



Year : 2018/19

## **30230 - Language Processors**

### **Syllabus Information**

<b>Academic Year:</b>	2018/19
<b>Subject:</b>	30230 - Language Processors
<b>Faculty / School:</b>	110 -
<b>Degree:</b>	439 - Bachelor's Degree in Informatics Engineering
<b>ECTS:</b>	6.0
<b>Year:</b>	3
<b>Semester:</b>	Indeterminate
<b>Subject Type:</b>	
<b>Module:</b>	---

### **General information**

#### **Aims of the course**

#### **Context and importance of this course in the degree**

#### **Recommendations to take this course**

#### **Learning goals**

#### **Competences**

#### **Learning goals**

#### **Importance of learning goals**

#### **Assessment (1st and 2nd call)**

#### **Assessment tasks (description of tasks, marking system and assessment criteria)**

#### **Methodology, learning tasks, syllabus and resources**

#### **Methodological overview**

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.

## 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.

## Syllabus

Lectures and problem classes will focus 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.

## 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

## Bibliography and recommended resources

[BB: Bibliografía básica / BC: Bibliografía complementaria]

- [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