



ESCUELA SUPERIOR POLITÉCNICA DEL LITORAL

COURSE SYLLABUS

PROGRAMMING LANGUAGES

Printed by: gvsaltos

Program: Computer Science

1. Course number and name

SOFG1001 - PROGRAMMING LANGUAGES

2. Credits and contact hours

3 credits and 3 contact hours

3. Instructor's course or coordinator's name

RODRIGO ALEXANDER SARAGURO BRAVO

4. Text book, title, author, and year

*Scott, Michael L. PROGRAMMING LANGUAGE PRAGMATICS (4TH ED.)

a. Other supplemental materials

*Sebesta, Robert W. Concepts of Programming Languages (10th Edition)

*Pérez, Y. P., & López, L. M.. Multiparadigma en la enseñanza de la programación (IX Workshop de Investigadores en Ciencias de la Computación)

*Zenger, M., & Odersky, M.. Implementing extensible compilers (2001)

*Ralston, Anthony & Reilly, Edwin D. & Hemmendinger, David. Encyclopedia of computer science (4th Edition)

*Burns, A., & Wellings, A.. Sistemas de tiempo real y lenguajes de programación (2003)

*Dabek, F., Zeldovich, N., Kaashoek, F., Mazières, D., & Morris, R.. Event-driven programming for robust software ()

*Kahanwal, D.. Abstraction level taxonomy of programming language frameworks ()

*Sebesta, Robert W. Concepts of Programming Languages (10th Edition)

*Sebesta, Robert W. Concepts of Programming Languages (10th Edition)

*Sebesta, Robert W. Concepts of Programming Languages (10th Edition)

5. Specific course information

a. Brief description of the content of the course (catalog description)

This course presents the fundamentals of the design and implementation of programming languages. It emphasizes its criteria, domains and proposes the development of projects in different programming languages focused on multiple paradigms.

b. Prerequisites

OBJECT ORIENTED PROGRAMMING - CCPG1005

c. This course is a: Required

6. Specific goals for the course

a. Specific outcomes of instruction

1.- Explain the construction of interpreters and compilers by associating the different stages of the translation of a program.

2.- Describe the context-free syntax and grammar BNF (Backus-Naur Formalism) by analyzing the most common methods, derivations, trees of syntactic analysis, semantics and ambiguity.



ESCUELA SUPERIOR POLITÉCNICA DEL LITORAL

COURSE SYLLABUS

PROGRAMMING LANGUAGES

Printed by: gvsaltos

Program: Computer Science

3.- Contrast the design of programming languages, subprograms, concurrency of processes and their paradigms, identifying their characteristics and similarities for the development of computational solutions.

b. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course

7. Brief list of topics to be covered

- 1.- Introduction to programming languages
- 2.- Architecture of translators, compilers, interpreters
- 3.- Data types, expressions, variables, declaration of assignment and control flow
- 4.- Subprograms
- 5.- Data abstraction
- 6.- Object and aspect oriented programming
- 7.- Functional and logical programming
- 8.- Concurrent programming and another paradigms