



## Teaching Guide

| Teaching Guide      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |                         |           |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------------------|-----------|
| Identifying Data    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        | 2023/24                 |           |
| Subject (*)         | Physics for Architecture 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        | Code                    | 630G02008 |
| Study programme     | Grao en Estudos de Arquitectura                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |                         |           |
| Descriptors         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |                         |           |
| Cycle               | Period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Year   | Type                    | Credits   |
| Graduate            | 1st four-month period                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | First  | Basic training          | 6         |
| Language            | SpanishGalician                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |                         |           |
| Teaching method     | Face-to-face                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |                         |           |
| Prerequisites       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |                         |           |
| Department          | Construcións e Estruturas Arquitectónicas, Cívís e AeronáuticasEnxeñaría Civil                                                                                                                                                                                                                                                                                                                                                                                                                   |        |                         |           |
| Coordinador         | Vazquez Rodriguez, Jose Antonio                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | E-mail | jose.vazquez@udc.es     |           |
| Lecturers           | Aragon Fitera, Jorge                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | E-mail | j.aragon@udc.es         |           |
|                     | Dominguez Diez, Javier Faustino                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        | javier.dominguez@udc.es |           |
|                     | Mosquera Rey, Emilio                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        | emilio.mosquera@udc.es  |           |
|                     | Vazquez Rodriguez, Jose Antonio                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        | jose.vazquez@udc.es     |           |
| Web                 | http://etsa.udc.es/web/                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |                         |           |
| General description | A asignatura estrutúrase en parte teórica e parte práctica, esta impartida en grupo reducido.                                                                                                                                                                                                                                                                                                                                                                                                    |        |                         |           |
|                     | Nas clases teóricas, a labor expositiva resulta predominante, se ben o alumnado participará de forma activa no seu desenvolvemento. Esta labor complétase coa resolución por parte do alumnado de diversos exercicios sobre os temas do programa propostos durante as clases prácticas.                                                                                                                                                                                                          |        |                         |           |
|                     | É imprescindible coñecer, comprender e saber manexar con soltura os contidos básicos que integran o documento dispoñible na plataforma virtual nivelación ETSAC <a href="https://campusvirtual.udc.gal/course/view.php?id=13730&amp;section=2">https://campusvirtual.udc.gal/course/view.php?id=13730&amp;section=2</a> e neste enlace <a href="http://etsa.udc.es/web/wp-content/uploads/2012/06/Precurso-Física.pdf">http://etsa.udc.es/web/wp-content/uploads/2012/06/Precurso-Física.pdf</a> |        |                         |           |

## Study programme competences

| Code | Study programme competences                                                                                                                                                                                                                                                                       |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A7   | "Knowledge of the principles of general mechanics, statics, mass geometry and vector and tensor fields, adapted and applied to architecture and urbanism ";                                                                                                                                       |
| A63  | Development, presentation and public review before a university jury of an original academic work individually elaborated and linked to any of the subjects previously studied                                                                                                                    |
| B1   | Students have demonstrated knowledge and understanding in a field of study that is based on the general secondary education, and is usually at a level which, although it is supported by advanced textbooks, includes some aspects that imply knowledge of the forefront of their field of study |
| B2   | Students can apply their knowledge to their work or vocation in a professional way and have competences that can be displayed by means of elaborating and sustaining arguments and solving problems in their field of study                                                                       |
| B3   | Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues                                                                                               |
| B4   | Students can communicate information, ideas, problems and solutions to both specialist and non-specialist public                                                                                                                                                                                  |
| B5   | Students have developed those learning skills necessary to undertake further studies with a high level of autonomy                                                                                                                                                                                |
| B6   | Knowing the history and theories of architecture and the arts, technologies and human sciences related to architecture                                                                                                                                                                            |
| B9   | Understanding the problems of the structural design, construction and engineering associated with building design and technical solutions                                                                                                                                                         |
| C1   | Adequate oral and written expression in the official languages.                                                                                                                                                                                                                                   |
| C3   | Using ICT in working contexts and lifelong learning.                                                                                                                                                                                                                                              |
| C5   | Understanding the importance of entrepreneurial culture and the useful means for enterprising people.                                                                                                                                                                                             |
| C6   | Critically evaluate the knowledge, technology and information available to solve the problems they must face                                                                                                                                                                                      |
| C7   | Assuming as professionals and citizens the importance of learning throughout life                                                                                                                                                                                                                 |
| C8   | Valuing the importance of research, innovation and technological development for the socioeconomic and cultural progress of society.                                                                                                                                                              |



| Learning outcomes                                                                                                 |                             |                                        |                                  |
|-------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------------------------|----------------------------------|
| Learning outcomes                                                                                                 | Study programme competences |                                        |                                  |
| 1- Determine the equilibrium conditions of a rigid body in the plane as much space.                               | A7<br>A63                   | B1<br>B2<br>B3<br>B4<br>B5<br>B6<br>B9 | C1<br>C3<br>C5<br>C6<br>C7<br>C8 |
| 2- Knowing the kind of connection of isostatic structure                                                          | A7<br>A63                   | B1<br>B2<br>B3<br>B4<br>B5<br>B6<br>B9 | C3<br>C5<br>C6<br>C7<br>C8       |
| 3- Evaluate reactions of isostatic structure                                                                      | A7<br>A63                   | B1<br>B2<br>B3<br>B4<br>B5<br>B6<br>B9 | C1<br>C3<br>C5<br>C6<br>C7<br>C8 |
| 4- Know and calculate the internal forces of isostatic frame structure (shear, bending, ....)                     | A7<br>A63                   | B1<br>B2<br>B3<br>B4<br>B5<br>B6<br>B9 | C1<br>C3<br>C5<br>C6<br>C7<br>C8 |
| 5- Learn a mixed structure subdivided into parts to proceed with its independent calculation                      | A7<br>A63                   | B1<br>B2<br>B3<br>B4<br>B5<br>B6<br>B9 | C1<br>C3<br>C5<br>C6<br>C7<br>C8 |
| 6- Know and calculate the internal force of isostatic articulated structure (tensile and compressive forces. ...) | A7<br>A63                   | B1<br>B2<br>B3<br>B4<br>B5<br>B6<br>B9 | C1<br>C3<br>C5<br>C6<br>C7<br>C8 |



|                                                                                       |           |                                        |                                  |
|---------------------------------------------------------------------------------------|-----------|----------------------------------------|----------------------------------|
| 7- Know and calculate internal forces of isostatic structure cables (tensile forces)  | A7<br>A63 | B1<br>B2<br>B3<br>B4<br>B5<br>B6<br>B9 | C1<br>C3<br>C5<br>C6<br>C7<br>C8 |
| 8- Locate the mass center of a rigid body.                                            | A7<br>A63 | B1<br>B2<br>B3<br>B4<br>B5<br>B6<br>B9 | C1<br>C3<br>C5<br>C6<br>C7<br>C8 |
| 9- Calculate moments and product of inertia of area respect to a plane, axes or point | A7<br>A63 | B1<br>B2<br>B3<br>B4<br>B5<br>B6<br>B9 | C1<br>C3<br>C5<br>C6<br>C7<br>C8 |
| 10- Evaluate the connections in a structure by energy methods / virtual work          | A7<br>A63 | B1<br>B2<br>B3<br>B4<br>B5<br>B6<br>B9 | C1<br>C3<br>C5<br>C6<br>C7<br>C8 |

| Contents              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Topic                 | Sub-topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1- STATIC SOLID RIGID | Review of Mechanics. Concept of force<br>Basic hypothesis<br>Force systems. Properties:<br>Composition of forces. Resultant.<br>Moment of a force respect to a point. Moment of the system.<br>Moment of a force respect to axes. Moment of the system.<br>Torque. Pair composition force.<br>Reduction systems.<br>Invariant of a system.<br>Central axes.<br>Equilibrium conditions in 3D and 2D.<br>Particular cases:<br>Solid rigid balance under the action of two forces.<br>Solid rigid balance under the action of three forces. |



|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2- LINKS AND REACTIONS FORCES.<br>EQUILIBRIUM OF RIGID SOLID | Introduction. Concept of rigid solid. Free Solid / Solid linked.<br>Support, connection and joint. Definition. Classifications.<br>Active Forces (or actions) and Reactive Forces (or effects).<br>Freedom Degree: Internal, External and Total.<br>Connection or constraints two-dimensional systems (2D).<br>Connection in three-dimensional systems (3D).<br>Immobilization of the body: 2D and 3D.<br>Isostatic, hyperstatic and mechanisms systems.<br>Balance in two-dimensional. Calculation of reactions.<br>Balance in three-dimensional. Calculation of reactions.<br>Diagram of rigid solid. |
| 3- ARTICULATED STRUCTURAL ANALYSIS                           | Introduction. External and internal forces.<br>Axial forces: Tension and Compression<br>Truss structures.<br>Definition. Basic hypothesis . Types<br>Condition Isostatic system<br>Calculation methods truss structures<br>Method sections or Ritter<br>Method joints<br>Particular load cases                                                                                                                                                                                                                                                                                                          |
| 4- BEAMS: EXTERNAL AND INTERNAL FORCES                       | Introduction. Prismatic section.<br>Beams. Types of beams.<br>Loads. Types of loads.<br>External and internal forces. Sign convention.<br>Balance of a section.<br>Axial, shear and bending moments diagrams<br>Drawing diagrams<br>Supported at one articulated at end beam with concentrated load<br>Supported at one articulated at end with uniform distributed load.<br>Cantilever with concentrated load<br>Cantilever with uniformity distributed load.                                                                                                                                          |
| 5- ISOSTATIC BEAMS RESOLUTION                                | Beams with any types of load<br>Inclined beams with any types of load<br>Beams with hinged connection and intermediate supports: Gerber beam.<br>Broken beams                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 6- RESOLUTION OF ISOSTATIC PORTAL FRAME                      | Definition. Types<br>Method of study<br>Portal frame supported-articulated<br>Portal frame with cantilevers<br>Three articulated portal frame<br>Compound porches                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 7- CABLE STRUCTURES                                          | Basic hypothesis. Balance.<br>Cables with concentrated loads<br>Cables with distributed load<br>Differential equation of a cable<br>Parabolic cable.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |



|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8- GRAVITY CENTER AND MASS CENTER | <p>Introduction. Center parallel forces system</p> <p>Weight and mass. Gravity center and mass center</p> <p>Application to Discrete Systems and Dynamic Systems</p> <p>Gravity center of surface. Centroids</p> <p>Static moment</p> <p>Properties of the center of mass.</p> <p>Papus-Guldin theorems</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 9-MOMENTS OF INERTIA              | <p>Introduction</p> <p>Moments of inertia of a particles system</p> <p>Product of inertia of a particles system</p> <p>Properties</p> <p>Moments and products of inertia of continuous systems</p> <p>Moments and products of inertia of plane systems</p> <p>Moments and products of inertia of surfaces and lines</p> <p>Distributive property</p> <p>Steiner theorem applied to moments of inertia</p> <p>Steiner theorem on products of inertia</p> <p>Moments of inertia of compound areas</p> <p>Turning radius of an area.</p> <p>Moment of inertia about any straight line. Rotation of Axes</p> <p>Principal axis of inertia</p> <p>Principal moments of inertia</p> <p>Maximum and minimum moments of inertia</p> <p>Mohr circle for moments and products of inertia</p> <p>Graphical representation of the Mohr circle</p> |
| 10-METHOD OF VIRTUAL WORKS        | <p>Introduction</p> <p>Work of a system of forces on a rigid solid</p> <p>Definition virtual displacement. Virtual work</p> <p>Principle of virtual works</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Planning                        |                                                     |                      |                               |             |
|---------------------------------|-----------------------------------------------------|----------------------|-------------------------------|-------------|
| Methodologies / tests           | Competencies                                        | Ordinary class hours | Student's personal work hours | Total hours |
| Introductory activities         | B1 B2 B3 B4 C3                                      | 2                    | 1                             | 3           |
| Guest lecture / keynote speech  | A7 A63 B1 B2 B3 B4<br>B5 B6 B9 C5 C6 C7<br>C8       | 27                   | 40.5                          | 67.5        |
| Problem solving                 | A7 A63 B1 B3 B4 B5<br>B6 B9 C3 C5 C6 C7<br>C8       | 22                   | 22                            | 44          |
| Mixed objective/subjective test | A7 B1 B2 B3 B4 B5<br>B9 C1 C3 C6                    | 1                    | 0                             | 1           |
| Objective test                  | A7 A63 B1 B2 B3 B4<br>B5 B6 B9 C1 C3 C5<br>C6 C7 C8 | 5                    | 0                             | 5           |
| Diagramming                     | A7 A63 B1 B2 B3 B4<br>B5 B9 C1 C3 C6 C7             | 0                    | 0.5                           | 0.5         |
| Glossary                        | A6 A53 A56 A57 B1<br>B2 B3 B9 B11 B12               | 0                    | 1                             | 1           |



|                                                                                                                                 |                                                     |   |    |    |
|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|---|----|----|
| Supervised projects                                                                                                             | A7 A63 B1 B2 B3 B4<br>B5 B6 B9 C1 C3 C5<br>C6 C7 C8 | 2 | 20 | 22 |
| Workbook                                                                                                                        | A7 B1 B2 B3 B4 B5<br>B6 B9 C3 C5 C6 C7<br>C8        | 0 | 5  | 5  |
| 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                                                                                                                                                                                                                                                                                                  |
| Introductory activities         | Presentation on the subject, explaining its working and aims. Right after class is taught on structural types and overview of vector mechanic.                                                                                                                                                               |
| Guest lecture / keynote speech  | Classes in which the teacher will present on the board or searchlight content of theoretical and practical matters.                                                                                                                                                                                          |
| Problem solving                 | In small group class the teacher will propose a series of practical problems that students will solve, partially or totally, with help and advice of teacher.                                                                                                                                                |
| Mixed objective/subjective test | Responderase a diversas preguntas conceptuais e/ou numéricas. Esta proba servirá para avaliar o nivel de aprendizaxe de aspectos teórico prácticos da materia.                                                                                                                                               |
| Objective test                  | Numerical and graphical issues will be proposed on the contents of the subject and the supporting literature will arise. It will assess the level of learning by the student around practical aspects of the subject.                                                                                        |
| Diagramming                     | Shorts brief introductions in diagram mode to each topic seek to relate the contents of the subject around the knowledge map of the degree.                                                                                                                                                                  |
| Glossary                        | Student will produces a summary sheet with definitions, formulas and physical units related to each of the topics of the subject.                                                                                                                                                                            |
| Supervised projects             | Students handed over to the teacher at least five resolved problems of each of the topics of matter, must be made on an individual and personal and It will be delivered in paper format A4 manuscript. It will serve, added with attendance requirements, to have access to additional mark of the subject. |
| Workbook                        | The student will selects and analyzes exercise and / or mechanical theory in the bibliography, basic and supplementary, identified by teachers in this guide.                                                                                                                                                |

| Personalized attention |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Methodologies          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Supervised projects    | <p>Attendance and activity will be controlled to the student.</p> <p>He will prove his autonomous work with the delivery of a series of individual solved exercises.</p> <p>A minimum of five exercise of each of the topics of the subject what will be delivered on deadlines determined by the teacher in class.</p> <p>The tutorial timetable for the personalized attention to the student will be exposed in the notice board and web.</p> |

| Assessment    |              |             |               |
|---------------|--------------|-------------|---------------|
| Methodologies | Competencies | Description | Qualification |



|                                 |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |
|---------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Mixed objective/subjective test | A7 B1 B2 B3 B4 B5<br>B9 C1 C3 C6                    | <p>Se valorará la exactitud en la contestación a diversas preguntas sobre aspectos teórico prácticos. Durante el desarrollo de esta prueba no se permitirá material de ningún tipo, más allá de bolígrafos.</p> <p>Las cuestiones pueden ser conceptuales y/o numéricas, pudiendo presentar una o varias respuestas posibles, en cuyo caso solo una sería la correcta.</p> <p>Se establece un mínimo del 50% en esta prueba para superar el curso; en caso contrario la calificación será SUSPENSO.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 20  |
| Problem solving                 | A7 A63 B1 B3 B4 B5<br>B6 B9 C3 C5 C6 C7<br>C8       | Resolución en el aula, de forma individualizada, de cuestiones propuestas por el profesorado a lo largo del curso.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 7.5 |
| Objective test                  | A7 A63 B1 B2 B3 B4<br>B5 B6 B9 C1 C3 C5<br>C6 C7 C8 | <p>Se plantean problemas o casos prácticos basados en el temario y la bibliografía a los que se dará una respuesta numérica precisa a cada uno de ellos, teniendo en algunos casos que representar los resultados de forma gráfica.</p> <p>El examen es individual, el incumplimiento de este requisito conllevará la expulsión y la aplicación de la normativa vigente. Los teléfonos móviles en el examen están terminantemente prohibidos, no pudiendo sustituir a la calculadora tradicional.</p> <p>Durante el desarrollo de la parte práctica se emplearán: formulario, calculadora y material de dibujo.</p> <p>Cada ejercicio se contestará independientemente en un pliego DIN A3, escrito con tinta indeleble y doblado en A4 a la entrega.</p> <p>El resultado se dará de forma que resulte claramente visible, indicando el valor numérico con precisión y con las unidades correspondientes. Las partes no válidas deben ser claramente anuladas. Se escribirá obligatoriamente el nombre y grupo en los pliegos de soluciones, así como la hoja del enunciado, para ser corregidas.</p> | 70  |
| Supervised projects             | A7 A63 B1 B2 B3 B4<br>B5 B6 B9 C1 C3 C5<br>C6 C7 C8 | Será necesario que el alumnado plantee y resuelva de forma individualizada y personalizada ejercicios de los items descritos en el apartado de contenidos de la materia, que el profesorado establecerá en tiempo y forma a lo largo del curso junto con su fecha límite de entrega.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2.5 |
| Others                          |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |

Assessment comments



Esta materia no se imparte en inglés.

El aprobado se fija tanto en primera como en segunda oportunidad en cinco puntos sobre un máximo de diez posibles.

**PRIMERA OPORTUNIDAD** Tipo: valoración total Requisitos para superar la materia en primera oportunidad Controles de asistencia 0 puntos Será necesario cumplimentar el 80% de los controles dispuestos, tanto en docencia presencial, expositiva e interactiva, como en docencia no presencial Pruebas rápidas de respuesta múltiple 2 puntos Será necesaria la resolución del 80% de las pruebas propuestas y alcanzar una valoración total mínima de 1,0 puntos Prueba práctica objetiva 7 puntos Será necesario alcanzar una calificación mínima de 3,5 puntos sobre 10. Solución de problemas y trabajos tutelados 1 punto Se entregarán al menos el 80% de los trabajos propuestos.

**SEGUNDA OPORTUNIDAD** Tipo: valoración total Requisitos para superar la materia en segunda oportunidad Prueba de respuesta múltiple 2 puntos Será necesario alcanzar una valoración total mínima de 1,0 puntos Prueba práctica objetiva 7 puntos Será necesario alcanzar una calificación mínima de 3,5 puntos sobre 10. Solución de problemas y trabajos tutelados 1 punto Solo se considerarán aquellas entregadas en los plazos indicados dentro del periodo de actividades académicas del primer cuatrimestre. Los estudiantes que no hayan cumplido este requisito tendrán 0 puntos en este apartado. El no seguimiento de los requisitos indicados supondrá una cualificación de NO PRESENTADO en la oportunidad correspondiente.

Nota aclaratoria sobre asistencia y evaluación para el estudiantado de segunda y posteriores matrículas en la materia, (con la condición de cumplimentar en el curso inmediatamente anterior el 80 % exigido):

Quien no supere el 40% de la asistencia total no podrá presentarse a la primera oportunidad y sí a la segunda, pero solo sobre nueve puntos. Se supera el 40% de asistencia total, podrá presentarse en la primera oportunidad. El alumnado de segunda y posteriores matrículas podrá optar a la cualificación complementaria, cuando después de superar el 40% de asistencia a las clases teóricas y prácticas, sea posible asignarle una nota complementaria en función de las prácticas y dossiers que entregara a lo largo del curso académico.

**CRITERIOS DE CORRECCIÓN.** si adecuan a los derivados de la realidad profesional de la arquitectura. Como criterio general los errores conceptuales se valorarán en función de su gravedad, pudiendo llegar a anular el ejercicio. También resulta relevante a comisión de un error numérico, dado que el ejercicio profesional busca resultados concretos, así una equivocación de signo significaría un error del 200%.

**ASISTENCIA.** Se establecen idénticos requisitos de asistencia y desarrollo de trabajos tutelados, para los estudiantes de primer curso y de continuación de estudios, independientemente de su dedicación a tiempo completo o tiempo parcial. De acuerdo con el apartado 5 del artículo 7 de la norma que regula el régimen de dedicación al estudio y la permanencia y la progresión de los estudiantes de grado y máster universitario en la Universidad de A Coruña, no se considera en esta materia a posibilidad de dispensa académica que exima de la asistencia a clase de los estudiantes.

**PLAGIO.** La detección de plagio, así como la realización fraudulenta de pruebas o actividades de evaluación, una vez comprobada, implicará directamente la cualificación de suspenso ?0? en la materia en la convocatoria, invalidando así cualquier cualificación obtenida en todas las actividades evaluables a lo largo del curso académico

## Sources of information

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Basic</b>         | <ul style="list-style-type: none"> <li>- Beer, F.P.; Jonhston. E.R. (). Mecánica Vectorial para Ingenieros. Estática. Ed. McGraw-Hill.</li> <li>- Fontán, A; Nogueira, P; Pico; J.M.; Vázquez, J.A. (2004). Precurso I. Física. Vicerrectorado de Innovación Tecnológica</li> <li>- Gere, James (2002). Resistencia de Materiales. Editorial Thomson</li> <li>- Lamas, V; Otero, Mª Dolores (2002). Cálculo de estructuras articuladas. Editorial Gráficas del Noroeste</li> <li>- Lamas, V; Otero, Mª Dolores (2002). Cálculo de solicitaciones en vigas isostáticas. Editorial Gráficas del Noroeste</li> <li>- Meriam, J.L. ? Kraige, L.G (). Mecánica para Ingenieros. Estática. Editorial Reverté</li> <li>- Durá Doménech, A. ? Vera Guarinos, J. (). Fundamentos Físicos de las Construcciones Arquitectónicas . Universidad de Alicante</li> </ul> |
| <b>Complementary</b> | - Herrero Arnaiz ? Rodríguez Cano ? Vega González (). Estática: Problemas Resueltos. Editorial Reverté                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## Recommendations

Subjects that it is recommended to have taken before

Subjects that are recommended to be taken simultaneously



Proxectos I/630011106

Xeometría Descritiva I/630011102

Debuxo I/630011103

Fundamentos Físicos na Arquitectura I/630011104

Fundamentos Matemáticos na Arquitectura I/630011105

Construción I/630011107

Xeometría Descritiva II/630011108

Fundamentos Matemáticos na Arquitectura II/630011110

## Subjects that continue the syllabus

Physics 2/630G01013

Structures 1/630G01019

## Other comments

For proper monitoring of the course is the essential

previous mastery of the following topics by the students: Logical reasoning. Calculate vector. Unit systems. Calculate matrix. Geometry and trigonometry. Derivation and

integration. Solving systems of equations. All students of the subject should know,

understand and know how to manage the content available on this link: <http://etsa.udc.es/web/wp-content/uploads/2012/06/Precurso-Física.pdf>

(\*)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.