



ISTITUTO di ISTRUZIONE SUPERIORE

Ettore Majorana
Avezzano (AQ)

PROGRAMMA SVOLTO Classe 5N

A.S. 2022/2023

Disciplina: Inglese

Docente:

Testi: **Engage! 2** by M. Berlis, J. Bowie, H. Jones, - Ed. Pearson-Longman
Smartmech Premium by R.A. Rizzo – Ed. Eli Publishing
New On Charge by A. Strambo, P. Linwood, G. Dorrity
New Grammar Files by E. Jordan, P. Fiocchi – Ed. Trinity Whitebridge

1° Periodo Didattico – TRIMESTRE

Engage! 2 Unit 2/3/4/5/6/7/8: ripasso approfondito delle strutture grammaticali

Engage! 2 Unit 9 “One world”

Vocabulary: Natural disasters, Ecology, Ecology and environmental awareness

Grammar: Third conditional, Conditionals - revision, I wish/If only + Past perfect,

Non-defining relative clauses

Functions: Interrupting and regaining control of a conversation; Criticising - responding to criticism

Reading: When Nature rebels..., Renewable Energy – a solution for the future?, Carbon footprint: walking to disaster?

Engage! 2 Unit 10 “Just the job!”

Vocabulary: Jobs and training, Job skills and personal qualities, School exams and preparation

Grammar: Reported statements, Reported questions, Reported requests and imperatives

Functions: Asking for repetition and clarification, Rephrasing, Checking understanding

Reading: Careers page, The future of work, The next step?

Educazione Civica:

Sviluppo sostenibile “E-waste”

2° Periodo Didattico - PENTAMESTRE

Dai libri di testo di microlingua **Smartmech Premium** (Meccanica/Meccatronica) e **New On Charge** (Elettronica/Elettrotecnica) sono state estrapolate delle letture tenendo conto dell'affinità con le materie caratterizzanti il corso, con l'obiettivo di sviluppare le abilità comunicative nei settori della tecnologia meccanica, della meccanica/meccatronica e dell'elettronica/elettrotecnica.

Argomenti comuni (Indirizzi Elettrotecnica e Meccanica/ Meccatronica)

Pollution

- Current commitments
- Effects of Global warming

Materials science

- Microchips
- Properties of materials: Mechanical properties (strength, plasticity, elasticity, hardness, brittleness, fatigue), Thermal properties (t.conductivity, expansion, melting point), Electrical-magnetic and Chemical properties (e.conductivity, e.resistivity, resistance to chemicals)

Nanotechnology

- A smaller and smaller world
- Nanomaterials
- Nanotechnology in everydaylife
- Biocompatible nanomaterials
- Quantum computers

Electricity generation

- Energy resources
- Generation
- Energy production- which way forward?
- Solar power
- Wind power
- Biomass
- Geothermal energy

Robotics and Automation

- Robots
- FAQs about robots: Can robots see?, Can robots think?, What can they do?

Argomenti su New On Charge: (Indirizzo Elettrotecnica)

Basic Electricity:

- The atom and current electricity
- Atomic and sub-atomic particles
- The CERN Particle Accelerator
- Electric charges and static electricity;

Materials and their electrical properties

- Conductors, insulators, semiconductors and superconductors

The principles of Magnetism

- Magnetism and Electromagnetism

Current and circuits

- DC and AC circuits
- Danger! Electric shock!

Argomenti su Smartmech Premium: (Indirizzo Meccanica/Meccatronica)

Engineering and Mechatronics:

- What is engineering?
- Main branches
- A subject to study

Roles in engineering:

- Mechanical engineers, Main tasks
- Mechanical engineers and computer systems

- Major areas of interest in mechanical engineering

Careers:

- Mechanics
- Professional welders

Production stages:

- Design and drawing
- Manufacture
- Jobs in the production stages

Systems and Automation: Mechatronics

- Automated factory organization
- Numerical control and CNC

Educazione Civica:

Sviluppo sostenibile "Safety"

- The importance of Safety
- Spot the Hazard
- Assess the risk
- Insurance
- Safety education
- Safety signs
- Accidents at work
- Safe working practice
- Safety in the workplace: Ergonomics

Avezzano, 10-06-2023