UNIVERSIDADE DA CORUÑA

| Teaching Guide | | | |
|---|---|---|---|
| Identifying Data | | | 2018/19 |
| Subject (*) | Advanced Computer Science and Integrated Design in Manufacturing | Code | 771G01019 |
| Study programme | Grao en Enxeñaría de Deseño Industrial e Desenvolvemento do Produto | | |

| Descriptors | | | | |
|---|---|---|---|---|
| Cycle | Period | Year | Type | Credits |
| Graduate | 2nd four-month period | Third | Optional | 6 |

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|---|---|---|---|
| Language | Spanish | | |
| Teaching method | Face-to-face | | |
| Prerequisites | | | |
| Department | Enxeñaría Naval e Industrial | | |
| Coordinador | Gonzalez Castro, Manuel Jesus | E-mail | manuel.gonzalez@udc.es |
| Lecturers | Dopico Dopico, Daniel<br>Gonzalez Castro, Manuel Jesus | E-mail | daniel.dopico@udc.es<br>manuel.gonzalez@udc.es |
| Web | http://moodle.udc.es | | |
| General description | In this course you will learn to use SolidWorks 3D modeling software. It is not necessary to have previous knowledge of this software. The different CAD / CAE / CAM / PDM technologies will also be introduced to speed up the development of products. | | |

| Study programme competences | |
|---|---|
| Code | Study programme competences |
| A5 | Identificar, formular e resolver problemas de enxeñaría. |
| A6 | Formación amplia que posibilite a comprensión do impacto das solucións de enxeñaría nos contextos económico, medioambiental, social e global. |
| A7 | Capacidade para deseño, redacción e dirección de proxectos, en todas as súas diversidades e fases. |
| A8 | Capacidade de usar as técnicas, habilidades e ferramentas modernas para a práctica da enxeñaría. |
| A10 | Comprensión das responsabilidades éticas e sociais derivadas da súa actividade profesional. |
| B5 | Resolver problemas de forma efectiva. |
| C6 | Valorar criticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas cos que deben enfrontarse. |
| C7 | Asumir como profesional e cidadán a importancia da aprendizaxe ao longo da vida. |
| C8 | Valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade. |

| Learning outcomes | | | |
|---|---|---|---|
| Learning outcomes | Study programme competences | | |
| Model products with 3D CAD software (SolidWorks). | A5<br>A7<br>A8 | B5 | |
| Get basic knowledge of CAD/CAE/CAM/PDF and its applications in product design. | A5<br>A6<br>A7<br>A8<br>A10 | B5 | C6<br>C7<br>C8 |

| Contents | |
|---|---|
| Topic | Sub-topic |

| | |
|---|---|
| 3D CAD modelling with SolidWorks. | Parts.<br>Assemblies.<br>Drawings.<br>Advanced features.<br>Configurations.<br>Introduction to surface modelling.<br>Introduction to render and animation. |
| Os bloques ou temas seguintes desenvolven os contidos establecidos na ficha da Memoria de Verificación | Introduction. CAD (Computer Aided Design). CAE (Computer Aided Engineering). CAT (Computer Aided Testing). CAM (Computer Aided Manufacturing). CAPP (Computer Aided Processing and Planning). RE (Reverse Engineering). VR (Virtual Reality). RP&T (Rapid Prototyping and Tooling). CAT&M (Computer Aided Testing and Maintenance). PDM (Product Data Management). |

| Planning | | | | |
|---|---|---|---|---|
| Methodologies / tests | Competencies | Ordinary class hours | Student?s personal work hours | Total hours |
| Introductory activities | C6 C7 C8 | 1 | 0 | 1 |
| Guest lecture / keynote speech | A5 A10 A6 | 18 | 27 | 45 |
| Laboratory practice | A5 A7 A8 B5 | 15 | 15 | 30 |
| Problem solving | A5 A7 A8 B5 | 6 | 54 | 60 |
| Workbook | A10 A6 C6 C7 C8 | 0 | 7 | 7 |
| Mixed objective/subjective test | A5 A7 A8 B5 C6 | 6 | 0 | 6 |
| 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 | Presentación da materia. |
| Guest lecture / keynote speech | Exposición de conceptos teóricos. |
| Laboratory practice | Prácticas na aula de informática. |
| Problem solving | Resolución de exercicios prácticos co software manexado na materia. |
| Workbook | Profundizar obre os contidos teóricos da materia. |
| Mixed objective/subjective test | Examenes teóricos (tipo test) e prácticos (resolución de problemas con computador) dos temas da materia. |

| Personalized attention | |
|---|---|
| Methodologies | Description |
| Problem solving | Help to solve the exercises proposed in the class. |

| Assessment | | | |
|---|---|---|---|
| Methodologies | Competencies | Description | **Qualification** |
| Mixed objective/subjective test | A5 A7 A8 B5 C6 | Exámen(es) parcial(es) e exame final. | 100 |
| Others | | | |

| Assessment comments |
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| At the beginning of the course, the calendar of tests to be performed and the value of each test will be defined.<br>Class attendance is recommended but not mandatory.<br>The evaluations will be made through Moodle, in digital format without the need to print on paper. |

| Sources of information | |
|---|---|
| Basic | - Manuel González (). Material docente de la asignatura.<br>- Varios (). Ayuda y tutoriales de SolidWorks. |
| Complementary | <br /> |

| Recommendations |
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| Subjects that it is recommended to have taken before |
| Computer Aided Design/771G01017 |
| Subjects that are recommended to be taken simultaneously |
| |
| Subjects that continue the syllabus |
| Product Development Technologies/771G01014<br>Project Workshop/771G01018 |
| Other comments |
| Students will be provided with a student version of SolidWorks software to install on their personal computers. The availability of these licenses for students is conditional on the University of A Coruña paying the annual maintenance of the licenses at the beginning of the academic year. |

**(*)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.**