

Academic Year: (2022 / 2023)

Review date: 12-05-2022

Department assigned to the subject: Mathematics Department

Coordinating teacher: RODRIGUEZ GARCIA, JOSE MANUEL

Type: Compulsory ECTS Credits : 6.0

Year : 2 Semester : 2

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Linear Algebra (Course : 1 Semester : 1),
Differential Calculus (Course : 1 Semester : 1),
Integral Calculus (Course : 1 Semester : 2),
Vector Calculus (Course : 1 Semester : 2).

DESCRIPTION OF CONTENTS: PROGRAMME

1. Holomorphic functions.
2. Analytic functions: power series and elementary functions
3. Complex integration: Cauchy's integral formula and applications
4. The residue theorem and applications: evaluation of integrals and series
5. Conformal maps

LEARNING ACTIVITIES AND METHODOLOGY**LEARNING ACTIVITIES AND METHODOLOGY**

THEORETICAL-PRACTICAL CLASSES. [44 hours with 100% classroom instruction, 1.76 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, 0.16 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, 3.92 ECTS]

FINAL EXAM. [4 hours with 100% on site, 0.16 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 problems, 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.

ASSESSMENT SYSTEM**EVALUATION SYSTEMS**

SE1 - FINAL EXAM. [50%]

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

SE2 - CONTINUOUS EVALUATION. [50%]

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

% end-of-term-examination:	50
% of continuous assessment (assignments, laboratory, practicals...):	50

BASIC BIBLIOGRAPHY

- CHURCHILL, R.V. and BROWN, J.W. Complex variables and applications, McGraw Hill, 1992
- CHURCHILL, R.V. and BROWN, J.W. Complex variables and applications: Selected Solutions to Exercises, McGraw Hill, 1992
- LARS V. AHLFORS Complex Analysis, McGraw Hill, 1979
- LEVINSON, N. and REDHEFFER, R. M. Complex Variables, Holden-Day, 1970
- SPIEGEL, M.R. Schaum's Outlines: Complex Variables, McGraw Hill, 1964

ADDITIONAL BIBLIOGRAPHY

- PESTANA, D., RODRÍGUEZ, J.M. and MARCELLÁN, F. Curso práctico de variable compleja y teoría de transformadas, Pearson, 2014