

Programma del Corso di Lingua Inglese A.A. 2005-2006
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. A tal fine, le strutture grammaticali si analizzano in relazione a funzioni espressive e strategie espositive del contesto culturale partendo da frasi semplici verso argomentazioni articolate. Lo sviluppo delle quattro abilità comunicative (parlare, leggere, scrivere, comprendere) viene sostenuto tramite la simulazione di interazioni discorsive pratiche.

Le attività e gli esercizi svolti durante l'anno sono presenti nel testo di base. Il contenuto linguistico-semantico del manuale viene arricchito con letture di articoli, su tematiche di interesse generale e disciplinare, scelti da riviste specialistiche. Gli argomenti di grammatica, sintassi, semantica e retorica esplorati in classe sono indicati (B). Per la prova di profitto finale, che comprende una parte scritta ed una orale, si richiama l'attenzione sia sulle operazioni linguistico-retoriche (A), sia sulle letture proposte nel corso dell'anno.

- A)
- 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.
 - 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.
 - Reporting actions, observations and findings, accounting for results, stating conclusions.
 - Correspondence: main parts of a letter.
 - Components of a curriculum vitae.

Readings A.A. 2005-2006: Selezione ed analisi di brani specialistici durante il corso.

1. The spark of Enlightenment. *Nature*, Aug. 2003.
2. How can graphite and diamond differ if they are both composed of pure carbon? *Scientific American*, April 2002.
3. The saving of planet gaia. *NewScientist*, 18 March 2006.
4. Three cosmic enigmas, one audacious answer. *NewScientist*, 11 March 2006.
5. Critical Point: Pythagoras. *Physics World*, January 2006.
6. Particles or waves? *The Mysterious Universe* by Sir James Jeans (extract).*
7. Epistemology engines. *Nature*, July 2000.
8. Winds caused by temperature differences. *Essential Physics, Chemistry and Biology*, 1996.
9. Heat loss from the human body (1 - 2). *Essential Physics, Chemistry and Biology*, 1996.
10. Physics and the real world. *Physics Teacher*, Nov. 1998.**
11. Instant glue. *Scientific American*, April 2004.
12. Matter, mass and energy. *The Mysterious Universe* by Sir James Jeans (extract).*

* Lo studente può scegliere uno dei due brani.

** Brano consigliato per gli studenti del II° e III° anno.

Testi consigliati

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

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

B) Morphologic, syntactic and pragmatic specifications relevant to the English course (A.A. 2004-05)

- 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 anticipations.
- 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 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 and second type conditional: implications and possible adverbials.
- Time sequencing and logical connectors to signal cause, effect and results.