies</li> <li>Computational thinking and problem solving</li> <li>Advance programming</li> </ul>	<ul style="list-style-type: none"> <li>Hardware</li> <li>System software</li> <li>Algorithm design methods</li> <li>Software development</li> </ul>	<ul style="list-style-type: none"> <li>Security</li> <li>Monitoring and control systems</li> </ul> <p>Pre-release material sent from the exam board</p>	<ul style="list-style-type: none"> <li>Exam revision and technique</li> </ul> <p>Pre-release material sent from the exam board</p>