

Programma del Corso di Lingua Inglese
Corso di Laurea in Fisica

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Il programma comprende lezioni ed esercitazioni ad impostazione modulare volte a favorire la conoscenza della lingua inglese con riferimenti alla semantica ed alla pragmatica del discorso scientifico, con particolare riferimento al campo disciplinare. A tal fine, le strutture grammaticali e relative funzione, discusse in classe, si analizzano con riferimento a forme espressive e strategie espositive del contesto culturale. Si inizia con la costruzione di frasi semplici per poi esemplificare argomentazioni appropriate al contesto culturale. Lo sviluppo delle quattro abilità comunicative (parlare, leggere, scrivere, comprendere) viene sostenuto tramite la simulazione, in aula, di interazioni discorsive pratiche. Le esercitazioni (prove scritte ed orali) servono per sviluppare nello studente conoscenze linguistiche, capacità di comprendere presentazioni orali e testi scritti, nonché abilità comunicative inerenti al contesto scientifico.

Le attività e gli esercizi svolti durante l'anno sono presenti nel testo di base e vengono integrati con materiale autentico. Il contenuto linguistico-semantico del manuale è arricchito con letture di articoli, su tematiche di interesse generale e disciplinare, scelti da riviste specialistiche e da internet. La prova di profitto finale comprende una parte scritta ed una orale, svolte in lingua inglese, per verificare le capacità espositive e comunicative acquisite. Essa si basa sia sugli argomenti di grammatica, sintassi, semantica e retorica che sono incorporate nelle operazioni linguistico-retoriche sotto elencate, sia sulla comprensione delle letture proposte durante il corso.

- Expressing numbers and basic operations, describing 2- and 3-dimensional figures, defining simple tools: shape, size and use.
- Describing angles, lines and graphs, reading mathematical symbols, equations and formulae.
- Describing position, movement, action and direction of objects in space.
- Describing qualities of materials, colours, appearances, simple apparatuses and related experiments
- Classification, definition and comparison of substances and physical properties.
- Simple instructions, directions, warnings.
- Time and logical sequencing in the description of a process.
- Explaining cause and reason, drawing contrast, difference and similarity.
- Stating probable, hypothetical and theoretical results, suggesting possible cause, effect and result.
- Reporting actions, observations and findings, accounting for results, stating conclusions.
- Main parts of a scientific report and their rhetorical function.

Morphologic, syntactic and pragmatic specifications relevant to the English course

- To be and to have as main and auxiliary verbs. Impersonal statements with 'it' and 'there'.
- Nouns: countable, uncountable, dual and mass.
- The simple present: to express states, general truths, habits, mathematical concepts.
- The future tense: to signal predictions, intentions and anticipation.
- Adverbs and prepositions of space and movement, manner, means and instruments.
- Simple statements of comparison and contrast: equal, different and proportional relations.
- The possessive genitive: saxon and 'of' genitive in descriptive statements.
- Fronted statements. Noun phrases, modifiers and qualifiers of nouns and phrases.
- Epistemic modals: to express mental and/or physical ability, possibility, necessity, probability, remote possibility, suppositions.
- Deontic modals: to grant or refuse permission; to signal: compulsion, duty, moral obligations.
- The imperative mood: direct and hedged forms in scientific instructions.
- The passive voice: present and past tense, by and the agent, agentless passive or thematic focus in instructions, descriptions of processes, observations and deductions.
- The relative clauses: identifying, non-identifying and reduced relative clauses.
- The indefinite article: in definitions, introductions and partitive phrases.
- The definite article: anaphoric, cataphoric and deictic reference.
- The present perfect: to focus on events and results.
- The simple past and past perfect: to locate experimental data within a time frame.

- The first, second and third type conditional: implications and possible adverbials.
- Time sequencing and logical connectors to signal cause, effect and results.
- The five phases of a scientific report: conceptual paragraphs and logical organization of content matter and argumentation.

Testi consigliati:

Basic English for Science (Oxford University Press, Oxford 1994)

A Concise Dictionary of Physics (Oxford University Press, Oxford 1996)

Dispensa di grammatica (disponibile in classe)

Readings: AA 2007-2008

1. Graphite and diamond. *Scientific American*.
2. A 'fictitious force'. *Scientific American*, September 2007.
3. Why apples brown? *Scientific American*, September 2007.
4. The truth about black holes. *New Scientist*, October, 2007.
5. Origin of bird flight. *Physics Teacher*, Sept. 2006.
6. Particles or waves? *The mysterious universe*.
7. Matter, mass and energy. *The mysterious universe*.
8. Belief and matter. *Physics Today*, Jan. 2007.
9. The book of nature. *Physics World*, Dec. 2006.
10. Heat propagation. *Essential Physics, Chemistry and Biology*, 1996.
11. The saving of planet Gaia. *New Scientist*, March 2006.