

PROGRAMMA di INFORMATICA A.S. 2021/2022 - INDIRIZZO LICEO SCIENTIFICO
Opzione SCIENZE APPLICATE CAMBRIDGE 1 I

Unità didattica di apprendimento	CONOSCENZE
<p>ACS-CD-UDA 2</p> <p>La codifica digitale dei dati / Data Representation</p>	<p>Denary system Binary and Hexadecimal systems Converting Binary/Hexadecimal to Denary Converting Denary to Binary Converting Denary to Hexadecimal Converting Binary to Hexadecimal Why is Hexadecimal used in computer science? Binary addition Logical Binary Shifts Negative Binary Numbers Converting Text to Binary Converting Images to Binary (resolution, RGB/colour depth, size of the image file) Converting Sound to Binary (sampling, sample rate, sample resolution) Measuring data storage Calculating the size of an image file Calculating the size of a sound file Data Compression</p>

Unità didattica di apprendimento	CONOSCENZE
<p>RC-SP-UDA 1</p> <p>La trasmissione dei dati in rete, la sicurezza nella trasmissione / Data Transmission</p>	<p>The structure of a data packet, packet switching, methods of data transmission (Serial data transmission, Parallel data transmission). Parallel Data transmission adv vs. disadv, USB, Transmission errors Error detection methods, Parity check (Even and Odd Parity check) Checksum, Echo check, Check Digit ARQ, Encryption</p>

Unità didattica di apprendimento	CONOSCENZE
<p>ACS-CD-UDA 1</p> <p>Architettura di un computer / Hardware part 1</p> <p>RC-SP-UDA 3</p> <p>Dispositivi di I/O / Hardware part 2</p>	<p>L'architettura di Von Neumann, CPU vs Microprocessor, Fetch-Decode-Execute cycle Fetch-Decode-Execute cycle, Fattori che influenzano le performance di una CPU. Input devices and Output devices. Data Storage (Primary and Secondary Storage) Optical secondary storage type</p>

RC-SP-UDA 2	Magnetic secondary storage type Solid-State secondary storage type
Rete / Hardware part 4	Virtual memory Cloud Storage
RC-SP-UDA 4	Network Hardware (Network, NIC, Router, IP address vs. MAC address)
Dispositivi di memorizzazione (Data Storage) / Hardware part 3	IPv4 vs. IPv6, Static IP vs. Dynamic IP

Unità didattica di apprendimento	CONOSCENZE
ACS-CD-UDA 4	Logic Gates (NOT, AND, OR, NAND, NOR, XOR ed XNOR, Truth table), logic circuits
Logica booleana / Boolean Logic	Representing problem statements

LUOGO e DATA

Palermo, 31/05/2022

FIRMA DOCENTE

