

Liceo Scientifico Michelangelo, Cagliari, End of Year Report for Activities Completed

1D IGCSE Computer Science Programme

2025-2026

Materia: IGCSE Computer Science

Periodo: Dal 1° ottobre 2025 al 8 giugno 2026

Classe: 1D

Numero di ore: 58 ore

Docente: Linda Helen Strydom

CLASSWORK AND MODULES COVERED IN CLASS:

Pages 2 – 77 of text book: *“Computer Science for Cambridge IGCSE™ & O Level Course Book 2nd Edition”* by Sarah Lawrey & Victoria Ellis

1. Data Representation:

- 1.a Introduction - Main Components of a Computer
- 1.1 What is Binary, Converting from Binary to Denary
- 1.2 Converting from Binary to Denary
- 1.3 Hexadecimal - Converting denary numbers to hexadecimal
- 1.4 What is Hexadecimal, Converting from Hexadecimal to Binary and then Denary.
- 1.5 Adding binary numbers
- 1.6 Logic shifts and Two's Complement
- 1.7 How computers represent text
- 1.8 How Computers Represent Images
- 1.9 How Computers Represent Sound
- 1.10 Measurement of Data Storage
- 1.11 Data Compression

2. Data Transmission

- 2.1 Data Packages
- 2.2 Packet switching
- 2.1.2.& 2.1.3. Methods of Data Transmission & USB interface
- 2.2 Methods of Error Checking: Why errors occur & why checks are needed, Parity Checks, Checksums, Echo Checks
- 2.2 Methods of Error Checking: Automatic Repeat Request (ARQ), Check digit

3. Hardware

- 3.1.1 The Role of the CPU/Microprocessor and its Key Components
- 3.1.2 Von Neumann Architecture
- 3.1.3 Core, Cache and the Clock in the CPU
- 3.2 Input and output devices
- 3.3 Sensors
- 3.4 Data Storage
- 3.5 Network Hardware

CLASS ACTIVITIES AND HOMEWORK:

- Activities & past paper questions in text book
- Exam questions from previous papers
- Worksheets
- Explanatory videos

(more specific details of activities covered in class available on DidUp)

END OF TOPIC TESTS:

- Binary and Hexadecimal test
- Representation of Text, Images and Sound; Data Storage test
- Data Transmission Test