



| Teaching Guide | | | | |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------|---------|
| Identifying Data | | | | 2020/21 |
| Subject (*) | Sistemas Hidráulicos e Pneumáticos | Code | 631111508 | |
| Study programme | Diplomado en Máquinas Navais | | | |
| Descriptors | | | | |
| Cycle | Period | Year | Type | Credits |
| First and Second Cycle | 2nd four-month period | First Second Third | Optional | 3.5 |
| Language | SpanishGalician | | | |
| Teaching method | Face-to-face | | | |
| Prerequisites | | | | |
| Department | Enxeñaría Naval e Industrial | | | |
| Coordinador | | E-mail | | |
| Lecturers | | E-mail | | |
| Web | www.udc.es | | | |
| General description | Tiene como objetivos la enseñanza de la interpretación y cálculo de los circuitos hidráulicos y neumáticos. | | | |
| Contingency plan | <p>1. Modifications to the contents</p> <p>2. Methodologies</p> <p>*Teaching methodologies that are maintained</p> <p>*Teaching methodologies that are modified</p> <p>3. Mechanisms for personalized attention to students</p> <p>4. Modifications in the evaluation</p> <p>*Evaluation observations:</p> <p>5. Modifications to the bibliography or webgraphy</p> | | | |

| Study programme competences | |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Code | Study programme competences |
| A48 | Regular e controlar sistemas e procesos, a nivel operativo. |
| A55 | Operar, reparar, substituír e optimizar a nivel operacional as instalacións auxiliares do buque, tales coma instalacións frigoríficas, sistemas de goberno, instalacións de aire acondicionado, plantas potabilizadoras, separadores de sentinas, grupos electrógenos, etc. |
| A56 | Operar, reparar, manter e optimizar as instalacións auxiliares dos buques que transportan cargas especiais, tales coma quimiqueiros, LPG, LNG, petroleiros, cementeiros, etc. |
| B1 | Aprender a aprender. |
| B2 | Resolver problemas de forma efectiva. |
| B14 | Capacidade de análise e síntese. |

| Learning outcomes | | | | | | | | | |
|--------------------------------------------------------------------|-----|--|------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|----|-----|-----|
| Learning outcomes | | | Study programme competences | | | | | | |
| Control de sistemas hidráulicos. Regulación. Elementos y sistemas. | | | <table border="1"> <tr> <td>A48</td> <td>B1</td> </tr> <tr> <td>A55</td> <td>B2</td> </tr> <tr> <td>A56</td> <td>B14</td> </tr> </table> | A48 | B1 | A55 | B2 | A56 | B14 |
| A48 | B1 | | | | | | | | |
| A55 | B2 | | | | | | | | |
| A56 | B14 | | | | | | | | |

| Contents |
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| Topic | Sub-topic |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Introducción | Principios físicos y cálculo de sistemas hidráulicos. |
| Diseños hidráulicos | Principios físicos y cálculo de sistemas hidráulicos. |
| Elementos de un circuito neumático | Bombas y motores Válvulas de control direccional Distribuidores manuales Control de presión Válvulas antiretorno |
| Representación de circuitos | Simbología neumática y temporizadores Anulación de señales permanentes |

| Planning | | | | |
|--------------------------------|-------------------|----------------------|-------------------------------|-------------|
| Methodologies / tests | Competencies | Ordinary class hours | Student?s personal work hours | Total hours |
| Laboratory practice | A48 A55 A56 B14 | 30 | 0 | 30 |
| Problem solving | B1 B2 | 16.5 | 0 | 16.5 |
| Guest lecture / keynote speech | A55 A56 B1 B2 B14 | 40 | 0 | 40 |
| Personalized attention | | 1 | 0 | 1 |

(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

| Methodologies | |
|--------------------------------|-------------------------------------------------|
| Methodologies | Description |
| Laboratory practice | Realización de esquemas reales. |
| Problem solving | Problemas relacionados con la teoría impartida. |
| Guest lecture / keynote speech | Impartición de contenidos teóricos. |

| Personalized attention | |
|---------------------------------------------------|--------------------------------------|
| Methodologies | Description |
| Problem solving Guest lecture / keynote speech | Interpretación de esquemas, dudas... |

| Assessment | | | |
|--------------------------------|-------------------|--------------------------------------------------------------------------------------------|---------------|
| Methodologies | Competencies | Description | Qualification |
| Laboratory practice | A48 A55 A56 B14 | Examen presencial sobre la capacidad del alumno de realizar los correspondientes esquemas. | 15 |
| Problem solving | B1 B2 | Examen sobre la resolución de problemas relacionados con la materia. | 25 |
| Guest lecture / keynote speech | A55 A56 B1 B2 B14 | Examen sobre el contenido teórico de la materia. | 60 |
| Others | | | |

| Assessment comments |
|---------------------|
| |

| Sources of information | |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Basic | - Díez de la Cortina León, Antonio (2008). Manual de oleohidráulica . Creaciones Copyright - Creus Solé, Antonio. (2007). Neumática e hidráulica . Marcombo |
| Complementary | |



Recommendations

Subjects that it is recommended to have taken before

Construción Naval/631111204

Fundamentos de Teoría de Regulación e Control/631111205

Automatización Mediante Plcs/631111501

Subjects that are recommended to be taken simultaneously

Subjects that continue the syllabus

Física/631111105

Matemáticas/631111106

Ampliación de Física/631111108

Ampliación de Matemáticas/631111109

Mecánica/631111208

Electrónica/631111307

Other comments

(*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.