UNIVERSITÀ DI PISA

THEORETICAL FOUNDATIONS AND PROGRAMMING

MARIA EUGENIA OCCHIUTO

Anno accademico	2017/18
CdS	DIGITAL HUMANITIES
Codice	437AA
CFU	12

Moduli	Settore/i	Tipo	Ore	Docente/i
ELEMENTI DI PROGRAMMAZIONE	INF/01	LEZIONI	42	MARIA EUGENIA OCCHIUTO
METODI FORMALI PER L'INFORMATICA	INF/01	LEZIONI	42	CLAUDIO GALLICCHIO MARIA EUGENIA OCCHIUTO

Learning outcomes

Knowledge
The student who successfully completes the course will have the ability to write compile and run programs in the JavaScript language. The students will be aware of the kind of problems that can be solved with a computer.

Assessment criteria of knowledge
The student must be able to solve the exercises of the first test and answer to the questions of the second test

Skills
At the end of the course the student must be able to write simple JavaScript programs using primitive types, arrays and basical control structures. Furthermore he must know the fundamental concepts of the computing theory.

Prerequisites
None, but it is useful for the student to know mathematical and logic basic concepts

Teaching methods
Delivery: face to face
Learning activities:

- attending lectures
- Laboratory work

Attendance: Advised
Teaching methods:

- Lectures
- laboratory

Syllabus
The course is devided in two:
Module A Introduction to computer programming: Introduction to the JavaScript language: command, espressions, declaration, functions, array, associative array
Module B Computer science basic concepts: Formal reasoning and types of proofs, set theory, relations, functions, graphs, threes, automata and grammars

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Bibliography

Module A:
Lectures slides, published on the web course site
V. Ambriola. "Programmazione in JavaScript": Prima parte, Nota didattica, V. Ambriola, in formato pdf

Module B:
Lectures slides, published on the web course site
[1] Hopcroft J. et al., "Introduction to Automata Theory, Languages and Computation" cap.1
[2] T. Cormen et al. "Introduction to algorithms", Jackson libri, cap.5
[3] R. Barbuti et al. Elementi di Sintassi dei Linguaggi di Programmazione", pdf
Testi di consultazione:

1. Automi linguaggi e calcolabilita` Hopcroft J
2. Introduzione alla teoria della computazione M. Sipser

Non-attending students info

None

Assessment methods

The exams consists of 2 tests:
The first test is written and rather practical. It is necessary to write programs and solve exercises. The student can use all the materials he/she wants: books courses notes his/her own notebook etc. Passing the first test admits the student to the second test
The second test is written or on student demand oral. The student must answer to theoretical questions and the student cannot consult books or any other didactic material.

Notes

Attending the lessons is strongly reccomended,

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