Universidad Rey Juan Carlos

TEACHING GUIDE

COMPUTER SCIENCE AND DIGITAL COMPETENCY

GRADO EN EDUCACIÓN PRIMARIA (INGLÉS)

ACADEMIC YEAR 2026-27

Q2803011B UNIVERSIDAD REY JUAN CARLOS
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I.-Subject Identification	
Type	FORMACIÓN BÁSICA
Teaching period	1 course, 2Q semester
Nº of credits	6
Language in wich the subject is taught	English

II.-Presentation

The course has two main goals: The first one is to equip students with the knowledge of the new Information and Communication Technologies (ICT) and their practical applications. This will enable them to use these technologies effectively in their future teaching careers. The second goal is to demonstrate how these technologies can enhance the teaching-learning process, preparing students to integrate ICTs into their daily work as educators.
It is essential for any student wanting to become a teacher to know how ICTs can be used in education. On the one hand, it is necessary that teachers know-how: (i) to manage the operating system at a user level; (ii) to create electronic documents and presentations on the computer; (iii) to search, analyze and produce electronic information syntheses retrieved from the web or electronic documents; (iv) communicate with other teachers, students or parents via mail or instant messaging. On the other hand, nowadays, all educational centres have computer rooms to foster the use of new teaching technologies.

According to INTEF: "Digital competition is one of the eight key competencies that any young person must have developed at the end of compulsory education in order to be able to live an adult life satisfactorily and to develop Lifelong learning, in line with the European Parliament's Key competences for lifelong learning (Recommendation 2006/962 / EC of the European Parliament and of the 18 December 2006 on key competences for lifelong learning, Official Journal L 394 of 30.12.2006). Digital competition not only provides the capacity to take advantage of the wealth of new possibilities associated with digital technologies and the challenges they face but is increasingly necessary in order to be able to participate meaningfully in the new society and knowledge economy of the 21st century". This digital competence is vital for any school teacher.
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REQUIREMENTS
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Students taking this course must have knowledge and domain at the user level of the Windows environment and the Office suite tools.
If you lack such knowledge and management skills, it is recommended that you take a levelling course before beginning the course.

III.-Learning outcomes

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CGI01. Capacity for analysis and synthesis
CGI02. Organizational and planning capacity
CGI07. Troubleshooting
CGS01. Autonomous learning
CG01. Acquire and understand the necessary knowledge of the different areas of study that make up the title in such a way that they train for the profession of Teacher in Primary Education.
CG05. Acquire the necessary learning skills to expand their studies autonomously.
CE03 . Solid scientific and cultural and technological training
CE06 . Design and development of educational projects and programming units for adapting the curriculum to the sociocultural context .
CE04 . Design and apply and evaluate didactic actions aimed at the development of physical, cognitive, socio-affective, motor and linguistic capacities, knowing the biological, psychological, social and creative factors that determine learning. (Early learning perspective and playful methodology).
CE06 . Detect possible difficulties that students may present and develop didactic strategies and curricular adaptations promoting the educational and social inclusion of students. Promote a climate of coexistence in the classroom and resolve conflicts that may arise peacefully. (Perspective of Attention to Diversity)
CE09 . Apply and properly use New Technologies as a vehicle for information, communication and introduction in the world of mass-media. (About New Technologies)
CE15. Reflect on classroom practices to innovate and improve teaching work. Acquire habits and skills for autonomous and cooperative learning and promote it among students.

- Key for degrees not adapted to RD 822/21: **CB** - basic competences, **CG** - generic competences, **CE** - specific competences, **CT** - transversal competences.
- Key for degrees adapted to RD 822/21: **CON** - knowledge, **COM** - competences, **HAB** - skills.

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IV.-Contents

IV.A.-Syllabus

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PRESENTATION

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Presentation of the course and realization of self-assessment questionnaire

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BLOCK I. INFORMATION AND INFORMATIONAL LITERACY

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1. Navigation and Search
2. Storing and retrieving information in the cloud
3. Digital content, information evaluation, licensing

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BLOCK II. COMMUNICATION AND COLLABORATION

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4. Interaction through digital technologies
5. Share information and digital content
6. Citizen participation online
7. Collaboration through digital channels
8. Netiquette

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BLOCK III. CREATION OF DIGITAL CONTENT

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9. Digital content development
10. Programming

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BLOCK IV. SECURITY

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11. Personal protection, data protection.

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BLOCK V. TROUBLESHOOTING

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12. Solve conceptual problems through digital means, solve technical problems.

IV.B.-Training activities

Type	Title
Academic tutorials	Practice 1. Information and Informational Literacy
Academic tutorials	Practice 2. Communication and Collaboration
Academic tutorials	Practice 3. Creation of Digital Content / Programing
Realización de Pruebas	Final test

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V.-Student workload	
Theoretical sessions	6
Resolution of exercises, problems, case studies, etc.	25
Practical sessions in experimental, technological and clinical laboratories, fieldwork, etc.	25
Tests and/or exams	4
Academic tutorials	26
Related activities: conferences, seminars, etc.	22
Preparation of theoretical sessions and self-study	36
Preparation of practical tasks, exercises, case studies, projects, etc.	26
Preparation for tests and/or exams	10
Total student workload	180

VI.-Methodology and academic programme

Type	Period	Content
- to -	Incorporamos componentes de Gamificación, como el entorno de Aula Virtual pareido a un juego y el uso de insignias digitales	Theoretical sessions
Week 4 to Week 7	BLOCK II. Communication and Collaboration Master class in the computer room. The student will have support resources through the Virtual Classroom to prepare the contents of each topic. Carrying out practices in the computer room. The student will be able to use the computers in the computer room to carry out the proposed practices. ** Contingency Plan Scenario ** [DL] Synchronous master class during class hours by videoconference through virtual classroom. In addition, the student will have audiovisual support content and resources that they can use to prepare the content for each topic. [DL] Practical development. The student will carry out the proposed practice following its requirements. The delivery will be made through the Virtual Classroom, through the section enabled for it.	- to -

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Deben realizar 3 proyectos enlazados durante el curso que forma un proyecto final ,con un hilo conductor que abarca el temario de la asignatura	- to -	Los estudiantes deben venir con el material leído/visto a cada clase, para ponerlo en práctica en la clase, no emplear tiempo en su lectura/visionado
Theoretical sessions	Week 8 to Week 15	BLOCK III: Programming Master class in the computer room. The student will have support resources through the Virtual Classroom to prepare the contents of each topic. Carrying out practices in the computer room. The student will be able to use the computers in the computer room to carry out the proposed practices.
Theoretical sessions	Week 1 to Week 3	BLOCK I: Informational and Informational Literacy Master class in the computer room. The student will have support resources through the Virtual Classroom to prepare the contents of each topic. Carrying out practices in the computer room. The student will be able to use the computers in the computer room to carry out the proposed practices.
Theoretical sessions	Week 8 to Week 15	BLOCK IV: Security Master class in the computer room. The student will have support resources through the Virtual Classroom to prepare the contents of each topic. Carrying out practices in the computer room. The student will be able to use the computers in the computer room to carry out the proposed practices.
Theoretical sessions	Week 8 to Week 15	BLOCK V: Troubleshooting Master class in the computer room. The student will have support resources through the Virtual Classroom to prepare the contents of each topic. Carrying out practices in the computer room. The student will be able to use the computers in the computer room to carry out the proposed practices.
Academic tutorials	Week 1 to Week 15	Tutorials The tutorials will be held at the times indicated at the beginning of the course.

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VII.-Assessment methods

The general assessment method is continuous as established in the *Regulation for the Assessment of Learning Outcomes* of Rey Juan Carlos University.
All the assessment systems established in the degree report must be employed, except for those that have a minimum weight of 0%, which can be used by professors in the academic years they consider relevant. Each assessment system may be applied through one or more assessment activities, consistent with the system. No assessment activity can exceed individually 60% of the overall grade for the subject.
The sum of non re-evaluable activities cannot exceed 40% of the overall grade for the subject and, in general, should not have an established minimum grade (except for practical activities in which, strictly speaking, the conditions of the ordinary call cannot be reproduced in the extraordinary call).
Those students who do not manage to pass the subject in the ordinary call, or do not attend this first call, may attend the extraordinary call only for failed re-evaluable assessment activities.
The distribution and characteristics of the assessment activities are described below.

VII.A.-Description and weight of the assessment activities

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COMMENTS

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Without prejudice to the rights and duties of students in the Statute of the student (RD1791/2010) in the URJC Statutes and its internal regulations, the student must meet the following clarifications:

• DISCIPLINE: In the course presentation, the student will be informed about the rules of punctuality and discipline in class. Any student behaviour that does not meet these may be penalized with expulsion from the classroom.

• SPELLING AND EXPRESSION: The written test evaluation includes aspects such as spelling and expression. If the teacher considers, in each test/report submitted he may subtract: 0.5 points for each failure to spelling, 0.3 points for each error accent and 0.5 per 10 punctuation errors.

• UNIVERSITY WORK: It must be original. When fragments are used in a report, they must be cited correctly. The teacher can specify the marking criteria. Plagiarism, which must be demonstrated, is a serious misconduct. The cases of total or partial plagiarism will be penalized with no work assessment, or the reevaluation will be lost.

• RE-EVALUATION REQUIREMENTS: Students can only reevaluate tests that have not been passed (have not reached the minimum grade). A student who has passed a test cannot reevaluate (raise a grade). A non-revaluable test is only evaluated during the course (never in revaluation).

• SCHEDULE OF EVALUATION: The evaluation and re-evaluation may be carried out throughout the entire academic period. The re-evaluation tests may also be carried out on the date established for the ordinary call, if so decided by the faculty. In any case, the recovery of evaluation activities that have not passed will not replace the re-evaluation corresponding to the extraordinary call.

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EVALUATION

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ORDINARY CALL

The evaluation tests are performed as shown in Table 1:

PART		Modality	Weighting	Minium grade
Individual Work (IW)		Individual	20%	
Practical Works (PW)	Group Work (GW)	Groupal (max. 4 members)	20%	5,00
Practical Works (PW)	Resolution of Case Studies (RCS)	Individual or groupal	20%	5,00
Final Exam (FE)		Individual	40%	5,00

ASSESSMENT

1. **IW** involves carrying out activities in class. It will correspond to 20% of the final grade and cannot be reevaluated.
2. **PW** consists of preparing a teaching project in the format of a Didactic Unit or Learning Situation, which is mandatory to submit. The teaching staff may request partial submissions of the various elements that comprise the teaching project, as well as require its oral defence by the group or individual students. If a student does not attend this defence, the evaluation of the test will be considered a failure. Additionally, tests or defences will not be conducted on dates other than those indicated in the planning, except in specific cases whose justification is contemplated in the URJC regulations.
3. The nature of **FE** (e.g., multiple-choice exam, practical exam) can be defined by the teaching staff, provided with sufficient advance notice.
4. The Final Grade (**FG**) of the course will be: Pass, Good, Excellent, or Honors, depending on the numerical grade resulting from the following equation:

• FG = (IW * 0.2) + (PW * 0.4) + (FE * 0.4), where PW = (GW * 0.5) + (RCS * 0.5), provided that IW >= 2.0, PW >= 5.0, and FE >= 5.0.

• Fail: If NF < 5.0.

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•Not Presented: If the student does not submit any of the parts GW, FE, IW, and RCS.

5. IW, **PW** and **FE** can be reassessed in the extraordinary session.

EXTRAORDINARY CALL

The assessment tests are conducted as follows:

PART	MINIMUM GRADE	WEIGHTING	MODALITY
Final Exam (FE)	5,0	40%	Individual
Practical Work (PW)	5,0	40%	Individual

CONSIDERATIONS:

1. The grade of those parts that have been passed in the Ordinary Call will be kept.
2. If a DU is required, it will account for 30% of the grade, and a presentation of the work completed will be made, the value of which corresponds to 10% of the grade.

•A minimum grade of 5.0 must be obtained in each of the parts.

3. If a final exam is required, it will account for 40% of the grade. A minimum grade of 5.0 must be obtained. The Final Grade (FG) of the subject will be:

•FG = (PW * 0.4) + (FE * 0.4) only if FE >= 5.0 and PW >= 5.0.

4. If students pass (reach the minimum grade required) in any of the PW and FE tests in the ordinary exam, they will not have to repeat that part in the extraordinary exam. The calculation of the final grade is made as previously indicated.
5. If the individual tests have been passed in the ordinary call, but the weighted average is lower than 5, students may choose which revaluable tests to retake.

- Not presented: If the student does not submit the PW or does not take the FE.

EARLY EXAMINATION SESSION

The assessment method for the early examination session will be the same as that set out for the standard examination session.

ACADEMIC EXEMPTION

For students granted an academic exemption, this only exempts them from attending classes; they must still sit all assessment tests, the dates of which will be communicated at the start of the module.

ACADEMIC CONDUCT

•In the event of academic misconduct in any assessment activity, a mark of zero points will be awarded for that activity; for activities with a minimum pass mark higher than zero, this will result in a fail for the student for the relevant assessment period.

•Students are also reminded that, in accordance with Article 8.g) of the Rey Juan Carlos University Code of Conduct (https://www.urjc.es/images/Universidad/Presentacion/normativa/normativa%20convivencia%20universitaria.pdf), academic misconduct in any assessment activity is considered a very serious offense. The sanctions applicable to very serious offenses, in accordance with Article 11 of the aforementioned regulations, are temporary expulsion from the University and, where applicable, the loss of enrolment rights.

VII.B. Assessment of students with academic exemption from class attendance

Having Academic Exemption from Class Attendance (DAAC) does not imply that students are automatically exempt from participating in the continuous assessment activities or in the training activities of compulsory attendance as established in the teaching guide. Once the exemption has been granted, students must contact the subject's teaching staff, who will propose the adaptations he/she may consider relevant, as long as they guarantee the acquisition and adequate assessment of the learning goals established. Students must maintain adequate communication with the teaching staff so that they may provide information on the dates for training and assessment activities, if these are not established in the programme and available for students at the time of achieving the exemption.

Subject with possibility of academic exemption: Yes.

VII.C. Review of assessment activities

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In accordance with the Regulation for the Assessment of Learning Outcomes of Rey Juan Carlos University.

VII.D.-Students with a disability or special educational needs

In order to guarantee equal opportunities, non-discrimination, universal accessibility and academic success, students with disabilities or especial education needs may request curricular adaptations to follow their studies. These adaptations will be provided by the Unit of Attention to People with Disabilities of Rey Juan Carlos University, in accordance with the regulation which regulates the service for the Attention of People with Disabilities at the University. This Unit will issue a report for curricular adaptations, so that students with disabilities or special education needs must contact the service (at e-mail discapacidad.programa@urjc.es) in order to provide relevant information for different educational alternatives.

VII.E.-Academic behaviour, academic integrity and honesty

Rey Juan Carlos University is fully committed to the highest standards of academic integrity and honesty, so studying at the URJC means assuming and subscribing to the values of integrity and academic honesty set out in the University's Ethical Code. To support this process, the University has Rey Juan Carlos University's Academic Conduct Regulation as well as different tools (anti-plagiarism, supervision...) that offer a collective guarantee for the full development of these essential values.

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VIII.-Teaching resources and materials
Basic bibliography
Redecker, C. (2020) Marco Europeo para la Competencia Digital de los Educadores: DigCompEdu. (Trad. Fundación Universia y Ministerio de Educación y Formación Profesional de España). Secretaría General Técnica del Ministerio de Educación y Formación Profesional de España https://sede.educacion.gob.es/publiventa/descarga.action?f_codigo_agc=21922
Title: Las TIC en la Educación Authors: Jorge Castellanos, Estefanía Martín, Diana Pérez, Liliana P. Santacruz, Luis Miguel Serrano. Editorial: Anaya Multimedia Year: 2011
Bacelo Polo, A., Hijón Neira, R., Pérez Marín, D. (2018). Piensa y programa con Scratch...en casa y en clase. Anaya Multimedia.
Consultation bibliography

IX.-Professors	
Name and surname	LUCÍA SERRANO LUJÁN
E-mail address	lucia.serrano@urjc.es
Department	Informática y Estadística
Campus	Madrid - Vicálvaro
Category	Profesor/a Permanente Laboral
Academic degree	Doctor
Person responsible for the subject	Yes
Tutorial timetable	Para consultar las tutorias póngase en contacto con el/la profesor/a a través de correo electrónico
Number of quinquennia	1
Number of sexennia	2
No. of positive evaluations by Docentia	2
Name and surname	RAQUEL BELÉN HIJÓN NEIRA
E-mail address	raquel.hijon@urjc.es
Department	Informática y Estadística
Campus	Madrid - Vicálvaro
Category	Titular de Universidad
Academic degree	Doctor
Person responsible for the subject	No

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Tutorial timetable	Para consultar las tutorias póngase en contacto con el/la profesor/a a través de correo electrónico
Number of quinquennia	4
Number of sexennia	2
No. of positive evaluations by Docentia	6

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