UNIVERSIDADE DA CORUÑA

| Teaching Guide | | | | |
|---|---|---|---|---|
| Identifying Data | | | | 2016/17 |
| Subject (*) | ESTATÍSTICA | | Code | 730G03008 |
| Study programme | Grao en enxeñaría en Tecnoloxías Industriais | | | |
| Descriptors | | | | |
| Cycle | Period | Year | Type | Credits |
| Graduate | 2nd four-month period | First | FB | 6 |
| Language | Spanish | | | |
| Teaching method | Face-to-face | | | |
| Prerequisites | | | | |
| Department | Análise Económica e Administración de Empresas | | | |
| Coordinador | Garcia del Valle, Alejandro | E-mail | alejandro.garcia.delvalle@udc.es | |
| Lecturers | Crespo Pereira, Diego<br>Garcia del Valle, Alejandro<br>Ríos Prado, Rosa | E-mail | diego.crespo@udc.es<br>alejandro.garcia.delvalle@udc.es<br>rosa.rios@udc.es | |
| Web | | | | |
| General description | | | | |

| Study programme competences / results | |
|---|---|
| Code | Study programme competences / results |

| Learning outcomes | | | |
|---|---|---|---|
| Learning outcomes | Study programme competences / results | | |
| Using statistical software for solving engineering problems involving randomness and large volume of data. | A1 | | C1 |
| Ability to solve statistical problems encountered in engineering. | A1 | | C1 |
| Capacity for abstraction, understanding, analysis and simplification of instances and processes. | A1 | B2<br>B3<br>B4<br>B5<br>B6<br>B7 | C1<br>C4 |

| Contents | |
|---|---|
| Topic | Sub-topic |
| Introduction to Statistics | |
| 2. Exploratory data analysis. | |
| 3. Probability. | |
| 4. Ramdom variables. | |
| 5. Discrete random variables and probability distributions. | |
| 6. Continous random variables and probability distributions. | |
| 7. Joint probability distributions. | |
| 8. Statistical inference. | |
| 9. Point estimation of parameters. | |
| 10. Statistical intervals for a single sample. | |
| 11. Test of hypotheses for a single sample. | |
| 12. Regression an analysis of variance (ANOVA). | |

| Planning |
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| Methodologies / tests | Competencies / Results | Teaching hours (in-person & virtual) | Student?s personal work hours | Total hours |
|---|---|---|---|---|
| Guest lecture / keynote speech | A1 B2 B7 | 30 | 36 | 66 |
| Problem solving | B3 B4 B5 C1 C4 | 20 | 18 | 38 |
| ICT practicals | A1 B6 | 10 | 10 | 20 |
| Objective test | A1 B2 B3 B4 | 3 | 9 | 12 |
| Mixed objective/subjective test | A1 B2 B3 B4 B5 | 3 | 9 | 12 |
| Personalized attention | | 2 | 0 | 2 |
| (*)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 | Lectures about the course topics. |
| Problem solving | Solving exercises and statistical problems encountered in engineering. |
| ICT practicals | Resolution of practical cases of statistical problems by Excel. |
| Objective test | Final exam |
| Mixed objective/subjective test | Midterm exam of the first issues of the subject. |

| Personalized attention | |
|---|---|
| Methodologies | Description |
| ICT practicals<br>Mixed objective/subjective test | The personalized attention will be made in the tutorials. |

| Assessment | | | |
|---|---|---|---|
| Methodologies | Competencies / Results | Description | **Qualification** |
| ICT practicals | A1 B6 | Evaluation of case studies solved in small groups. | 25 |
| Objective test | A1 B2 B3 B4 | Final exam with test questions and troubleshooting. | 50 |
| Mixed objective/subjective test | A1 B2 B3 B4 B5 | Midterm exam with test questions and troubleshooting. | 25 |

| Assessment comments |
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| IMPORTANT: Attendance to at least the 80% of classes is required in order to pass the course, unless justified and autorized by the professor. Students who do not meet this requirement will have the qualification of SUSPENSE.The "students with recognition of a part-time academic and exemption of assistance" will communicate at the beginning of the course your situation to the teachers of the subject, as established by the "Standard that regulates the dedication to the study of undergraduates in the UDC "(Art.3.be 4.5) and the" Standards for evaluation, review and claim of the qualifications of undergraduate and master's degree (Art. 3 and 8b).Students in this situation will be assessed on the date approved by the School Board, by an objective test consisting of solving exercises on the contents of step 3 of the Guide. |

| Sources of information | |
|---|---|
| Basic | - Douglas C. Montgomery, George C. Runger (2011). Applied Statistics and Probability for Engineers. John Wiley<br>- García del Valle, Alejandro; Crespo, Diego (2010). Apuntes de Estadística para Ingenieros. Moodle UDC |

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|---|---|
| Complementary | - Ronald E. Warpole  (1999). Probabilidad y Estadística para Ingenieros. Pearson<br>- S. Christian Albright, Wayne Winston, Christopher J. Zappe  (1999). Data Analysis & Decision Making with Microsoft Excel. Duxbury |

| Recommendations |
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| Subjects that it is recommended to have taken before |
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| Subjects that are recommended to be taken simultaneously |
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| Subjects that continue the syllabus |
| ORGANIZACIÓN DE EMPRESAS/730G03024<br>SIMULACIÓN DE PROCESOS INDUSTRIAIS E OPTIMIZACIÓN/730G04065 |
| Other comments |
| Existe unha bibliografía moi ampla e actualizada sobre Estatística na biblioteca da Escola Politécnica Superior (moita dela en inglés). Os apuntamentos da materia estarán dispoñibles en Moodle así como os enunciados de casos propostos |