Degree in Physics

FIRST YEAR

COURSE	MATHEMATICAL ANALYSIS			SIGA Code 730001
Type Core	**Year** 1st	**Period** Annual	**Hours per week** 4	**ECTS Credits** 11
Course description	Differential and integral calculus with one or more variables. Vector analysis.			
Methodology	- Theoretical classes - Practical classes			
Assessment	Students will be given two mid-term exams. Students who pass these exams will not be required to take the final exam in June. Students who do not pass will only be required to take an exam in June on the content corresponding to the mid-term exam or exams that they did not pass during the course. Each mid-term exam must be passed separately. In the exam sessions of September and December students will be given an exam on the entire course content. The grades obtained on previous mid-term exams or on the final exam in the June exam session will not count towards the September or December exams.			

COURSE	ALGEBRA AND GEOMETRY			SIGA Code 730002
Type Core	**Year** 1st	**Period** Annual	**Hours per week** 4	**ECTS Credits** 11
Course description	Linear algebra. Groups. Vector spaces and linear applications. Matrices. Determinants. Proper values and vectors. Linear geometry. Differentiable curves and surfaces.			
Methodology	- Theoretical classes - Practical classes			
Assessment	- Theoretical exam - Practical exam			

COURSE	EXPERIMENTAL METHODS IN GENERAL PHYSICS			SIGA Code 730003
Type Core	Year 1st	Period Semester	Hours per week 3	ECTS Credits 4.1
Course description	Nature of physical phenomena and their measurement. Data treatment in General Physics.			
Methodology	- Theoretical classes - Practical classes			
Assessment	- Practical assignments - Laboratory exam - Written exam			

COURSE	BASIC SCIENTIFIC PROGRAMMING			SIGA Code 730006
Type Compulsory	Year 1st	Period Semester	Hours per week 3	ECTS Credits 5.5
Course description	Introduction to computer science. Information representation. Peripherals. Computer software. Operating systems. Programming methodology and technology. Data organisation. Files.			
Methodology	- Theoretical classes - Practical classes			
Assessment	**Theory and Practicals:** As this is a semester course, there will be no mid-term exams. At the exam session of February and in the resit sessions of September and December (only for students who are repeating the course) students will be given an exam on the entire course content.			

COURSE	GENERAL PHYSICS			SIGA Code 730004
Type Compulsory	Year 1st	Period Annual	Hours per week 5	ECTS Credits 13.8
Course description	Introduction to computer science. Information representation. Peripherals. Computer software. Operating systems. Programming methodology and technology. Data organisation. Files.			
Methodology	- Theoretical classes - Practical classes			
Assessment	**Theory and Practicals:** As this is a semester course, there will be no mid-term exams. At the exam session of February and in the resit sessions of September and December (only for students who are repeating the course) students will be given an exam on the entire course content.			

COURSE	CHEMISTRY			SIGA Code 730005
Type Compulsory	Year 1st	Period Semester	Hours per week 3	ECTS Credits 5.5
Course description	Basic principles of Chemistry. Atomic and molecular structure, solutions, chemical and electrochemical balance. Chemical change.			
Methodology	- Theoretical classes - Practical classes			
Assessment	**Theory:** A written exam will be given for each exam session. **Practicals:** Continuous assessment of laboratory performance and a practicals report.			

SECOND YEAR

COURSE	EXPERIMENTAL METHODS IN MECHANICS AND WAVES			SIGA Code 730012
Type Core	Year 2nd	Period Semester	Hours per week	ECTS Credits 4.1
Course description	Nature of physical phenomena and their measurement (Mechanics and Waves).			
Methodology	- Theoretical classes - Practical classes			
Assessment	**Theory:** A written exam will be given for each exam session. **Practicals:** Continuous assessment of laboratory performance and a practicals report.			

COURSE	WAVE MECHANICS			SIGA Code 730009
Type Core	Year 1st	Period Annual	Hours per week 4	ECTS Credits 10.1
Course description	Newtonian and relativistic mechanics. Elements of analytical mechanics. Fluid mechanics. General aspects of wave physics. Elastic waves in fluids and isotropic solids.			
Methodology	- Theoretical classes - Practical classes			
Assessment	**Theory:** There will be two mid-term exams during the course. If students do not pass the mid-term exams they may resit the exam in July and September. **Practicals:** The practicals will be assessed by means of an exam with problems to be resolved. The exam will be conducted at the same time and in the same conditions as the exam on theory.			

COURSE	MATHEMATICAL METHODS			SIGA Code 730010
Type	**Year**	**Period**	**Hours per week**	**ECTS Credits**
Core	2nd	Semester	4	5.5
Course description	Algebra. Mathematical analysis. Operational statistics and research. Atomic physics and operational research. Atomic, molecular and nuclear physics. Theoretical physics. Geometry and Topology. Applied mathematics. Optics.			
Methodology	- Theoretical classes - Practical classes			
Assessment	- Theoretical exam - Assessment of practicals report			

COURSE	EXPERIMENTAL METHODS IN THERMODYNAMICS			SIGA Code 730013
Type	**Year**	**Period**	**Hours per week**	**ECTS Credits**
Core	2nd	Semester	3	4.1
Course description	Nature of physical phenomena and their measurement (Thermodynamics).			
Methodology	- Theoretical classes - Practical classes			
Assessment	Theory: Assessed by means of a final exam on the entire course content. Practicals: Assessed according to several criteria: • Daily observation by the instructor of students' performance in the laboratory when conducting the practicals. • Practicals report to be turned in to the course instructor. • A practical test or exam. • An experiment to be designed and carried out by each student. • A report on the above experiment.			

COURSE	THERMODYNAMICS			SIGA Code
				730016
Type	**Year**	**Period**	**Hours per week**	**ECTS Credits**
Core	2nd	Annual	4	10.1
Course description	Equilibrium states, the principle of energy conservation, the principle of entropic variation, thermodynamic potentials, stability and phase transitions. Irreversible processes.			
Methodology	- Theoretical classes - Practical classes			
Assessment	**Theory:** Two mid-term exams will be conducted during the course, one in February and another in June. **Practicals:** The course instructor will give a series of assignments during the course to further students' knowledge in the topics seen each semester. These assignments will be prepared, developed and presented orally in class by groups of students.			

COURSE	ADVANCED MATHEMATICAL ANALYSIS			SIGA Code
				730026
Type	**Year**	**Period**	**Hours per week**	**ECTS Credits**
Compulsory	2nd	Semester	4	5.5
Course description	Functions of a complex variable. Fourier series. Integral transforms.			
Methodology	- Theoretical classes - Practical classes			
Assessment	**Theory and Practicals:** As this is a semester course, there will be no mid-term exams. At the exam session of February and the resit sessions of September and December (only for students who are repeating the course) students will be given an exam on the entire course content.			

COURSE	ADVANCED ALGEBRA AND GEOMETRY			SIGA Code 730027
Type Compulsory	Year 2nd	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Tensor calculus. Applications. Group theory.			
Methodology	- Theoretical classes - Practical classes			
Assessment	- Theoretical exam - Assessment of practicals report			

COURSE	SCIENTIFIC PROGRAMMING			SIGA Code 730028
Type Compulsory	Year 2nd	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Unix operating system. Programming languages. User interfaces.			
Methodology	- Theoretical classes - Practical classes			
Assessment	As this is a semester course, there will be no mid-term exams. At the exam session of February and the resit sessions of September and December (only for students who are repeating the course) students will be given an exam on the entire course content.			

THIRD YEAR

COURSE	EXPERIMENTAL METHODS IN ELECTROMAGNETISM			SIGA Code 730014
Type Core	Year 3rd	Period Semester	Hours per week 3	ECTS Credits 4.1
Course description	Nature of physical phenomena and their measurement (Electromagnetism)			
Methodology	Theoretical and practical classes.			
Assessment	**Theory**: Theory counts towards 30% of the final grade provided that the student obtains a three or higher on the exam. If students do not obtain a three or higher on the exam they will not receive a passing grade in the course. **Practicals**: The practical exam counts towards 30% of the final grade following the same criteria as the theoretical exam. If a student does not pass the exam in February, the grade obtained on the practicals assignment will be held until September provided that the grade is a seven or above. Students who do not obtain a seven or higher will be given another assignment by the course instructor.			

COURSE	ELECTROMAGNETISM			SIGA Code 730007
Type Core	Year 3rd	Period Annual	Hours per week 4	ECTS Credits 10.1
Course description	Electrostatic and magnetostatic fields in vacuum and material mediums. Nonstationary electromagnetic phenomena and circuit theory. Electromagnetic waves.			
Methodology	Theoretical classes and practical classes on problems.			
Assessment	Two mid-term exams, one in February and another in June on the topics explained in class. The exams will contain an exercise on theoretical questions with conceptual and/or numerical applications and an exercise on problems. There will be a final exam in July for those students who have not taken or have not passed one or both of the mid-term exams. Grades for both the theory and problems will be awarded on a scale of 0-10. The final grade will be calculated as the average of both grades.			

COURSE	QUANTUM PHYSICS			SIGA Code 730008
Type	**Year**	**Period**	**Hours per week**	**ECTS Credits**
Core	3rd	Annual	4	10.1
Course description	The origins of quantum mechanics. Elementary quantum mechanics. The Schroedinger equation in three dimensions, angular momentum and hydrogen atoms. Structure of atoms and molecules and spectroscopy. Crystals: network dynamics, thermal, electrical and magnetic properties of solids. Structure of the nucleus and models. Introduction to elemental particles.			
Methodology	Theoretical classes and practical classes on problems.			
Assessment	Academic performance will be assessed by means of two mid-term exams and a final exam on the entire course content. Students who pass both mid-term exams will receive a passing grade for the course and will not be required to take the final exam. Those who wish to raise their grade on one of the mid-term exams or for the course may choose to take the final exam. Under no circumstances will the grades obtained on mid-term exams count towards exams taken in subsequent exam sessions.			

COURSE	OPTICS			SIGA Code 730011
Type	**Year**	**Period**	**Hours per week**	**ECTS Credits**
Core	3rd	Annual	4	10.1
Course description	Geometric optics. Light propagation phenomena in material mediums. Polarisation. Interferences. Diffraction. Fibre optics and integrated optics. Lasers. Applied optics.			
Methodology	Theoretical classes and practical classes on problems.			
Assessment	Academic performance will be assessed by means of two mid-term exams, each of which will consist of two parts: a theoretical exercise and problems.			

COURSE	EXPERIMENTAL METHODS IN OPTICS			SIGA Code 730015
Type Core	Year 3rd	Period Semester	Hours per week	ECTS Credits 4.1
Course description	Nature of physical phenomena and their measurement.			
Methodology	- Theoretical classes - Practical classes			
Assessment	Academic performance will be assessed by means of two exams, each of which will consist of two parts: a theoretical exercise and problems.			

COURSE	MATHEMATICAL METHODS IN PHYSICS			SIGA Code 730029
Type Compulsory	Year 3rd	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Equations in mathematical physics.			
Methodology	- Theoretical classes - Practical classes			
Assessment	Academic performance will be assessed by means of two exams, each of which will consist of two parts: a theoretical exercise and problems.			

COURSE	NUMERICAL METHODS			SIGA Code 730030
Type	Year	Period	Hours per week	ECTS Credits
Compulsory	3rd	Semester	4	5.5
Course description	Numerical resolution of algebraic equations and systems. Numerical integration and differentiation. Data adjustment.			
Methodology	Theoretical and practical classes in the computer lab using the available software and the implementation of various methods using FORTRAN90.			
Assessment	In order to pass the course in Numerical Methods (third year) students must first pass the course in Scientific Programming (second year). Grade on theoretical exam (80%) and practicals (20%).			

COURSE	INTRODUCTION TO STATISTICAL PHYSICS			SIGA Code 730031
Type	Year	Period	Hours per week	ECTS Credits
Compulsory	3rd	Annual	3	5.5
Course description	Introduction to statistical methods. Statistical description of particle systems. Statistical thermodynamics. Elementary kinetic theory of transport phenomena. Simplified study of irreversible processes and fluctuations.			
Methodology	Theoretical classes and practical classes on exercises.			
Assessment	**Theory:** In accordance with academic regulations, there will be two eliminatory mid-term exams in February and June. The final exam in July will be structured into two parts in order to permit students to retake that part which corresponds to the mid-term exam they did not pass in previous exam sessions. In the exam sessions of September and December students will be assessed on the entire course content. Students may also opt to do individual assignments on questions of interest proposed by the course instructor. These assignments may be in the form of written papers on the topics seen in the course and will be taken into account for purposes of final assessment. **Practicals:** The exam on problems as well as the mid-term exams will be given at the same time as the exam on theory. The final grade will be calculated as the weighted average of the exams on theory and problems.			

FOURTH YEAR

COURSE	STATISTICAL PHYSICS			SIGA Code 730020
Type Core	Year 4th	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Classic and quantum statistical groups. Applications to ideal gas, photon gas and electron gas.			
Methodology	Theoretical and practical classes.			
Assessment	Theoretical exam with problems.			

COURSE	QUANTUM MECHANICS			SIGA Code 730022
Type Core	Year 4th	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Postulates; approximate methods. Identical particles; collision theory.			
Methodology	Theoretical classes and practical classes on problems.			
Assessment	Students will be assessed by means of a final exam on the entire course content.			

COURSE	ELECTRONICS			SIGA Code 730018
Type	Year	Period	Hours per week	ECTS Credits
Core	4th	Annual	4	10.8
Course description	Semiconductors and devices: analogical systems, amplifiers and oscillators. Digital electronics.			
Methodology	- Theoretical classes - Practical classes			
Assessment	Students will be assessed by means of mid-term exams; each of which will consist of two parts: a theoretical exercise and problems.			

COURSE	SOLID STATE PHYSICS			SIGA Code 730019
Type	Year	Period	Hours per week	ECTS Credits
Core	4th	Semester	4	5.5
Course description	Thermal properties of solids. Electronic states: metals, insulators and semiconductors. Transport properties. Cooperative phenomena: ferroelectricity, magnetism, superconductivity. Real solids: defects, dislocations.			
Methodology	Theoretical classes and practical classes on problems.			
Assessment	Final exam with essay questions on the theory and practical problems. Seminars.			

COURSE	ATOMIC AND MOLECULAR PHYSICS			SIGA Code 730032
Type Compulsory	**Year** 4th	**Period** Semester	**Hours per week** 4	**ECTS Credits** 5.5
Course description	Quantum description of multielectronic atoms. External fields. Atomic structure and spectra. Bonding. Molecular structure and spectra.			
Methodology	Theoretical classes, practical classes on problems using the computer.			
Assessment	Final exam on the theory and practicals. Practicals report.			

COURSE	ADVANCED OPTICS			SIGA Code 730036
Type Compulsory	**Year** 4th	**Period** Semester	**Hours per week** 4	**ECTS Credits** 5.5
Course description	Laser theory. Applications to experimental systems. Non-linear processes in optical materials.			
Methodology	Theoretical and practical classes.			
Assessment	Final exam consisting of a theoretical part and a part on applications.			

COURSE	SIMULATION OF PHYSICAL SYSTEMS			SIGA Code 730042
Type Optional	**Year** 4th	**Period** Semester	**Hours per week** 4	**ECTS Credits** 5.5
Course description	Probabilistic methods of simulation. Dynamic systems. Simulation algorithms. Applications in physical models.			
Methodology	- Theoretical classes - Practical classes			
Assessment	Students will be assessed by means of an exam comprising two parts: a theoretical exercise and problems.			

COURSE	EDITING SCIENTIFIC TEXTS			SIGA Code 730075
Type Optional	**Year** 4th	**Period** Semester	**Hours per week** 4	**ECTS Credits** 5.5
Course description	Writing a scientific document. LaTeX text editor. Figure representation. Aspects of advanced composition.			
Methodology	Theoretical and practical classes. This course aims to teach students how to structure and write scientific texts including notes, articles, reports (theses, dissertations) using the LaTeX text editor ; a public-domain software programme widely used in the scientific community. Other tools will be used for the creation of figures, presentations, etc.			
Assessment	**Theory and Practicals:** Due to the practical nature of this course, attendance will be controlled. In order to pass the course students must attend at least 80% of the class sessions. Assessment will be based solely on the practical sessions conducted during class hours and on the class assignments to be turned in at the end of the course.			

COURSE	PLASMA PHYSICS			SIGA Code 730037
Type Optional	**Year** 4th	**Period** Semester	**Hours per week** 4	**ECTS Credits** 5.5
Course description	Gas discharges. Characteristic parameters of plasma. Orbit theory. Kinetic models. Fluids models. The MHD model.			
Methodology	Theoretical and practical classes on exercises.			
Assessment	Theoretical-practical exam.			

COURSE	ROBOTICS			SIGA Code 730076
Type Optional	**Year** 4th	**Period** Semester	**Hours per week** 4	**ECTS Credits** 5.5
Course description	Modelling, programming and controlling robots.			
Methodology	- Theoretical classes - Practical classes			
Assessment	Students will be assessed by means of an exam comprising two parts: a theoretical exercise and problems.			

COURSE	HISTORY OF PHYSICS			SIGA Code 730045
Type Optional	Year 4th	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	History as science and the history of science. Schools of thought in Physics. The physical world in classical antiquity. The Copernican Revolution. Classical Physics: mechanics and electromagnetism. Space, time and matter in relativity. Thermodynamics and the time arrow. The Quantum Revolution. Determinism and Chaos. Science, technology and society.			
Methodology	Theoretical and practical classes.			
Assessment	**Theory:** A written exercise on the day of the exam following an *in situ* consultation of the "readings folder" (a set of notes, files, outlines, etc – that students must prepare in a systematic manner throughout the course) in order to assess the student's capacity for synthesis and coherent presentation. This exercise can be substituted for an oral presentation of a practical assignment based on questions proposed by the course instructor on the same material. **Practicals:** Commentary on texts or studies, bibliographies and a beginning research assignment with a minimum length of 10 pages and a maximum of fifty to be handed in at the final exam session.			

COURSE	INTRODUCTION TO HILBERT SPACES			SIGA Code 730077
Type Optional	Year 4th	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Basic notions of topography. Geometry of Hilbert spaces. Spectrality of compact operators.			
Methodology	- Theoretical classes - Practical classes			
Assessment	Students will be assessed by means of an exam comprising two parts: a theoretical exercise and problems.			

FIFTH YEAR

COURSE	CLASSIC ELECTRODYNAMICS			SIGA Code 730017
Type Core	Year 5th	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Electromagnetic waves, radiation of charges in movement; multipolar developments and relativistic effects.			
Methodology	Theoretical and practical classes on problems.			
Assessment	Final theoretical-practical exam.			

COURSE	NUCLEAR AND PARTICLE PHYSICS			SIGA Code 730021
Type Core	Year 5th	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Global properties of nuclei. Nuclear models and reactions. Elemental particles.			
Methodology	Theoretical and practical classes on problems.			
Assessment	Theoretical-practical exam.			

COURSE	THEORETICAL MECHANICS			SIGA Code 730023
Type Core	Year 5th	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Analytical mechanics. Continuous medium mechanics.			
Methodology	Theoretical and practical classes on problems.			
Assessment	Exam on theory and problems.			

COURSE	ADVANCED NUMERICAL METHODS			SIGA Code 730033
Type Compulsory	Year 5th	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Numerical resolution of partial differential equations. Application to diverse physical problems.			
Methodology	Theoretical and practical classes in the computer lab using the available software and the implementation of various methods using FORTRAN90.			
Assessment	In order to pass the course in Advanced Numerical Methods (fifth year) students must first pass the course in Numerical Methods (third year). Theoretical exam (80%) and practicals report (20%)			

COURSE	ELECTROMAGNETIC WAVE PROPAGATION			SIGA Code 730069
Type Compulsory	Year 5th	Period Annual	Hours per week 4	ECTS Credits 10.8
Course description	Transmission line and wave guides. Resonant cavities. Microwave circuits.			
Methodology	Classes on the theory and problems in addition to lab practicals.			
Assessment	**Theory:** Students will be assessed based on the grade obtained in the theoretical-practical exams. **Practicals:** Problem resolution: Same criteria as in the theoretical section of the course. Laboratory: Students will be assessed according to their knowledge, the preparation of reports and the results obtained in the lab sessions and the final exam.			

COURSE	PROJECTS			SIGA Code 730070
Type Compulsory	Year 5th	Period Semester	Hours per week 1	ECTS Credits 4.1
Course description	Organising and managing projects.			
Methodology	- Theoretical classes - Practical classes			
Assessment	Students will be assessed by means of an exam comprising two parts: a theoretical exercise and problems.			

COURSE	ADVANCED SCIENTIFIC PROGRAMMING			SIGA Code 730040
Type Optional	Year 5th	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Local networks. Distributed resources. Applications			
Methodology	Theoretical classes and practical lab sessions.			
Assessment	In order to pass the course in Advanced Scientific Programming (fifth year) students must first pass the course in Scientific Programming (second year). Students are required to pass both the theoretical exam (70%) and the practical exam (30%) to pass the course.			

COURSE	QUANTUM FIELD THEORY			SIGA Code 730073
Type Optional	Year 5th	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Relativistic wave equation: Klein-Gordon and Dirac. Quantization of free fields. Dyson's formula and Feynman rules. Quantum electrodynamics. Functional integrals.			
Methodology	Classes on theory and problems.			
Assessment	Final assignment on theory and problems to be solved and handed in daily in class.			

COURSE	ADVANCED PLASMA PHYSICS			SIGA Code 730063
Type Optional	**Year** 5th	**Period** Semester	**Hours per week**	**ECTS Credits** 5.5
Course description	Wave propagation in plasma. Instabilities. Non-linear phenomena in plasma. Diagnosis methods.			
Methodology	- Theoretical classes - Practical classes			
Assessment	Students will be assessed by means of an exam comprising two parts: a theoretical exercise and problems.			

COURSE	ELECTRONIC INSTRUMENTATION			SIGA Code 730078
Type Optional	**Year** 5th	**Period** Semester	**Hours per week** 4	**ECTS Credits** 5.5
Course description	Sensors, data measurement and processing instruments.			
Methodology	- Theoretical classes - Practical classes			
Assessment	Students will be assessed by means of an exam comprising two parts: a theoretical exercise and problems.			

COURSE	FUNDAMENTALS OF SPECTROSCOPY			SIGA Code 730064
Type Optional	Year 5th	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Microwave, infrared, Raman, Mosbauer, NMR, ESR, Ultraviolet-visible and fluorescence spectroscopy. Other spectroscopy methods.			
Methodology	The course will be structured around theoretical and practical classes in which questions related to the course topics will be discussed and resolved immediately or in subsequent sessions, permitting students to ask questions or doubts that may arise during the course.			
Assessment	Students will be assessed by means of a final exam on the theoretical course content as well as being evaluated on a continuous basis for their participation in the theoretical and practical classes.			

COURSE	PLASMA DIAGNOSIS			SIGA Code 730074
Type Optional	Year 5th	Period Semester	Hours per week 4	ECTS Credits 5.5
Course description	Static probes. Dynamic probes. Electromagnetic diagnosis. Spectroscopic diagnosis.			
Methodology	Theoretical classes and the resolution of problems and practical cases on the methods of diagnosis seen in the theoretical sessions.			
Assessment	Theoretical exam as well as assignments and reports on the resolution of practical cases of plasma diagnosis. The final exam will also include practical questions.			

COURSE	DIGITAL SYSTEM AND MICROPROCESSOR ARCHITECTURE			SIGA Code 730067
Type Optional	**Year** 5th	**Period** Semester	**Hours per week** 4	**ECTS Credits** 5.5
Course description	Synchronous digital systems and microprocessors. Architecture. Minimum system based on microprocessors.			
Methodology	Theoretical and practical classes.			
Assessment	Academic performance will be assessed as follows: a) Students must present a report or paper for each practical session, which will be taken into account for purposes of assessment. b) Students will be given an exam at the end of each semester on the basic theoretical content seen in class to assess their understanding of the theory. c) The following aspects will also be taken into account for purposes of assessment: - Presentation of problems proposed in class - Oral and/or written presentation of assignments - Attendance to theoretical lectures and problem solving sessions In order to pass the course students must pass the three sections. If students do not pass section C they will be required to take an exam on problems at the end of the semester.			

COURSE	COMPUTER STRUCTURE			SIGA Code 730068
Type Optional	**Year** 5th	**Period** Semester	**Hours per week** 4	**ECTS Credits** 5.5
Course description	Classic sequential architecture. Control units. Calculations and memory. Computer support software.			
Methodology	Theoretical and practical classes			
Assessment	Academic performance will be assessed as follows: a) Students must present a report or paper for each practical session, which will be taken into account for purposes of assessment. b) Students will be given an exam at the end of each semester on the basic theoretical content seen in class to assess their understanding of the theory. c) The following aspects will also be taken into account for purposes of assessment: - Presentation of problems proposed in class - Oral and/or written presentation of assignments - Attendance to theoretical lectures and problem solving sessions In order to pass the course students must pass the three sections. If students do not pass section C they will be required to take an exam on problems at the end of the semester.			

COURSE	CLASSIC DIFFERENTIAL GEOMETRY			SIGA Code 731010
Type	**Year**	**Period**	**Hours per week**	**ECTS Credits**
Libre Config.	5th	Semester	4	
Course description	Local curve theory. Local surface theory. Geometry of the Gauss-Weirganten application. Intrinsic surface theory. Two-dimensional Riemannian geometry.			
Methodology	- Theoretical classes - Practical classes			
Assessment	Students will be assessed by means of a final exam on the theoretical course content as well as being evaluated on a continuous basis for their participation in the theoretical and practical classes.			