

DEGREE IN PHYSICS (2024-25)

Curs: Primer de graduat	Plan: Físic
Codi: 241	Tipus: Tripartit ordinari

ASIGNATURES:
PLANS:
SPD DE ASIGNATURES:
OPCIONES DÓNDE SE IMPARTEN:
ESTADO DE CANCELACIÓN/CONVALIDACIÓN CON:
FECHA DE EXAMEN:

PLAN DE ESTUDIOS OFERTADO EN EL CURSO 2024-25

Modo online

PRIMER AÑO		Cursos		Ejemplar	
CURS SUBJECTS					
1	CORC	1	ANAL. FUNDAMENTAL	1	1
1	CORC	1	ANAL. FUNDAMENTAL	1	1
1	CORC	1	ANAL. FUNDAMENTAL	1	1
1	CORC	1	ANAL. FUNDAMENTAL	1	1
1	CORC	1	ANAL. FUNDAMENTAL	1	1
1	CORC	1	ANAL. FUNDAMENTAL	1	1
1	CORC	1	ANAL. FUNDAMENTAL	1	1
1	CORC	1	ANAL. FUNDAMENTAL	1	1
COMPULSORY SUBJECTS					
1	COMPULSORY	1	ANAL. FUNDAMENTAL	1	1
SECOND YEAR					
CURS SUBJECTS					
2	CORC	2	ANAL. FUNDAMENTAL	2	2
2	CORC	2	ANAL. FUNDAMENTAL	2	2
2	CORC	2	ANAL. FUNDAMENTAL	2	2
2	CORC	2	ANAL. FUNDAMENTAL	2	2
2	CORC	2	ANAL. FUNDAMENTAL	2	2
2	CORC	2	ANAL. FUNDAMENTAL	2	2
2	CORC	2	ANAL. FUNDAMENTAL	2	2
2	CORC	2	ANAL. FUNDAMENTAL	2	2
COMPULSORY SUBJECTS					
2	COMPULSORY	2	ANAL. FUNDAMENTAL	2	2
THIRD YEAR					
CURS SUBJECTS					
3	COMPULSORY	3	ANAL. FUNDAMENTAL	3	3
3	COMPULSORY	3	ANAL. FUNDAMENTAL	3	3
3	COMPULSORY	3	ANAL. FUNDAMENTAL	3	3
3	COMPULSORY	3	ANAL. FUNDAMENTAL	3	3
3	COMPULSORY	3	ANAL. FUNDAMENTAL	3	3
3	COMPULSORY	3	ANAL. FUNDAMENTAL	3	3
3	COMPULSORY	3	ANAL. FUNDAMENTAL	3	3
3	COMPULSORY	3	ANAL. FUNDAMENTAL	3	3
FOURTH YEAR					
CURS SUBJECTS					
4	COMPULSORY	4	ANAL. FUNDAMENTAL	4	4
4	COMPULSORY	4	ANAL. FUNDAMENTAL	4	4
4	COMPULSORY	4	ANAL. FUNDAMENTAL	4	4
4	COMPULSORY	4	ANAL. FUNDAMENTAL	4	4
OPTIONAL SUBJECTS					
4	OPTIONAL	4	ANAL. FUNDAMENTAL	4	4
4	OPTIONAL	4	ANAL. FUNDAMENTAL	4	4
4	OPTIONAL	4	ANAL. FUNDAMENTAL	4	4
4	OPTIONAL	4	ANAL. FUNDAMENTAL	4	4
4	OPTIONAL	4	ANAL. FUNDAMENTAL	4	4
4	OPTIONAL	4	ANAL. FUNDAMENTAL	4	4
4	OPTIONAL	4	ANAL. FUNDAMENTAL	4	4
4	OPTIONAL	4	ANAL. FUNDAMENTAL	4	4
FINAL PROJECT					
4	END OF DEGREE WORK	4	ANAL. FUNDAMENTAL	4	4
REMARKS					
REMARKS: subject to release					
SECOND YEAR					
CURS SUBJECTS					
2	CORC	2	ANAL. FUNDAMENTAL	2	2
2	CORC	2	ANAL. FUNDAMENTAL	2	2
COMPULSORY SUBJECTS					
2	COMPULSORY	2	ANAL. FUNDAMENTAL	2	2
2	COMPULSORY	2	ANAL. FUNDAMENTAL	2	2
2	COMPULSORY	2	ANAL. FUNDAMENTAL	2	2
2	COMPULSORY	2	ANAL. FUNDAMENTAL	2	2
2	COMPULSORY	2	ANAL. FUNDAMENTAL	2	2
2	COMPULSORY	2	ANAL. FUNDAMENTAL	2	2
COMPULSORY SUBJECTS WITH THE COURSE PLAN					
2	COMPULSORY	2	ANAL. FUNDAMENTAL	2	2
2	COMPULSORY	2	ANAL. FUNDAMENTAL	2	2

- [Description of the degree course](#)
- [Distribution of credits per subject type](#)
- [General description of the course programme](#)

CREDIT STRUCTURE OF THE DEGREE COURSE

The University of Alicante Physics Degree course programme is worth a total of 240 credits, distributed over four years each worth 60 ECTS credits. In turn, each year is organised into 20-credit semesters. The 240 credits cover all the theoretical and practical learning to be acquired by students. In order to make the course compatible with other activities, students are allowed to take a part-time course consisting of 20 credits per academic year.

DISTRIBUTION OF CREDITS PER SUBJECT TYPE

Subject type	Credits
Core	60
Compulsory	100
Optional	24
Final Project	6
Total credits	240

GENERAL DESCRIPTION OF THE COURSE PROGRAMME

The Course Programme is structured into three modules: Basic, Core and Advanced.

The Basic Module includes nine subjects of the first year and one subject of the second, with a total of 60 ECTS credits of which 42 belong to the basic subjects of the area of Sciences (BS), and consists of the disciplines: Mathematics, Physics and Chemistry.

Moreover, a subject from the Computing disciplines of the Engineering and Architecture area (Foundations of Programming) and further two cross-disciplinary subjects (Introduction to Mathematical Language and Experimentation in Physics, and Numerical Methods and Computation) are included. These are aimed at the acquisition of basic cross-disciplinary skills related with Physics (practical laboratory skills, information and IT skills and mathematical skills), as well as other cross-disciplinary abilities such as oral and written communication, reading English documents (quality publications of University of Alicante) and teamwork.

The Basic Module is taken in the first year (semesters 1 and 2) except the subject Thermodynamics which is taught in semester 3.

The Core Module is compulsory and is taught over the second and third years (semesters 3, 4, 5 and 6) and the first semester of the fourth semester (7).

The Advanced Module consists of optional subjects (60 ECTS) and offers 9 subjects of 6 credits each that are to be taken in the eighth semester, and the possibility of work experience which is also optional and equals a 6 credits subject under the name "Prácticas Externas" (Work Experience) and is suitable to be taken over the first or the second semester of the fourth year. The student has to choose a total of 4 subjects from the nine offered.

These optional subjects are: *Operational Knowledge*, *Global Atmospheric*, *Materials Science*, *Dynamics of Continuous Media*, *Advanced Quantum Physics*, *Medical Physics*, *Pharmaco*, *Computational Chemistry* and *Work Experience*.

Additionally, the inclusion of activities and materials in English is considered as part of the comprehensive training in accordance with the Plan for the Advancement of English in the Curricula, in order to make it possible for students to acquire fluency and expression skills in a foreign language (English). Moreover, the University of Alicante will offer courses in Basic and Scientific English, working overlap with the lessons schedule of the students, to facilitate for them the acquisition of the B1 level in English which will be compulsory for the evaluation of the Final Project.

The management of the External Practices (Work Experience) in the Faculty of Sciences is in charge of the OPEMEL. The companies involved provide highly qualified tutors for the acquired tasks. The type of activity that the student will carry out is to be previously described in a document designed to such effect that will be reviewed by both the academic tutor and the tutor of the company or institution, as well as by the Faculty official in charge of the supervision of the Work Experience Programme. In this description, the availability of resources in the company for the development of the tasks of the proposed activity will have to be granted.

The student will also have to be granted the possibility to obtain academic recognition, for a maximum of 6 optional ECTS credits from the total of the Course Programme, through participation in diverse activities of the University of Alicante: cultural, sports, solidarity, cooperation or as a students' representative. Before the beginning of the academic year, the Governing Council will determine which activities will have this academic recognition [https://www.uah.es/portal/ingles/ingles.htm](#)

Finally, the Advanced Module includes also, as a compulsory subject, the Final Project, that constitutes the final phase of the Course Programme and is worth a total of 6 ECTS credits. In the Final Project the student will have to show the acquisition of the skills associated to the Degree by means of the completion, presentation and defence of a memory presenting original work by the student related with the Physics which may include experimental, computational or theoretical features.

LANGUAGE REQUIREMENT (IN A FOREIGN LANGUAGE)

Students who study an undergraduate degree at the University of Alicante must complete a minimum level of B1 in a foreign language (B1 is recommended) in order to obtain the diploma.

The required language level is in accordance with the Common European Framework of Reference for Languages.

The language accreditation requirement can be obtained previously or at any time during university studies. However, the language requirement will be necessary in order to assess the final year project.

The different ways of obtaining such language requirement can be consulted in the additional information in this section.

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LANGUAGE TEACHING COMPETENCE CERTIFICATE

Students who want to take an course in the university teaching which they finish their studies are recommended to obtain the teaching competence certificate (certificate under foreign languages).

The certificate can be obtained by taking specific courses in your university studies or by taking the BA teaching competence course in Valencià, German, French and English.

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FINAL YEAR PROJECT (TFG)

All the official undergraduate degrees must be completed by preparing and defending a final year project, which must be done in the final phase of the studies and be aimed at the assessment of competences associated to the degree.

The final year project must be an original, independent and personal work. The evaluation of it may be individual or coordinated. Each student will prepare the project under the supervision of a tutor, allowing students to show the required writing content in an integrated way, as well as the required competences associated to the undergraduate degree.

In order to register in the final year project, students must comply with the requirements established in the "Regulation for coordination guide for students registered in undergraduate degrees at the University of Alicante". Among the requirements established to be able to register in the final year project, a minimum of 100 credits must be passed in undergraduate degrees with a total of 240 credits, and a minimum of 220 credits in undergraduate degrees with a total of 300 credits or more.

In order for the final year project to be assessed in B1 level of a foreign language (B1 is recommended) must be confirmed.

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- [Access routes](#)
- [Procedure for applying for admission](#)
- [Recommended applicant profile](#)
- [Number of places and pass marks](#)

ACCESS ROUTES

Admission to this degree course is open to any applicant who meets one of the following entrance requirements:

- **SPANISH BACCALAUREATE (UNIVERSITY ENTRANCE EXAM PAU)**, through students can access directly by means of any Baccalaureate specialization, the recommended one is Science.

ADMISSION SCORES FOR THIS DEGREE CAN BE IMPROVED BY TAKING THE SPECIFIC MODULES OF THE UNIVERSITY ENTRANCE EXAM (PAU) AS INDICATED IN THE TABLE BELOW WITH THEIR RESPECTIVE WEIGHTINGS.

Table 1.

15 Points

3. **PREVIOUS BACCALAUREATE WITH OR WITHOUT A PASS IN THE UNIVERSITY ENTRANCE EXAM (PAU)**. Students who have completed their Baccalaureate under previous education systems and have passed the PAU will be able to use the mark obtained in their application.

HOWEVER, STUDENTS CAN TAKE SPECIFIC EXAM MODULES DURING THE VOLUNTARY PAU EXAM PERIOD IN ORDER TO IMPROVE THEIR ADMISSION SCORE AS SHOWN IN TABLE 1. THEY CAN ALSO SIT FOR THE OBLIGATORY PAU EXAM, IN WHICH CASE THEY WILL HAVE TO TAKE ALL THE EXAMS SCHEDULED DURING THIS PERIOD.

3. **VOCATIONAL BACCALAUREATE**. Vocational educational qualifications such as senior technician, senior technician of plastic arts and design, or senior technician in sports in the preferred professional area although access to the degree may be through any professional field.

ADMISSION SCORES CAN BE IMPROVED BY TAKING THE PAU EXAM IN UP TO 4 OF THE MODULES IN TABLE 1.

4. **GRADUATE FROM BACCALAUREATE SYSTEMS IN COUNTRIES OF THE EUROPEAN UNION OR OTHER STATES WITH WHICH SPAIN HAS AN INTERNATIONAL AGREEMENT**. Accreditation is required and issued by *Ministerio Nacional de Educación e Innovación (MINECO)*.

STUDENTS CAN SIT FOR EXAMS IN SUBJECTS INCLUDED IN THE PRUEBAS DE COMPETENCIAS ESPECÍFICAS (PCE), ORGANISED BY THE UNED, IN ORDER TO IMPROVE THEIR ADMISSION SCORE UP TO 14 POINTS AS INDICATED IN THE WEIGHTINGS IN TABLE 1.

5. **STUDENTS FROM FOREIGN EDUCATION SYSTEMS**. Prior to applying for the admission of their degree Baccalaureate, students may sit for up to 4 exams in subjects offered by the *Proceder de Competencias Específicas (PCE)* organised by UNED (at least one subject from the same subjects).

THE WEIGHTINGS INDICATED IN TABLE 1 WILL BE APPLIED TO CORE AND/OR OPTIONAL SUBJECTS.

6. **OTHER**. University degrees and other similar qualifications. University entrance tests for students over 25 (generalized option: Science). Access on the basis of professional experience (applicants over 40 years of age), Access to applicants aged 45 years or more by means of an exam.

The PAU Exam Subjects	Weightings of the subjects of the specific phase of the Proof of Access to the University (PAU) in the previous year																				
	Mathematics in pre-enrolment	Physics (Module)	English	Chemistry in 1st Year (Medicines/Pharmacy)	Single Address I	Single Thesis II	Chemistry	Chemistry in 2nd Degree	Mathematics	Physics	English	Chemistry in 1st Degree (or 2nd)	Science and Health	Latin	Language 1 (Physics/Chemistry)	Science (Literature)	Mathematics (Address in the Sciences Degree)	Mathematics	Science	Technical in Engineering/Technical Sciences	Knowledge (Indicated 1)
Required for PAU II	0.1	0	0																0		0
Optional for PAU II	0.2																			0	

PROCEDURE FOR APPLYING FOR ADMISSION: PRE-ENROLLMENT AND REGISTRATION

- Anticipated number of places offered during the first pre-enrollment session: 50
- In order to apply for a place, the procedure and pre-enrollment periods established each year must be observed: [Access to the University \(PAU\) procedures](#)
- Applicants admitted to a course must formally register within the timeframe established annually in the enrollment calendar: [Registration](#)

RECOMMENDED APPLICANT PROFILE

It is recommended that students who wish to study for a degree in Physics have a basic scientific-technical education, and should have studied, at least, the subjects Mathematics II, Physics and Chemistry in their second year of the high school diploma course.

Among the qualities the future Physics student should possess, the following are of especial relevance:

- Capacity for work (perseverance, method and rigor).
- Capacity for reasoning and critical analysis.
- Scientific spirit.
- Capacity to obtain, interpret and apply knowledge.
- Problem-solving skills.
- Capacity for synthesis and abstraction.
- Recommended complementary education: English and user-level computing skills.

NUMBER OF PLACES AND PASS MARKS

YEAR	NUMBER OF PLACES	PASS MARKS				
		MARK 45	MARK 40	MARK 35	MARK 30	MARK 25
2023	50	4.500	4.000	3.500	3.000	2.500
2024	50	4.500	4.000	3.500	3.000	2.500

• These marks indicated correspond to the results of the first adjudication of June.

• The definitive marks can be inferior to the here collected.

PROFESSIONAL PROFILES

The Physics degree enables for multiple professional profiles such as:

- Physics Education in both its scientific and technical features and issues related to them.
- Scientific and technical advice on issues related to Physics.
- Research and development in Physical Science and Technologies: In its own areas (Astrophysics, Materials Science, Nanotechnology, Nuclear and Particle Physics, Optics, etc.) and in cross-disciplinary areas: Modelling of biological problems and others.
- Environmental questions. Technical studies and projects on air, acoustic and environmental pollution and energy and material waste. Environmental impact assessment. Development of environmental management systems.
- Energy production: Development and management of thermal and nuclear power plants and also wind, thermal solar, photovoltaic solar and other renewable energies power infrastructures.
- Radiation safety issues.
- Information technologies: Programming, design and management of computer and telecommunications systems. Process control systems for diverse purposes.
- Space and aviation technologies. Telemetry and remote sensing studies. Geographic information systems. Design of satellite communication systems.
- Development of arm and defence systems.
- Metrology and climatology.
- Design and production of scientific and technical instrumentation.
- Design, organization and management of testing and calibration laboratories. Metrological studies in all areas.
- Geodesics and prospecting. Planning geological exploration and prospecting. Seismological studies.
- Medical physics: Implementing of the tasks assigned by the current legislation to the new figure of the Hospital radiophysicist.
- Design and planning of high, medium and low voltage electrical installations. Heating, air conditioning and A.C.S. (hot water, gas and other fuels), and telecommunications installations.
- Every activity that relates to Physics.

Professions for which this degree qualifies its holder:

Physicist is not a regulated profession. As stated in its White Paper, this degree enables to:

- University teaching and/or research.
- Non-University teaching and/or research.
- Public administration.
- Banking, finance and insurance companies.
- Consulting firms.
- Computer and telecommunications companies.
- Industry.

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- Internal Quality Assurance System (IQAS) of the Title
 - Structure of the Centre for Quality
 - [Internal Quality Assurance System \(IQAS\)](#)
 - [Quality Management System \(QMS\)](#)
 - Internal Quality Assurance System (IQAS) - Access to APT/AT
 - Follow-up of the Title
 - Self-assessment
 - External reports ASEP
 - External audits
 - Accreditation Plans
 - External Quality Assurance

Information about the Centre	General information for students
<ul style="list-style-type: none">• Faculty of Sciences<ul style="list-style-type: none">Telephone: +34 96 500 2007Fax: +34 96 500 2781Registration Office: registro@ua.es• Medical Programmes• Work agreements with companies and institutions• Research and innovation• Transfer Action Programmes	<ul style="list-style-type: none">• Degree and assistance• Accommodation• Student activities and activities• Transport• Academic medical care• Insurance• Services for students with special needs• Student representation and participation• University student identity card (TUA)• Research about questions
UA: General Regulations	Information about qualifications
<ul style="list-style-type: none">• Academic regulations and procedures of the University of Alicante	<ul style="list-style-type: none">• Official State Orders (BOE) on regulations of course regulations• Law 40• Information pamphlet• Video presentation of the degree