

COURSE PROGRAM

Academic Year: 2026/2027

Identification and characteristics of the course						
Code	501615 – Facultad de Educación y Psicología (FEYP) 501664 – Facultad de Formación del Profesorado (FFP) 502854 – Teacher Training College (TTC-B) 502032 – Centro Universitario Santa Ana (CUSA)					
Course name (English)	Digital Educational and Research Resources					
Course name (Spanish)	Recursos Tecnológicos Didácticos y de Investigación					
Degree program	Primary Education – Bilingual module					
Faculty/School	Teacher Training College (TTC)					
Module	Basic Training					
Matter	Educational Processes and Context					
Type of Course	Compulsory	ECTS	6	Semester	2	
Lecturers						
Name		Office		E-mail		
Jorge Guerra Antequera		1504-J-07		guerra@unex.es		
Antonio Eduardo Macías Valverde		1504-1-09		emacias@unex.es		
Subject Area	Didactics and School Organization Diagnostic Methods in Education					
Department	Ciencias de la Educación					
Coordinating Lecturer	Prudencia Gutiérrez Esteban (Interfaculty FEYP) Alberto González Fernández (FFP TTC-B)					
Competencies / Learning Outcomes						
General Competences						
CG11 - To be familiar and apply the information and communication technologies in the classroom. To selectively discern audiovisual information that contributes to learning, civic education and cultural wealth.						
Transversal Competences						
CT1.3 - To use new information technologies as a tool for intellectual work and as an essential element for gathering information, learning and communicating.						
CT2.3 - To be updated in the socio-educational field through research and to know how to analyze future trends.						
Specific Competences						
CE19 - To be familiar with and apply methodologies and basic techniques of educational research and be able to design innovative projects identifying assessment indicators.						

Contents

The subject "Digital Educational and Research Resources " is fundamental, applied, and cross-curricular. Its content focuses on:

- Technological resources and tools for education.
- The design and development of teaching materials for primary school teachers.
- Educational research.

Characteristics and social and educational impact of audiovisual and digital culture. Multimedia educational materials. Design, development, and evaluation of teaching and learning processes using ICT and the use of various educational, organizational, and administrative applications. Virtual learning environments. Collaborative work in virtual spaces. Aspects related to the specific ICT programs of the Regional Government of Extremadura. Epistemological foundations of scientific methods in educational contexts. Development of a scientific research project: process and fundamental concepts.

Course Syllabus

Name of lesson 1: Educational Technology and the Primary Education Curriculum.

Contents of lesson 1: Conceptualization of Educational Technology. Digital Competence in Primary Education. Teacher Digital Competence. Digital Literacy, the Digital Divide, and Critical Citizenship. Audiovisual and Digital Culture: Social, Educational, and Ethical Implications.

Description of the practical activities of lesson 1: Case studies, problem-solving, and/or project design.

Name of lesson 2: Digital Teaching Resources: Applications and Teaching Methodologies.

Contents of lesson 2: Free Software for Primary Education. Classification, selection, and educational use of digital applications. Virtual Learning Environments and digital spaces for collaboration. Teaching methodologies for using technologies in educational contexts.

Description of the practical activities of lesson 2: Case studies, problem-solving, and/or project design.

Name of lesson 3: Design and Development of Digital Teaching Materials.

Contents of lesson 3: Open Educational Resources. Procedures for selecting, designing, and developing digital teaching materials. Applications for creating digital teaching materials. Designing ICT-mediated teaching and learning proposals.

Description of the practical activities of lesson 3: Case studies, problem-solving, and/or project design.

Name of lesson 4: Epistemological Foundations of Scientific Research in Education.

Contents of lesson 4: Considerations regarding the concept of science. Characteristics of educational research. Scientific safeguards in educational research.

Description of the practical activities of lesson 4: Case studies, problem-solving, and/or project design.

Name of lesson 5: Quantitative and Qualitative Methods in Educational Research.

Contents of lesson 5: The research planning process. Hypotheses and variables. Sampling. Quantitative and qualitative research in education.

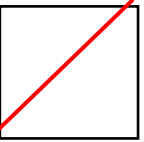
Description of the practical activities of lesson 5: Case studies, problem-solving, and/or project design.

Name of lesson 6: Introduction to data collection and analysis techniques and instruments in educational research.

Contents of lesson 6: Data collection techniques and instruments. Techniques and resources for data analysis in educational research.

Description of the practical activities of lesson 6: Case studies, problem-solving, and/or project design.

Sustainable Development Goals considered

					
☐	☐	☐	☒	☒	☐
					
☐	☐	☒	☒	☐	☐
					
☐	☐	☐	☐	☐	☐

Educational Activities								
Student workload in hours by lesson		Lectures	Practical activities				Monitoring activities	Homework
Lesson	Total	L	HI	LAB	COM	SEM	SGT	PS
1	15	6						9
2	56	8			14			32
3	34	6			8			20
4	8,5	2						6,5
5	16	3			4			9
6	18,5	3			4			11,5
Assessment	2	2						
TOTAL	150	30			30			90
L: Lectures (85 students) HI: Hospital internships (7 students) LAB: Laboratory or field practices (15 students) COM: Computer room or language laboratory practices (20 students) SEM: Problem classes or seminars or case studies (40 students) SGT: Scheduled group tutorials (educational monitoring, ECTS type tutorials) PS: Personal study, individual or group work and reading of bibliography.								
Teaching Methodologies								
1. Verbal presentation. Managerial teaching. Large group classes aimed at explaining the different concepts and procedures associated with the subject with the help of bibliographic and audiovisual materials. - Its educational value lies in that it can offer students a model of how to work with knowledge until it is communicable to others and, more fundamentally, to oneself. An explanation can provide models of how to reason with knowledge, how to identify and accept its limitations. 7. Case analysis and problem-solving. Presentation of different cases by specialists and professionals; viewing of real-life situations, scientific and technical documentaries, and presentation of resources; analysis of these. These activities are aimed at introducing theoretical concepts and applying skills from the subjects included based on practical scenarios. - It involves the representation of a real-life situation as a basis for reflection and learning. A case study is always an opportunity for significant learning to the extent that those participating in its analysis are engaged and committed, both in the case discussion and in the group reflection process. 12. Project design. This activity aims to guide and coordinate different aspects of the project (delimitation of the scope of the work, bibliographic selection, structure, etc.) independently, individually, or in groups. - It develops collaborative learning. It allows for the development of processes of assimilation and construction of the discipline, which benefit all participants and establish a new way of learning among peers. - It is a learning experience that focuses on the core concepts and principles of a discipline, engages students in problem-solving and other meaningful tasks, allows them to work autonomously to construct their own learning, and culminates in real, self-generated results. 13. Guidance, decision-making, and resolution of questions raised by the student. Monitoring of student work remotely. Monitoring of individual or small group work. Individual and group consultations and counseling.								

- It is characterized by being a flexible system. It is a modality that allows students to contact the lecturer at different times, depending on their academic needs. It is supported by communication through the virtual classroom (UEX Virtual Campus).

Learning Outcomes

- Understanding of concepts, processes, and procedures, and their application (their use in problem-solving and as an analytical tool for reality).
- Student's ability to relate and integrate different materials and content.
- Active participation in practical sessions in Seminar-Laboratory and Tutorial sessions.
- Demonstrate oral and written verbal strategies during oral presentations and monographs.
- Compilation and synthesis of diverse information on specific topics.

Assessment Systems

The assessment of this subject is governed by the Regulations for the Assessment of Official Bachelor's and Master's Degrees of the University of Extremadura (DOE, No. 212 of November 3, 2020). The subject offers two assessment methods for all examination periods.

The **CONTINUOUS ASSESSMENT METHOD** will consist of:

Evaluation System	Types of Activities	Grade Weighting
Final Assessment Test	Objective and/or essay-based test	60%
Continuous Assessment	Preparation of portfolios, journals or other documents; presentation of tasks and activities, among others. Involvement and participation	40%

To pass the course, a minimum grade of 5 is required on all assessment tests and all activities comprising the continuous assessment, as well as attendance at at least 80% of the course's practical seminars.

The **GLOBAL ASSESSMENT MODE** will consist of a final test designed to assess the contents and procedures associated with the course, which will take place on the official date established for each examination period. Depending on the characteristics of the test, students may be required to attend with a laptop computer or equivalent computing device that enables them to complete the planned assessment activities. In accordance with the current Assessment Regulations (DOE, No. 212, 3 November 2020), "the choice of the global assessment mode corresponds to the students, who may make this choice within the deadlines established for each of the course examination periods". These requests will be submitted through the "consultation" tool in the course Virtual Classroom, "during the first quarter of the course teaching period, or up to the last day of the extended enrolment period, if this ends after that period".

Regardless of the assessment mode chosen, the assessment of competences CT1.3 and CG11 accounts for 67% of the final grade, while the assessment of competences CT2.3 and CE19 accounts for 33% of the final grade.

OTHER SPECIFICATIONS REGARDING THE GRADING SYSTEM: the grading system established in Royal Decree 1125/2003, Article 5, shall apply. The results obtained by students in each of the subjects included in the curriculum shall be graded according to the following numerical scale from 0 to 10, expressed to one decimal place, to which the corresponding qualitative grade may be added: 0–4.9: Fail (SS); 5.0–6.9: Pass (AP); 7.0–8.9: Good/Very Good (NT); 9.0–10: Excellent (SB). The distinction of Honours may be awarded to students who have obtained a grade equal to or higher than 9.0. The number of Honours distinctions may not exceed 5% of the students enrolled in a subject in the corresponding academic year, except where the number of enrolled students is fewer than 20, in which case only one Honours distinction may be awarded.

Bibliography (Basic and Complementary)

Basic Bibliography

- Area, M. (2004). *Los medios y las tecnologías en la educación*. Pirámide.
- Barba, C. y Capella, S. (Coords.) (2010). *Ordenadores en las aulas: la clave es la metodología*. Graó.
- Bisquerra, R. (Coord.). (2004). *Metodología de la investigación educativa*. La Muralla.
- Buzón-García, O., & Aguaded Gómez, J. I. (2018). *Nuevas pedagogías con tecnologías emergentes*. Dykinson.
- Cabero, J. y Barroso, J. (Coords.) (2015) *Nuevos retos en tecnología educativa*. Síntesis.
- Cohen, L. y Manion, L. (2002). *Métodos de investigación educativa*. La Muralla.
- Cubo, S; Martín, B. y Ramos, J. L. (2011). *Métodos de investigación y análisis de datos en Ciencias Sociales y de la Salud*. Pirámide.
- De Pablos Pons, J. (Coord.) (2009). *Tecnología Educativa. La formación del profesorado en la era de Internet*. Ediciones Aljibe.
- De Pablos Pons, J.; Area Moreira, M.; Valverde Berrocoso, J. y Correa Gorospe, J.M. (Coords.). (2010). *Políticas educativas y buenas prácticas con TIC*. Graó.
- Fernández-Olaskoaga, L. et al. (2023). Uso y abuso de la tecnología en la infancia y adolescencia. El papel de la colaboración familia-escuela. En Fontana Abad, M. (Ed.) (2023). *La alianza familia-escuela y su impacto educativo. Elementos para la generación de políticas educativas basadas en la evidencia*. Narcea.
- Gisbert Cervera, M., Esteve González, V., & Lázaro Cantabrana, J. L. L. (2019). *¿Cómo abordar la educación del futuro?: Conceptualización, desarrollo y evaluación desde la competencia digital docente*. Octaedro.
- Gutiérrez Esteban, P., e Ibáñez Cubillas, P. (Coord.) (2023). *Metodologías didácticas en contextos enriquecidos con tecnologías*. Octaedro.
- Ley 4/2011, de 7 de marzo, de Educación de Extremadura. Boletín Oficial del Estado, 70, de 23 de marzo de 2011. <https://www.boe.es/buscar/pdf/2011/BOE-A-2011-5297-consolidado.pdf>
- Ley Orgánica 3/2020, de 29 de diciembre, por la que se modifica la Ley Orgánica 2/2006, de 3 de mayo, de Educación. Boletín Oficial del Estado, 340, de 30 de diciembre de 2020. <https://www.boe.es/eli/es/lo/2020/12/29/3>
- Losada, J.L. y López-Feal, R. (2003). *Métodos de investigación en ciencias humanas y sociales*. Thomson.
- McMillan, J.H. y Schumacher, S. (2005). *Investigación educativa*. Pearson.

- Mominó, J. M., Sigalés, C., & Meneses, J. (2007). *La escuela en la sociedad red: internet en la educación primaria y secundaria*. Ariel.
- Navas Ara, M. J. (Coord.) (2001). *Métodos, diseños y técnicas de investigación psicológica*. UNED.
- Pérez Gómez, A. I. (2012). *Educarse en la era digital: la escuela educativa*. Morata.
- Raposo Rivas, M. R., & Cebrián de la Serna, M. (2020). *Tecnologías para la formación de educadores en la sociedad del conocimiento*. Pirámide.
- Sosa Díaz, M. J., Cubo Delgado, S., Becerra Traver, M. T., & Gutiérrez Esteban, P. (2018). *Recursos tecnológicos didácticos y de investigación: Cuaderno de prácticas*. Servicio de Publicaciones de la Universidad de Extremadura.
- Valverde-Berrocoso, J. (Coord.) (2011). *Docentes e-competentes. Buenas prácticas educativas con TIC*. Octaedro.
- Valverde-Berrocoso, J. (Coord.) (2014). *El Proyecto de Educación Digital. Guía para su elaboración y desarrollo*. Síntesis.
- Valverde-Berrocoso, J. (Coord.) (2023). *Educación digital y pensamiento de diseño*. Síntesis.
- Vázquez Cano, E. (2021). *Medios, recursos didácticos y tecnología educativa*. Universidad Nacional de Educación a Distancia – UNED.

Complementary Bibliography

- Area, M. (2018). Las aulas de la Escuel@ Digit@l. *Aula de innovación educativa*, 269, 12-16.
- Area, M., & Adell, J. (2021). Tecnologías Digitales y Cambio Educativo. Una Aproximación Crítica. *REICE: Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación*, 19(4), 83-96.
- Area, M., Santana, P. J., & Sanabria, A. L. (2020). La transformación digital de los centros escolares. Obstáculos y resistencias. *Digital Education Review*, 37, 15-31.
- Castañeda Quintero, L. J., Ibáñez, J. M., & Segura, J. A. (2020). Hacia una visión contemporánea de la Tecnología Educativa. *Digital Education Review*, 37, 240-268.
- Paredes Labra, J., & Freitas Cortina, A. C. (2020). Las representaciones de los futuros profesores sobre los usos de la tecnología en la escuela. Un estudio narrativo. *Teoría de la educación*, 32(2), 157-180.
- Prendes Espinosa, M. P., & Cerdán Cartagena, F. (2021). Tecnologías avanzadas para afrontar el reto de la innovación educativa. *RIED: revista iberoamericana de educación a distancia*, 24(1), 35-53.
- Recio Mayorga, J., Gutiérrez Esteban, P., & Suárez Guerrero, C. (2021). Recursos educativos abiertos en comunidades virtuales docentes. *Apertura: Revista de Innovación Educativa*, 13(1), 8.
- Sosa-Díaz, M. J., & Valverde-Berrocoso, J. (2020). Perfiles docentes en el contexto de la transformación digital de la escuela. *Bordón. Revista de Pedagogía*, 72(1), 151- 173. <https://doi.org/10.13042/Bordon.2020.72965>

Sosa-Díaz, M. J., & Valverde-Berrocso, J. (2022). Hacia una educación digital. Modelos de integración de las TIC en los centros educativos. *Revista Mexicana de Investigación Educativa*, 27(94), 939-970.

Other complementary teaching resources and materials

RELATEC – Revista Latinoamericana de Tecnología Educativa [[Enlace](#)]

EmTIC – Consejería de Educación de la Junta de Extremadura [[Enlace](#)]

Programa «Creación de Recursos Educativos Abiertos (CREA)» [[Enlace](#)]

INTEF - Instituto Nacional de Tecnologías Educativas y de Formación del Profesorado [[Enlace](#)]

Centro Nacional de Desarrollo Curricular en Sistemas no Propietarios [[Enlace](#)]

EducaRed [[Enlace](#)]