UNIVERSIDADE DA CORUÑA

| Teaching Guide | | | | |
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| Identifying Data | | | | 2022/23 |
| Subject (*) | Building Structures I | | Code | 670G01107 |
| Study programme | Grao en Arquitectura Técnica | | | |
| Descriptors | | | | |
| Cycle | Period | Year | Type | Credits |
| Graduate | 2nd four-month period | First | Obligatory | 6 |
| Language | Spanish | | | |
| Teaching method | Face-to-face | | | |
| Prerequisites | | | | |
| Department | Construcións e Estruturas Arquitectónicas, Civís e Aeronáuticas | | | |
| Coordinador | López César, Isaac | E-mail | isaac.lopez@udc.es | |
| Lecturers | Dominguez Diez, Eloy Rafael<br>López César, Isaac | E-mail | eloy.dominguez@udc.es<br>isaac.lopez@udc.es | |
| Web | | | | |
| General description | A asignatura aborda contidos de elasticidade e resistencia de materiais xunto a accións na edificación. | | | |

| Study programme competences | |
|---|---|
| Code | Study programme competences |
| A37 | A0.2 Applied knowledge of the principles of general mechanics, structural systems statistics, mass point geometry, and elastic behaviour of solids (principles and analysis methods). |
| A56 | A3.1 Ability to apply building rules and standards, and draw up technical specifications in relation to building methods and procedures. |
| A58 | A3.3 Ability to carry out initial sizing, design, calculation and testing of structures, and oversee their implementation. |
| B31 | B1 Students will demonstrate knowledge and understanding of subjects that build upon the foundation of a general secondary education using advanced textbooks and ideas and analyses from the cutting edge of their field. |
| B32 | B2 Students will be able to use their knowledge professionally and will possess the skills required to formulate and defend arguments and solve problems within their area of study. |
| B33 | B3 Students will have the ability to gather and interpret relevant data (especially within their field of study) in order to make decisions and reflect on social, scientific and ethical matters. |
| B34 | B4 Students will be able to communicate information, ideas, problems and solutions to specialist and non-specialist audiences alike. |
| B35 | B5 Students will develop the learning skills and autonomy they need to continue their studies at postgraduate level. |
| C1 | Adequate oral and written expression in the official languages. |
| C3 | Using ICT in working contexts and lifelong learning. |
| C4 | Acting as a respectful citizen according to democratic cultures and human rights and with a gender perspective. |
| C5 | Understanding the importance of entrepreneurial culture and the useful means for enterprising people. |
| C6 | Acquiring skills for healthy lifestyles, and healthy habits and routines. |
| C7 | Developing the ability to work in interdisciplinary or transdisciplinary teams in order to offer proposals that can contribute to a sustainable environmental, economic, political and social development. |
| C8 | Valuing the importance of research, innovation and technological development for the socioeconomic and cultural progress of society. |
| C9 | Ability to manage times and resources: developing plans, prioritizing activities, identifying critical points, establishing goals and accomplishing them. |

| Learning outcomes | |
|---|---|
| Learning outcomes | Study programme competences |

| | | | |
|---|---|---|---|
| Coñecementos aplicados a Arquitectura técnica de elasticidade e resistencia de materiais e das accións na edificación. | A56<br>A58 | B31<br>B32<br>B33<br>B34<br>B35 | C1<br>C3<br>C4<br>C5<br>C6<br>C7<br>C8<br>C9 |
| Visión xeral do análisis tensional e deformacional, do predimensionado e comprobación de elementos estructurais sinxelos no ámbito da edificación. | A37<br>A56<br>A58 | B31<br>B32<br>B33<br>B34<br>B35 | C1<br>C3<br>C4<br>C5<br>C6<br>C7<br>C8<br>C9 |

| Contents | |
|---|---|
| **Topic** | **Sub-topic** |
| 1.-Tensions e deformacions. Relacións: ley de Hooke xeneralizada. | |
| 2.-Principios da resistencia de materiais | |
| 3.-Esforzos simples: axil (tracción e compresión).Cortadura simple. Flexión pura. | |
| 4.-Esforzos combinados: flexión simple, flexión esviada. Flexión composta . Nucleo central. | |
| 5.-Accións na edificación. Aspectos normativos. Bases do cálculo. | |

| Planning | | | | |
|---|---|---|---|---|
| **Methodologies / tests** | **Competencies** | **Ordinary class hours** | **Student?s personal work hours** | **Total hours** |
| Guest lecture / keynote speech | A37 A56 A58 B31 B32 B33 B34 B35 C1 C3 C4 C5 C6 C7 C8 C9 | 30 | 30 | 60 |
| Objective test | A37 B31 B32 B33 B34 B35 C3 C6 C7 C8 C9 | 4 | 8 | 12 |
| Problem solving | A37 B31 B32 B33 B34 B35 C3 C6 C7 C8 C9 | 26 | 52 | 78 |
| Personalized attention | | 0 | | 0 |
| **(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.** | | | | |

| Methodologies | |
|---|---|
| **Methodologies** | **Description** |
| Guest lecture / keynote speech | Expoñeranse os diversos conceptos teóricos da materia e orientarase ao alumnado no desenrolo do seu traballo autónomo. |
| Objective test | Plantexaranse cuestións e/ou problemas teórico-prácticos a resolver polo alumno. |

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|---|---|
| Problem solving | Propoñeranse e/ou resolverán polo profesor e alumnado diversos exercicios prácticos relacionados co temario. |

| Personalized attention | |
|---|---|
| **Methodologies** | **Description** |
| Problem solving<br>Guest lecture / keynote speech<br>Objective test | A atención personalizada realizarase na propia aula e no horario e lugar de tutorías do profesor, que figura na web da escola. |

| Assessment | | | |
|---|---|---|---|
| **Methodologies** | **Competencies** | **Description** | **Qualification** |
| Objective test | A37 B31 B32 B33 B34 B35 C3 C6 C7 C8 C9 | Consistira en ejercicios y/o cuestiones teoricopracticas | 100 |

| Assessment comments |
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| O alumno pode alcanzar os 10 puntos coa resolución de exercicios e/ou teoría que plantexe o profesor na primeira e segunda oportunidade nos exames oficiais que fixe a escola. Recoméndase, lóxicamente, a asistencia as clases pero se permite a presentación aos exámes oficiais de primeira e segunda oportunidade sen ese requisito. Pódese levar ás probas calculadora non programable, material de debuxo, formulario A4 manuscrito redactado polo alumno exclusivamente con formulación.<br>Non se admiten teléfonos móviles no examen. Acudirase co DNI ás probas.<br>Poden solicitar o non presentado durante a primeira media hora.<br><br>Recórdase que a realización fraudulenta de probas ou actividades de evaluación implicará directamente a calificación de suspenso 0, na convocatoria correspondente e a aplicación da normativa Académica de Evaluacións, Calificacións e Reclamacións vixente na UDC.<br><br>Recordase que os alumnos pertencentes a asignatura do doble grao en extinción so teñen dereito a examen e serán evaluados sobre 10 puntos igualmente. |

| Sources of information | |
|---|---|
| **Basic** | - ortiz Berrocal,Luis (1985). Elasticidad. Litoprint Pricam, SA.<br>- ortiz Berrocal,Luis (1992). Resistencia de materiales. McGraw<br>- M. Vazquez (1986). Resistencia de Materiales. Coimpres, SA.<br>- Timoshenko (1980). Resistencia de Materiales. Espasa Calpe, SA<br>- Feodosiev (1980). Resistencia de Materiales. Mir<br>- Timoshenko y Young (1981). Teoría de las Estructuras. Urmo,SA<br>- Documento (). DB-SE-AE. Ministerio de Fomento<br>- Documento (). DB-SE. Ministerio de FOmento |
| **Complementary** | |

| Recommendations |
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| **Subjects that it is recommended to have taken before** |
| Mechanical Basics of Building Structures/670G01104 |
| **Subjects that are recommended to be taken simultaneously** |
| |
| **Subjects that continue the syllabus** |
| Building Structures II/670G01111 |
| **Other comments** |

Para un axeitado seguimento da materia é imprescisdible o dominio previo dos seguintes temas: - Razoamento Lóxico. - Cálculo vectorial. - Sistemas de unidades. - Matrices. - Xeometría e Trigonometría. - Derivación e Integración. - Resolución de sistemas de ecuacións. Recórdase que a bibliografía proposta é simplemente orientativa.

Existen numerosos textos de mecánica e estructuras polos cales se pode realizar o traballo autónomo do alumno.

**(*)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.**