UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Fundamentals of Computer Science for Communication

2223-1-E2004P036

Learning area

Study of the methods through which communication is implemented

Learning objectives

Knowledge and understanding

- Basic knowledge of computer science
- Applied knowledge of computer science
- Related theoretical and application bases for understanding technology-supported communication.

Ability to apply knowledge and understanding

- Understanding of how computers work
- Understanding and application of basic programming concepts
- Practical use of major personal productivity software applications

Contents

The course is structured based on the concepts of "formalization in computer science" and "computer literacy" to allow students to approach new technologies to support communication.

Exercises are planned to provide students with the ability to develop some practical skills on the use of technologies.

Detailed program

LESSONS:

- Historical evolution of computer science; information processing and its tools.
- Formalization and encoding of information: the concept of information; the encoding of data and instructions;
- The hardware component: reference architecture; executor; memory; mass storage devices; the input/output interface; the main peripherals.
- The computer as solver: problems, algorithms and programs;
- Introduction to the main personal productivity software (word processor, spreadsheets and presentation)

EXERCISES:

- Tutorials will introduce the use of operating systems, the main personal productivity applications (word processors, spreadsheets and presentation) and hints at programming principles.

Prerequisites

Not required

Teaching methods

In addition to lectures in the classroom, part of the teaching will take place through the presentation and / or discussion of solutions to exercises and / or examples of use of programming languages. Furthermore, the lessons are supplemented with practical exercises that provide for the presentation and / or conduct of exercises in the computer lab.

Assessment methods

The test of learning consists of a written test and a practical test.

The written test will focus on the contents of the theoretical lessons and will consist of one or more open-ended and/or closed-ended questions and/or exercises and/or case studies aimed at ascertaining the effective acquisition of both the theoretical knowledge and/or the ability to apply this knowledge to the proposed cases. The main evaluation criterion concerns the correctness of the answers provided for the open/closed questions and the correctness of the solutions of the exercises and case studies proposed.

In order to ascertain the student's mastery of the topics covered in the exercises, an oral practical aptitude test will be held. Students in possession of certification attesting the possession of basic computer skills are exempt from this assessment, as considered appropriate at the teacher's discretion.

The exam is considered passed only if a sufficiency is reached in the written test and in the practical test.

For those students who request it, an oral interview is also foreseen, on all the topics of the course, which can lead to an increase or decrease of up to two points on the resulting score.

Textbooks and Reading Materials

LESSONS:

- Sciuto D., Buonanno G., Fornaciari W., Mari L. (2014). Introduzione ai sistemi informatici, 5a Ed., McGraw-Hill.
- Lecturer's Notes..

EXERCISES:

- Any text for ECDL basic preparation.

Sustainable Development Goals