

Academic Year: ( 2022 / 2023 )

Review date: 05-06-2022

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: ALONSO WEBER, JUAN MANUEL

Type: Compulsory ECTS Credits : 6.0

Year : 3 Semester : 2

**REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)**

Programming (Course 1 - Semester 1)

Automata and Formal Language Theory (Course 2 - Semester 1)

**DESCRIPTION OF CONTENTS: PROGRAMME**

- 1.- Introduction to translators.
- 2.- Lexical analysis.
- 3.- Syntax analysis.
- 4.- Syntax error handling.
- 5.- Semantic analysis.
- 6.- Type verification.
- 7.- Intermediate code generation.
- 8.- Machine code generation.
- 9.- Symbol table and execution environment.
- 10.- Code optimization.
- 11.- Specific aspects.

**LEARNING ACTIVITIES AND METHODOLOGY****THEORETICAL-PRACTICAL CLASSES.** [44 hours with 100% classroom instruction, 1.67 ECTS]

Knowledge and concepts students must acquire. Student receive course notes and will have basic reference texts to facilitate following the classes and carrying out follow up work. Students partake in exercises to resolve practical problems and participate in workshops and evaluation tests, all geared towards acquiring the necessary capabilities.

**TUTORING SESSIONS.** [4 hours of tutoring with 100% on-site attendance, 0.15 ECTS]

Individualized attendance (individual tutoring) or in-group (group tutoring) for students with a teacher.

**STUDENT INDIVIDUAL WORK OR GROUP WORK** [98 hours with 0 % on-site, 3.72 ECTS]**WORKSHOPS AND LABORATORY SESSIONS** [8 hours with 100% on site, 0.3 ECTS]**FINAL EXAM.** [4 hours with 100% on site, 0.15 ECTS]

Global assessment of knowledge, skills and capacities acquired throughout the course.

**METHODOLOGIES**

**THEORY CLASS.** Classroom presentations by the teacher with IT and audiovisual support in which the subject's main concepts are developed, while providing material and bibliography to complement student learning.

**PRACTICAL CLASS.** Resolution of practical cases and problem, posed by the teacher, and carried out individually or in a group.

**TUTORING SESSIONS.** Individualized attendance (individual tutoring sessions) or in-group (group tutoring sessions) for students with a teacher as tutor.

**LABORATORY PRACTICAL SESSIONS.** Applied/experimental learning/teaching in

workshops and laboratories under the tutor's supervision.

#### ASSESSMENT SYSTEM

##### SE1 - FINAL EXAM. [40 %]

Global assessment of knowledge, skills and capacities acquired throughout the course.

##### SE2 - CONTINUOUS EVALUATION. [60 %]

Assesses papers, projects, class presentations, debates, exercises, internships and workshops throughout the course.

The continuous assessment mark will be determined based on:

- Mid term exam: 33%
- Practical exercises and examination: 67%

The final exam is compulsory, the student must obtain a minimum mark of 3 points out of 10 to pass the subject.

<b>% end-of-term-examination:</b>	40
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	60

#### BASIC BIBLIOGRAPHY

- A. V. Aho and Ravi Sethi and J. D. Ullman Compilers: Principles, Techniques and Tools, Addison-Wesley , 2007
- Kenneth C. Louden Compiler Construction: Principles and Practice , PWS Publishing Company, 1997

#### ADDITIONAL BIBLIOGRAPHY

- Dick Grune, Henri E. Bal, Cerial J.H. Jacobs, Koen G. Langendoen Modern Compiler Design, John Wiley & Sons, 2000
- Doug Brown, John Levine, Tony Mason Lex & Yacc, O'Reilly Media, Inc., 1995
- F. J. Sanchis and C. Galán Compiladores: Teoría y Construcción, Paraninfo, 1986
- Garrido, Iñesta, Moreno, Pérez Diseño de Compiladores, Publicaciones Universidad de Alicante, 2002