

Cambridge (CIE)

NCEA

	Information Communication Technology	Computer Science and Programming
Y11	IGCSE ICT	L1/2/3 <sup>1</sup> Computer Science IGCSE Computer Science
Y12	L3 <sup>2</sup> ICT AS ICT	AS Computer Science
Y13	L3 cont. ICT A2 ICT	A2 Computer Science

Only the 2 CIE Year 13 A2 courses have an entry requirement of having studied the corresponding CIE Year 12 AS course

<sup>1</sup> all Year 11 NCEA standards count towards the Level 1 certificate as they studies at and above Level 1.

<sup>2</sup> all Year 12 NCEA Level 3 standards count towards the Level 2 certificate & also the Level 3 certificate in Year 13

COURSE	DESCRIPTION
Year 11 CIE ICT (IGCSE)	Students develop lifelong skills including: <ol style="list-style-type: none"> <li>1. use of Office software, website and database design;</li> <li>2. the ability to understand and implement new and emerging technologies within a business environment;</li> <li>3. how to analyse, design, implement, test and evaluate ICT systems;</li> <li>4. considering the impact which new technologies will have on ways of working and the social, economic and ethical issues associated with them;</li> <li>5. awareness of the ways ICT can help in practical and work-related scenarios;</li> <li>6. use given software to produce a specific outcome.</li> </ol>
Year 12 CIE ICT (AS)	Students become effective and discerning users of ICT. It helps them to develop a broad range of ICT skills, knowledge and understanding to an advanced level. Students gain an understanding of the structure and use of ICT systems within a wide range of organisations, including the use of a variety of computer networks. As a result, students learn about ICT system life cycles, and how these affect the workplace. They also gain an understanding of the wider impact of ICT on society in general. The difference between this and the IGCSE is that the practical tasks are more open ended, simply asking for a problem to be solved as apposed to specifying which software should be used.

COURSE	DESCRIPTION
Year 13 CIE ICT (A2)	Carrying on from the AS ICT, students show they can: <ol style="list-style-type: none"> <li>1. apply their knowledge and understanding of ICT and use these skills in workplace situations;</li> <li>2. develop an understanding of the parts, uses and applications of ICT systems within a wide range of organisations, including the use of a range of computer networks;</li> <li>3. develop an understanding of project management skills and other problem solving skills.</li> </ol>
Year 12 NCEA ICT	In year 12 we focus on honing the key office and business ICT skills. Students learn financial modelling, website development, corporate document production and the 'art' of business presentation. The standards are at the level 3 and count towards both the Level 2 & Level 3 certificates.
Year 13 NCEA ICT	In year 13 we focus the choice of Level 3 NCEA standards on looking at the wider issues relating to ICT in the work place and in people's personal lives. We discuss topics such as the impact of Social Media and future developments in ICT, including the constant need for professional development when securing employment. We also develop advanced skills, such as building relational databases, which are the foundation for all the 21st century web technologies.
Year 11 NCEA Computer Science	This course acts as a foundation for choosing year 12 & year 13 courses. It covers the basic concepts regarding hardware and software design but also introduces the students to programming and application development. This gives the students an awareness of the departments 2 distinct subjects and makes an easier task of choosing either ICT or Computer Science in the senior college.
Year 11 CIE Computer Science (IGCSE)	Students develop an interest in computing and gain confidence in the use of computers. They develop an appreciation of the broad range of computer applications, in order to improve their understanding of the power and versatility of the computer and the benefits of its use, but also its limitations and potential disadvantages. The course is an ideal foundation for further study at A Level, and the skills learnt can also be used in other areas of study and in everyday life. The primary aims of the course are that of Problem solving with ICT and understanding the current ICT issues in society.
Year 12 CIE Computer Science (AS)	This is a more technical look at issues relating to the IT industry itself. The course is centred on problem solving by designing, building and programming solutions to problems. The students learn the key concept and skills relating to all programming languages and are tested to write programmed instructions to solve problems. The workings of both software and hardware are studied and although the assessment is by written exam the learning is 50% practical design and programming.
Year 13 CIE Computer Science (A2)	This is very much an advanced course in systems software mechanisms, machine architecture, database theory, programming paradigms and integrated information systems. There is a large practical project that accounts for 40% of the year and students are primarily marked on their ability to project manage a computer solution for a real-world client. This course should be taken by keen and self-disciplined students who work well independently.