



Course Outline

ICT Year 11

Inspiring excellence, empowering global minds

Overview

The IGCSE ICT Syllabus at GEMS Wesgreen International School aims to encourage learners to develop lifelong skills, which will be useful to them in their work across the curriculum and prepare them for future employment. The syllabus combines theoretical and practical studies focusing on the ability to use common software applications to solve problems, including word processors, spreadsheets, databases, interactive presentation software, web browsers and website design. Learners analyse, design, implement, test and evaluate ICT systems, ensuring that they are fit for purpose.

Learning Outcomes

The aims of all subject's state what a teacher may expect to teach and what a student may expect to experience and learn. These aims suggest how the student may be changed by the learning experience. Our program balances a thorough knowledge and understanding of Technology and help to develop the skills learners need for their next steps in education or employment.

The aims of the ICT Syllabus are to encourage and enable students to:

- understand and use applications effectively
- use Information and Communication Technology (ICT) to solve problems
- analyse, design, implement, test and evaluate ICT systems, ensuring that they are fit for purpose
- understand the implications of technology in society, including social, economic and ethical uses
- be aware of the ways ICT can help in home, learning and work environments
- use discussion in order to learn; they should be able to elaborate and explain clearly their understanding and ideas
- are competent in the arts of speaking and listening, making formal presentations, demonstrating to others and participating in debate

Ongoing Objectives

There are objectives that are covered and built upon throughout each unit of work.

Theory

- Learners study the structure and use of ICT systems within a wide range of organisations, including the use of a variety of computer networks.
- Learners gain an understanding of ICT system life cycles, and how these affect the workplace.
- Learn about the wider impact of ICT on society in general.
- Learn about safety & security while accessing the internet.
- Learn how to effectively communicate online.
- Understand how data is communicated over networks through transmission, and the many roles required for the internet to operate (browsers, ISPs, HTML, security, etc).

- Understanding the inner workings of computer hardware, from their circuits and processors, to the different devices or media we connect into them.
- Considering ethical issues that have been raised as a result of the spread of electronic communication and computer systems (hacking, malware, copyright, etc).

Practical

- Use a computer's system hardware and software safely and securely to create a variety of business documents.
- Use an input device to enter and manipulate data accurately from a variety of sources.
- Ability to manipulate and integrate data across different applications.
- Understanding the purpose and benefits of databases, and learning how to create one with specific features (queries, primary keys, relationships).
- Create and print an integrated document, combining text, numeric and tabular data, an image and a graph
- Format page layout and manipulate text according to a house style
- Use mail merge facilities to create, format and print a mail merge master document and mail merged documents.

Unit Overviews

Term 1

Unit 4 - Networks and the effects of using them.

Approximate length: 2 weeks

In this unit of Grade 10/ Year 11, the children will explore the different types of computer networks and devices. The students understand how to set up and configure a small network, including: access to the internet, the use of a browser, the use of email, access to an Internet Service Provider. Students compare advantages and disadvantages of varied form of network communication methods and types of networks.

Specific National Curriculum Objectives Covered:

- Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct, and know how to report concerns
- Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.

Unit 7 - Systems Life Cycle

Approximate length: 2 weeks

In this unit, students identify the stages which occur during the development of a new ICT system. They apply the knowledge to describe the stages of development of a hardware/software system.

Specific National Curriculum Objectives Covered:

- Understand how instructions are stored and executed within a computer system.
- Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users.

Unit 21 - Website Authoring**Approximate length: 7 weeks**

In this unit, students identify and describe alternative methods of designing websites using the three web development layers. They understand the function of the content, presentation and behaviour layer. They will use website authoring software (or a web editor) to create and modify webpages.

Specific National Curriculum Objectives Covered:

- Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users.
- Develop their capability, creativity and knowledge in computer science, digital media and information technology.

Term 2**Unit 6 - ICT applications****Approximate length: 7 weeks**

This chapter covers a number of applications connected with ICT. Many of the applications bring together notes from earlier and later chapters in the syllabus. The student's complete exercises to help develop a better understanding of how these applications make use of various ICT technologies. It helps them have an understanding of a range of IT applications in their everyday life and be aware of the impact of IT in terms of communicating applications, data handling applications, measurement applications, control & modelling applications.

Specific National Curriculum Objectives Covered:

- To understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- To understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems
- To understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally

Term 3**Study leave for IGCSE Exams with support lessons for revision provided at school**

Assessment

Assessment of the practical tests is hardware and software independent. Any hardware platform, operating system, and applications packages can be used, providing those learners have the opportunity to demonstrate the full range of skills in the syllabus.

Formative: Throughout the units, the students will complete graded work, quizzes and theory and practical tasks which allows the teacher to assess the student's attainment and modify their planning.

For each unit, the students complete a topic tests and quizzes. This allows us to see progress across the units.

Summative: At the end of each term, we complete internal end of term exam that includes both the theory and practical concepts. This allows us to measure the students' progress throughout the term. At the end of February, the students will sit for the AS Mock IT exam for both theory and practical which helps them to prepare for the final external exams from Cambridge.