



GENERAL INFORMATION

| Data of the subject | |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Subject name | Communications in Industrial Applications |
| Subject code | DEAC-MIT-611 |
| Main program | Máster Universitario en Ingeniería de Telecomunicación por la Universidad Pontificia Comillas |
| Involved programs | Grado en Administración y Dirección de Empresas y Máster Univ. en Ingeniería de Telecomunicación [Sixth year] Máster Universitario en Ingeniería de Telecomunicación y Mást. Univ. en Administración de Empresas [Second year] Máster Universitario en Ingeniería de Telecomunicación [Second year] Máster Universitario en Ingeniería de Telecomunicación y Máster en Ciberseguridad [Second year] Máster Universitario en Ingeniería de Telecomunicación y Mást. Univ. en Administración de Empresas [Second year] Máster Universitario en Ingeniería de Telecomunicación + Máster Big Data.Tecnología y Anal. Avanzada [Second year] Máster Universitario en Ingeniería de Telecomunicación + Máster in Smart Grids [Second year] |
| Credits | 3,0 ECTS |
| Type | Compulsory |
| Department | Department of Electronics, Control and Communications |

| Teacher Information | |
|---------------------|-------------------------------------------------------|
| Teacher | |
| Name | José Antonio Rodríguez Mondéjar |
| Department | Department of Electronics, Control and Communications |
| Office | Alberto Aguilera 25 [D-211] |
| E-Mail | mondejar@iit.comillas.edu |
| Phone | 2422 |
| Teacher | |
| Name | José Antonio Villacañas Palomo |
| Department | Department of Electronics, Control and Communications |
| E-Mail | jvillacanas@icai.comillas.edu |

DESCRIPTION OF THE SUBJECT

| Contextualization of the subject |
|----------------------------------|
|----------------------------------|

Course contents

| Contents |
|----------|
|----------|



1. Taxonomy of technologies and systems specific to Telecommunications Engineering. Methodologies to apply them in other sectors.
2. Case studies of the integration of technologies and systems specific to Telecommunications Engineering in consolidated sectors such as industrial automation, energy generation, transport and distribution, railway systems and telemedicine.
3. Exploration of new sectors where Telecommunications Engineering technologies and systems can be applied.

EVALUATION AND CRITERIA

| Evaluation activities | Evaluation criteria | Weight |
|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Combined exam of problems and theory. | In the problems, both the procedure chosen to solve the problem and the results, which, although they may be incorrect, must be coherent and logical, will be assessed. The theory part may consist of a brief and concise development of a theoretical topic and/or a multiple-choice test consisting of identifying the correct answer from a limited number of alternatives. The examination may be taken before the individual presentation of the research work. | 40 % |
| (35%) Research and design work. Presentation and defence of the work. (5%) Class participation | Aspects such as the novelty of the work, the quality of its content, and its technical and economic viability will be assessed. In the presentation of the work, the clarity, quality and dynamism of the presentation will be assessed. Although the project report and its implementation may be carried out in a group, the presentation, evaluation and marking of the project will be done individually. | 35 % |
| Laboratory | Group work in the laboratory where, although it is carried out as a group, the qualification will be individualised. In addition to the work done as a group, the individual work done before and during the session will be assessed. | 20 % |
| Class participation | Active participation in problem solving in class and individual class and individual practical work. | 5 % |

Grading

The grade in the ordinary exam is obtained according to the weights indicated in Evaluation Activities, provided that the marks obtained in the exam, work and presentation of the work, and in the laboratory practicals are greater than or equal to 5.

The grade in the extraordinary exam will be obtained in the same way as in the ordinary exam, substituting the grade obtained in the exam and work with its presentation for the grade obtained in the extraordinary exam. In addition, if the grade in the laboratory practicals was lower than 5, there will be a practical exam in the laboratory that will replace the practical grade.



Class attendance is compulsory, according to the Academic Regulations of the School of Engineering (ICAI). Attendance requirements will be applied separately for theory and laboratory sessions:

In the case of theory sessions, failure to comply with this rule may prevent the student from taking the exam in the ordinary exam session.

In the case of laboratory sessions, failure to comply with this rule may prevent students from taking the exam in the ordinary and extraordinary exams. In any case, unexcused absences from laboratory sessions will be penalized in the evaluation.

WORK PLAN AND SCHEDULE

| Activities | Date of realization | Delivery date |
|--------------------------|-----------------------------------------------|--------------------------|
| Theory and lab practice | Up to week 11 or 12 alternating | |
| Exam | Prior submission and defence of research work | |
| Research and design work | Last 6 weeks | End of the course |
| Presentation of the work | | Final week of the course |

BIBLIOGRAPHY AND RESOURCES

Basic References

IEC, ISO and IEEE standards.

In compliance with current regulations on the **protection of personal data**, we would like to inform you that you may consult the aspects related to privacy and data [that you have accepted on your registration form](#) by entering this website and clicking on "download"

<https://servicios.upcomillas.es/sedelectronica/inicio.aspx?csv=02E4557CAA66F4A81663AD10CED66792>