

**CLASSE: 5AT**

**MATERIA: LINGUA INGLESE**

**DOCENTE: TIZIANO LAVORINI**

**PROGRAMMA SVOLTO A.S. 2022/23**

**CONTENUTI DISCIPLINARI E TEMPI DI REALIZZAZIONE**

Settembre 2022 – prima metà ottobre 2022
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**MODULE 1 – Electricity**

- Electric circuits: the basics, main components of a simple circuit and main types (series vs parallel);
- Types of materials (conductors, insulators, semiconductors and superconductors);
- Electric motors and their basic configurations (stepper motors, linear motors, servomotors and universal motors);
- Grammar review: linking words (of time, cause/effect, addition/contrast).

Seconda metà ottobre 2022 – dicembre 2022
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**MODULE 2 – Energy sources**

- What is energy and how can we produce it?
- Renewable or “green” energy sources (solar, geothermal, wind, hydropower, tidal and biomass);
- Non-renewable energy sources (fossil fuels: oil, coal and natural gas; nuclear energy: uranium);
- Grammar: verb tenses review.

**EDUCAZIONE CIVICA**

Caring for our planet: riflessione su temi di educazione e consapevolezza ambientale quali le 3R (reduce, reuse, recycle), inquinamento e cambiamento climatico (Agenda 2030, obiettivi 12 e 13).

Gennaio 2023 – marzo 2023
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**MODULE 3 – Automation**

- The types of automation (basic, process, integration, artificial intelligence);
- Control systems: the steps of the feedback loop (measurement, evaluation, control);
- The PLC (Programmable Logic Controller) and its functioning;
- Industrial automation for technical drawing (CIM, CAD, CAM systems), CNC machines and 3D printers;
- Sensors and actuators;
- Domotics and smart homes;
- Grammar review: phrasal verbs.

Aprile 2023 – maggio 2023

#### MODULE 4 – Robotics

- Robots vs human beings;
- The basics of robotics: how a robot works and moves;
- Varieties and uses of robots;
- Industrial robots in manufacturing;
- The robotic arm (articulated robots).

Viareggio, in data 31/05/2023 il programma è stato condiviso con gli studenti.

Il docente

Ezra Laborini

Gli studenti

Christian Lancia  
Roberto Fumero