COURSE DATA

DATA SUBJECT

Code: 40539
Name: Learning and teaching subjects in the specialties of technology and industrial processes
Cycle: Master's Degree
ECTS Credits: 16
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
2024 - Master's Degree in Secondary Education	Facultat de Formació del Professorat	1	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
2024 - Master's Degree in Secondary Education	Learning and teaching subjects in the specialties of technology and industrial processes	ELECTIVES

COORDINATION

LLOPIS ALONSO FRANCISCO

SUMMARY

This subject deals with the study of the Spanish education system and its development and regulations. The organization of schools in secondary education within the specialty of Technology and Vocational Training. The secondary curriculum, educational and cultural value of Technology. We will work to deepen and reformulation of the contents of the materials in the context of the curriculum of high school, contemplating his interest and relevance and implications in different areas, and mainstreaming in the areas of specialty.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS

COMPETENCES / LEARNING OUTCOMES

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Adquirir estrategias para estimular el esfuerzo del estudiante y promover su capacidad para aprender por sí mismo y con otros, y desarrollar habilidades de pensamiento y de decisión que faciliten la autonomía, la confianza e iniciativa personales.

Adquirir los conocimientos y estrategias para poder programar las áreas, materias y módulos que tengan encomendados.

Buscar, obtener, procesar y comunicar información (oral, impresa, audiovisual, digital o multimedia), transformarla en conocimiento y aplicarla en los procesos de enseñanza y aprendizaje en las materias propias de la especialización cursada.

Concretar el currículo que se vaya a implantar en un centro docente participando en la planificación colectiva del mismo; desarrollar y aplicar metodologías didácticas tanto grupales como personalizadas, adaptadas a la diversidad del alumnado.

Conocer la normativa y organización institucional del sistema educativo y modelos de mejora de la calidad con aplicación a los centros de enseñanza.

Conocer las estrategias y programas generales de orientación educativa, académica y profesional del alumnado.

Conocer los contenidos curriculares de las materias relativas a la especialización docente correspondiente, así como el cuerpo de conocimientos didácticos en torno a los procesos de enseñanza y aprendizaje respectivos. Para la formación profesional se incluirá el conocimiento de las respectivas profesiones.

Conocer los procedimientos de tutoría del alumnado, dirección y orientación de su aprendizaje y apoyo en su proceso educativo.

Conocer los procesos de interacción y comunicación en el aula, dominar destrezas y habilidades sociales necesarias para fomentar el aprendizaje y la convivencia en el aula, y abordar problemas de disciplina y resolución de conflictos

Diseñar y desarrollar espacios de aprendizaje con especial atención a la equidad, la educación emocional y en valores, la igualdad de derechos y oportunidades entre hombres y mujeres, la formación ciudadana y el respeto de los derechos humanos que faciliten la vida en sociedad, la toma de decisiones y la construcción de un futuro sostenible

Diseñar y realizar actividades formales y no formales que contribuyan a hacer del centro un lugar de participación y cultura en el entorno donde esté ubicado; desarrollar las funciones de tutoría y de orientación del alumnado de la etapa o área correspondiente, de manera colaborativa y coordinada; participar en la evaluación, investigación y la innovación de los procesos de enseñanza y aprendizaje.

Dominar estrategias y procedimientos de evaluación del proceso de aprendizaje del alumnado, así como de la evaluación de los procesos de enseñanza.

Informar y asesorar a las familias acerca del proceso de enseñanza y aprendizaje y sobre la orientación personal, académica y profesional de sus hijos.

It generates innovative and competitive proposals in professional activity and in educational research.

It is effective to communicate in both verbal and nonverbal terms.

Make effective and integrated use of information and communication technologies.

Planificar, desarrollar y evaluar el proceso de enseñanza y aprendizaje potenciando procesos educativos que faciliten la adquisición de las competencias propias de las respectivas enseñanzas, atendiendo al nivel y formación previa de los/as estudiantes así como la orientación de los mismos, tanto individualmente como en colaboración con otros docentes y profesionales del centro.

Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.

Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.

Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.

Students should demonstrate self-directed learning skills for continued academic growth.

Working in team and team, and developing attitudes of participation and collaboration as an active member of the educational community.

DESCRIPTION OF CONTENTS

1. Theories about teaching and learning.

Conceptions of teachers and teaching models in technology.
Teaching and learning in the specialties of the Vocational Training (FP).
Learning styles.
Advantages of an adequate education to the student's learning style.

2. Methodologies to promote learning.

Creative teaching and student motivation. Attracting student interest.
Methods of collaborative learning. Group work. Principles and practical guide.

Assessment strategies. Assessment and evaluation. Strategic use of education in learning.
The concept of innovation. Why evaluate an innovative way. Experiences in innovative assessment. Quality

3. Evaluation. The concept of evaluation

Assessment strategies. Assessment and evaluation. Strategic use of education in learning.and objectivity in the correction.
Evaluate practice or project.
Evaluation of procedures and skills.
Development of practical tests for the evaluation of professional achievements.
Attitudinal content related to employment.

4. Teaching Strategies for the integration and attention to diversity

Curricular adaptations.
Adult Training.

5. Learning Resources in Technology

Audiovisual activities outside the classroom, seminars, group work, laboratory and workshop rooms.
Proper use of teaching resources: Blackboard, transparencies, multimedia equipment, Other resources.
Video search sites, tutorials, and transparencies.
Spaces and equipment for ESO and Bachelor.

6. Teaching of Technology Subjects.

Course objectives. Comparison table for different courses. ESO and Bachelor.
Contents to be developed in each of the levels, noting the differences between them.
A concept map or outline of a teaching unit.
Working the teaching unit in the workshop: relationship of the unit worked with the project being undertaken, to address general issues such as the use of materials, reuse, recycling ....

7. Teaching Programming

Educational materials: methods development and selection criteria.
Teaching Programming to the Subject of Technology.

8. Professional Teaching Modules in Vocational specialties.

Sequencing and timing.
Teaching in the classroom. Teaching in the laboratory or workshop.
Spaces and equipment for vocational training.
Training Centres and Innovation. Teacher Resources (CEFIRE)

9. Programming Teaching in Vocational Training

How to Develop a Teaching Programming from the curriculum in the vocational modules.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theoretical and practical classes	128,00
Total hours	**128,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	0,00
Independent study and work	252,00
Preparation of lessons	0,00
Preparation for assessment activities	20,00
Resolution of case studies	0,00
Total hours	**272,00**

TEACHING METHODOLOGY

Depending on the skills, learning objectives and content is used several methods: narrative methodology, cooperative work, group discussion, text analysis, practical activities and individual and group application, etc.. The methodology will be participatory and dynamic in order to promote the involvement and participation of pupils and students in classrooms, including teacher explanations to clarify the theoretical assumptions. Discussion will be used where appropriate and develop practical work, exhibitions and different projects related to the teaching profession and to the discussion of the subject.

EVALUATION

The evaluation of the acquisition of competences by students will be done by combining different types of information, linked to the different activities that students will develop in the subject. The evaluation procedures will be:

Minimum requirements: Assistance and active participation in face-to-face sessions is an essential requirement (at least 80%). Those students whose attendance is lower will be classified as Suspended in the **1st Call.**

For the assessment of the different aspects of the subject, the following will be taken into account:

Activities: The activities developed in the face-to-face sessions will grant 50% of the final grade. It includes oral presentations, active involvement in learning, debates, reflections on the concepts raised, participatory attitude, punctuality. This part of the subject has the character of NOT recoverable.

Reports: Students will develop practical or theoretical reports of mandatory nature of parts of the subject. The joint value of the same will be 50% of the final grade. Regarding the work delivered out of date, the teacher will admit them by own will, not by obligation. In this case, the grade will be 5.0 (although the work would have deserved a higher grade if it was submitted on time).

Global Qualification: Each of the professors who teach the subject will issue a rating of the activities and reports assessed. The overall score will result from a weighted average based on your dedication in hours. This average can only be done if the students have followed the subject regularly, according to the minimum requirements already commented.

The evaluation procedure for the **2nd Call** will be:

Students who have not passed the course due to not meeting the required attendance requirements or not submitting their reports may take a comprehensive in-person exam for the entire subject on the date established in the academic calendar. They must achieve a minimum grade of 5.0. They must also submit reports and papers covering the main sections of the course, as instructed by the faculty. The final grade will take into account both the written exam score (50%) and the average of the reports submitted (50%).

Copying or plagiarism of any activity that is part of the evaluation will result in the impossibility of passing the course, and the student will then be subject to the appropriate disciplinary procedures indicated in the ACTION PROTOCOL FOR FRAUDULENT PRACTICES AT THE UNIVERSITY OF VALENCIA (ACGUV 123/2020).

In any case, the evaluation system will be governed by the provisions of the Evaluation and Qualification Regulations of the University of Valencia for Bachelor's and Master's Degrees. (http://www.uv/es/graus/normatives/2017_108).

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