Cambridge Technical L3 Information Technology

Course Overview

- **Exam Board** – OCR
- **Usual Age Range** – 16-19
- **Qualification** – equivalent to 1 A Level
- **Curriculum Time** – Five 50 minute lessons per week in class plus additional work in Independent Learning Time
- **Assessment** – this curriculum is assessed via:
    o 2 x 90 minute exams
    o 1 x 60 minute exam based on pre-release materials provided in advance in cyber security
    o Non-examined coursework – Unit 17 The Internet of Everything: students research current developments, identify how they can be repurposed to extend their potential and present their ideas to a target audience.
    o Non-examined coursework – Unit 8 Project Management: students explain the project management lifecycle and use this to initiate, plan and review a project.
- **Grading** – Distinction *, Distinction, Merit, Pass, Unclassified
- **Full specification** - https://www.ocr.org.uk/qualifications/cambridge-technicals/information-technology/qualifications-at-a-glance/#level-3

Curriculum Intent

The **intent** of the Cambridge Technical Information Technology curriculum is to give UTC students an opportunity to develop their knowledge and understanding of the principles of IT and global information systems. The intent is to ensure students have useful knowledge, understanding and skills that can be applied in any Digital Technology setting in their future career and of particular use to students considering a career in computing, games development and cyber security.

The further intent of the Curriculum is to provide students with an insight into the IT sector as they investigate the pace of technological change, IT infrastructure, the flow of information on a global scale and important legal and security considerations. Students will also consider the important development in the sector around information security and how data should be protected and the response of the IT sector to emerging threats such as cyber terrorism.

Students are supported and encouraged to develop their **love of reading** and literacy skills on this course, by reading related cyber security news and articles and by completing regular extended writing activities.

Students are encouraged to develop their **numeracy** on this course by applying the mathematical skills relevant to data storage and units.

Suggested next step **destinations** after completion include relevant IT degrees such as, Computing and IT, Computing Science, Software Developments, Software Engineering, ICT and Computer Networks or Business Information Systems. It also provides access to higher apprenticeship schemes in Computing and IT related areas.

Related **careers** include working as an app developer; network support; systems analyst; cyber security specialist. This intent of the Curriculum is to also provide a good baseline knowledge, skills and understanding for students who undertake an Apprenticeship.

Remote Learning and Revision

Students will benefit from additional study of Information technology for the exam revision and also if they are absent from the UTC but well enough to complete remote learning. Students can communicate with the teacher via Teams or via email if absent from school.

- Hodder Study Guide – https://www.hoddereducation.com/subjects/ict/products/general/my-revision-notes-cambridge-technicals-level-3-it
- Practice Assessments and papers - https://www.ocr.org.uk/qualifications/cambridge-technicals/information-technology/assessment/#level-3
- Students can access all lesson materials on Teams

Some other useful websites:

- Alternative web based revision site - https://getrevising.co.uk/
- Topic and module quizzes: https://quizizz.com
- https://www.csnewbs.com/
- http://enderoth.com/Pages/CTech%20-%20IT%20-%202016%20-%20Level%2003.html

Curriculum Overview

The learning in Information Technology (equivalent to *1 A Level*) is sequenced as follows.

Note: the full Curriculum Plans are available on request to info@nef.tynecoast.academy

Key Topics

- Fundamentals of IT
- Global information
- Cyber security
- Internet of Everything
- Project management

Year 12:

Half term 1

- What are the uses and properties of computer hardware, computer components and computer systems? What are the units of measurement used in computing? How do you convert between different number systems?
- Where is information held globally and how is it transmitted? What are the styles and characteristics of this information and how it is managed?
- Understand what is meant by the Internet of Everything

Half term 2

- What are the types and properties of computer software? Do you know the differences between application software, utility software and operating systems?
- How is global information used? What are the benefits to individuals and organisations?
- How can technologies be repurposed to extend the scope of IOE? What sectors can these technologies be used in?

Half term 3

- How are IT systems used in business?
- What types of servers are available?
- What types of networks?

- What are their [characteristics](#)?
- Can you explain the four pillars of the IoE and how its innovations can transform businesses?

Half term 4

- What are the employability and [communication skills](#) required for working in an IT environment?
- Understand the [legal and regulatory framework](#) governing the storage and use of information.
- Understand the [process flow](#) of information.
- Can you design your own IoE concept and write a business proposal?

Half term 5

- What are the [ethical issues](#) surrounding the use of IT? How about the [operational issues](#)?
- Develop presentation skills to deliver concept ideas for repurposed developments.

Half Term 6

- A period of revision in preparation for the IT Level 3 external exams unit 1 and unit 2.

Year 13:

Half term 1

- What is the purpose and importance of Cyber Security?
- What are the threats and vulnerabilities that can result in cyber security attacks?

Half term 2

- How should businesses respond to a cyber-security incident? What documentation is required?
- What is the project life cycle? Why is it used?

Half term 3

- What are the principles of Information Security? Can you explain the risks, impacts and protection measures?
- What documentation is needed at the Initiation and Planning phases of the PLC? You will use this documentation for your own project.

Half term 4

- What documentation is needed at the Execution and Evaluation phases of the PLC? You will use this documentation for your own project.

Half term 5

- A period of revision in preparation for the IT Level 3 external unit 3 exam and any resit units.
- A period of coursework improvements to secure grades.

Half Term 6

- A period of revision in preparation for the IT Level 3 external exams unit 3 and any resit units.