30230 - Language Processors

Syllabus Information

Academic Year: 2020/21
Subject: 30230 - Language Processors
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 439 - Bachelor's Degree in Informatics Engineering
ECTS: 6.0
Year: 3
Semester: Second semester
Subject Type: ---
Module: ---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. The learning process designed for this subject is based on the following:

- The presentation of the contents of the subject in lectures by the teacher.
- Personal study of the subject by students.
- The theoretical and practical resolution of specific problems.
- The development of specific and guided practices by students.

4.2.Learning tasks

The course includes the following learning tasks:

- Lectures taught in the classroom.
- Practical sessions to apply specific concepts and techniques presented in the course.
- Application of the concepts and techniques developed during the course through tutored sessions.

4.3.Syllabus

Lectures and problem classes will address on the study of the following topics:

- Topic 1: Introduction. Language processors.
- Topic 2: Lexical Analysis. Automata and regular expressions.
- Topic 3: Parsing. Grammars and classification. Transformations.
- Topic 4: Semantic analysis. Symbol table.
- Topic 5: Runtime Environments.
- Topic 6: Generation and code optimization.

Practical sessions will be conducted through the construction of a compiler for a simple language from scratch, resulting in code generation and execution of such language.

4.4.Course planning and calendar

The planning and scheduling will be defined by the center in the academic calendar of the corresponding course.

Student Work
- Lectures: 30 hours
- Practical classes: 30 hours
- Off-site activities: 85 hours (approx.)
- Theoretical/practical evaluation: 3 hours
- Practical assessment activity: 3 hours

4.5.Bibliography and recommended resources

http://psfunizar7.unizar.es/br13/egAsignaturas.php?codigo=30230&Identificador=14694

- [BB] Aho, Alfred V.. Compiladores : principios, técnicas y herramientas / Alfred V. Aho, Ravi Sethi, Jeffrey D. Ullman . - 1a ed., 1a reimpr. Wilmington, Delaware : Addison-Wesley Iberoamericana, 1998
- [BB] Cooper, Keith D. Engineering a compiler / Keith D. Cooper, Linda Torczon . 2nd ed. San Francisco : Morgan Kaufmann, cop. 2012
- [BB] Muchnick, Steven S.. Advanced compiler design and implementation / Steven S. Muchnick . San Francisco, California : Morgan Kaufmann, cop. 1997
- [BB] Scott, Michael Lee. Programming language pragmatics / Michael L. Scott San Francisco [etc.] : Morgan Kaufman, cop. 2000