

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	School of Humanities		
<b>ACADEMIC UNIT</b>	Department of Prechool Education Sciences and Educational Design. Postgraduate Studies Programme in Children's Book and Educational Material.		
<b>LEVEL OF STUDIES</b>	Postgraduate Studies (Level 7)		
<b>COURSE CODE</b>	ΠΥ2	<b>SEMESTER</b>	B'
<b>COURSE TITLE</b>	Technological Educational Material		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>	
Lectures and workshops	3	6	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Specialised general knowledge, and skills development		
<b>PREREQUISITE COURSES:</b>	None		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBSITE (URL)</b>	<a href="https://aegeanmoodle.aegean.gr/course/view.php?id=3864">https://aegeanmoodle.aegean.gr/course/view.php?id=3864</a> 2021-2022		

### (2) LEARNING OUTCOMES

<p><b>Learning outcomes</b> <i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <li>• <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i></li> <li>• <i>Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i></li> <li>• <i>Guidelines for writing Learning Outcomes</i></li> </ul>
<p><b>The students are expected to:</b></p> <ul style="list-style-type: none"> <li>• know informational media and their educational role</li> <li>• develop educational media processing skills</li> <li>• develop the ability to design and develop simple technological educational applications</li> <li>• develop the ability to evaluate educational digital applications</li> <li>• develop the ability to integrate ICT in teaching and learning – Technology Enhanced Education</li> <li>• develop capacity to access and utilize educational research</li> <li>• know about current developments in digital books and textbooks</li> <li>• leverage interactive digital storytelling, Artificial Intelligence, and digital games in education</li> <li>• design digital educational material in any type of educational environment (in person, online, on-the-go learning)</li> </ul>
<p><b>General Competences</b> <i>Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma</i></p>

Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	Project planning and management
Adapting to new situations	Respect for difference and multiculturalism
Decision-making	Respect for the natural environment
Working independently	Showing social, professional and ethical responsibility and sensitivity to gender issues
Team work	Criticism and self-criticism
Working in an international environment	Production of free, creative and inductive thinking
Working in an interdisciplinary environment	.....
Production of new research ideas	Others...
	.....

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Adapting to new situations
- Decision-making
- Working independently
- Team work
- Project planning and management
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Criticism and self-criticism
- Production of free, creative, critical and inductive thinking

**(3) SYLLABUS**

In this course, students deal with the basic elements of multimedia applications (text, image, sound, video, etc.) as well as with the design and development of multimedia educational applications. At the same time, emphasis is placed on the topic of e-books and online educational environments and applications. The applications of Artificial Intelligence are included while digital interactive storytelling is a central type of material that synthesizes several of the rest and connects them to serious games. In addition, the course provides familiarity with the production of digital content on the internet as well as the planning of activities for the use of digital content in learning. Finally, in the context of the course, there is an in-depth investigation into the categories of educational applications of ICT, and with the body of research works concerning the educational utilization of technological applications in education. The purpose of the course is to enable students to: design and implement simple applications, evaluate ready-made ICT applications and integrate ICT into teaching to better achieve educational goals.

**(4) TEACHING and LEARNING METHODS - EVALUATION**

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Teaching is done face-to-face, or online, with synchronous video conferencing or asynchronous teaching sessions. In addition, there is use of an Online Learning Management System (Moodle) based on the blended learning model for communication, sharing educational materials, collaboration, task assignment and course management. In the meetings for the teaching of the course, a variety of teaching methods are used such as: lecture, work in groups, workshops, discussions, group investigations, etc.	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Apart from the use of ICT as a presentation and productivity tool by teachers and students in the context of the course use special educational software (e.g. microworlds, serious games) in addition the students produce their own educational hypermedia, educational software, learning objects, learning scenarios, and e-learning applications.	
<b>TEACHING METHODS</b>	Activity	Semester workload

<p>The manner and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</p> <p>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</p>	Teaching lectures	39 Hours
	Examination-presentation of final projects	3 Hours
	Study and analysis of sources and literature	55 Hours
	Study and work (Project/essay writing/Small-scale research, etc.) as part of the final assessment for the course.	53 Hours
	Course total	<b>150 Hours</b>
<p align="center"><b>STUDENT PERFORMANCE EVALUATION &amp; GenAI POLICY</b></p> <p><i>Description of the evaluation procedure</i></p> <p>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</p> <p>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</p>	<p>The assessment language is Greek.</p> <p>The assessment for the course accounts the following components of the students' achievements portfolio:</p> <ul style="list-style-type: none"> <li>• Individual reflection assignments (edit of reflection texts for basic concepts) (20%),</li> <li>• Collaborative learning project (50%)</li> <li>• Presentation of the collaborative project (20%)</li> <li>• Thorough and active participation (10%)</li> </ul> <p>The assessment procedure may adapt year by year.</p> <p>The level (1-5) of use of Generative Artificial Intelligence (GenAI) for each course assignment will be determined in accordance with the University of the Aegean Senate decision 45-20.2.2026.</p>	

## (5) ATTACHED BIBLIOGRAPHY

<p>- Suggested bibliography:</p> <p>Atkinson, C. (2008). <i>Beyond bullet points: using Microsoft Office PowerPoint 2007 to create presentations that inform, motivate, and inspire</i>. Redmond, Wash: Microsoft Press.</p> <p>Bozarth, J. (2008). <i>Better than bullet points: creating engaging e-learning with PowerPoint</i>. San Francisco: Pfeiffer.</p> <p>Bragg, L. (2012). Testing the effectiveness of mathematical games as a pedagogical tool for children's learning. <i>International Journal of Science and Mathematics Education</i>, 10(6), 1445-1467.</p> <p>Brandt, B. (2013). Everyday pedagogical practices in mathematical play situations in German "Kindergarten". <i>Educational Studies in Mathematics</i>, 84(2), 227-248.</p> <p>Carbonaro, M., Cutumisu, M., Duff, H., Gillis, S., Onuczko, C., Siegel, J., ... Waugh, K. (2008). Interactive story authoring: A viable form of creative expression for the classroom. <i>Computers &amp; Education</i>, 51(2), 687-707. doi:10.1016/j.compedu.2007.07.007</p> <p>Carbonaro, M., Cutumisu, M., Duff, H., Gillis, S., Onuczko, C., Siegel, J., ... Waugh, K. (2008). Interactive story authoring: A viable form of creative expression for the classroom. <i>Computers &amp; Education</i>, 51(2), 687-707. doi:10.1016/j.compedu.2007.07.007</p> <p>Clark, R. C. (2008). <i>E-learning and the science of instruction: proven guidelines for consumers and designers of multimedia learning</i> (2nd ed.). San Francisco, CA: Pfeiffer.</p> <p>Crawford, C. (2002). <i>The art of interactive design: a euphonious and illuminating guide to building successful software</i>, June 2002. San Francisco: No Starch Press.</p> <p>Crawford, C. (2003). <i>Chris Crawford on game design</i>. Indianapolis, Ind: New Riders.</p> <p>European Conference on Games Based Learning, &amp; Felicia, P. (2012). <i>Proceedings of the 6th European Conference on Games Based Learning</i>, 4-5 October 2012, [College Cork], Ireland: edited by Patrick Felicia. Reading: Academic Publishing International Limited.</p> <p>Fessakis, G., Thoma, R., (2012). "Can digital games democratize access to mathematics learning? Tracing the relationship between learning potential and popularity". <i>Proceedings of the CIEAM64: Mathematics Education and Democracy: learning and teaching practices Conference</i>, Rhodes, Greece, 23-27 July 2012</p> <p>Joint International Conference on Interactive Digital Storytelling. (2010). <i>Interactive storytelling: third Joint Conference on Interactive Digital Storytelling, ICIDS 2010</i>, Edinburgh, UK, November 1-3, 2010: proceedings. Berlin ; New York: Springer.</p> <p>Kapp, K.M. (2007). <i>Gadgets, Games and Gizmos for Learning</i>. San Francisco: John Wiley and Sons. 84 – 85.</p>
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- Klopfer, E., Yoon, S., & Perry, J. (2005). Using Palm technology in participatory simulations of new directions for youth development complex systems: A new take on ubiquitous and accessible mobile computing. *Journal of Science Education and Technology*, 14(3), 285–297.
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- Λαζαρίνης Φ., (2007), *Τεχνολογίες πολυμέσων, Κλειδάριθμος*
- Σεραφείμ Κ., Φεσάκης Γ., (2010), «Εκπαιδευτικές εφαρμογές ψηφιακής αφήγησης: Διδακτική προσέγγιση για το Νηπιαγωγείο», Στο Α. Τζιμογιάννης (επιμ.) *Πρακτικά εργασιών 7ου Πανελληνίου Συνεδρίου με Διεθνή Συμμετοχή: «Οι ΤΠΕ στην Εκπαίδευση»*, Πανεπιστήμιο Πελοποννήσου, Κόρινθος, 23-26 Σεπτεμβρίου 2010, ISBN: 978-960-88359-5-5, ISSN: 1792-5010, τόμος II, σελ.:521-528
- Φεσάκης, Γ., & Κωνσταντοπούλου, Α. (2022). Σχεδιασμός τεχνολογικά ενισχυμένων εκπαιδευτικών σεναρίων για την προσχολική εκπαίδευση, [Προπτυχιακό εγχειρίδιο]. Κάλλιπος, Ανοικτές Ακαδημαϊκές Εκδόσεις, ISBN:978-618-5667-28-3, DOI: <http://dx.doi.org/10.57713/kallipos-31>
- Φεσάκης, Γ. (2019). *Εισαγωγή στις Εφαρμογές των Ψηφιακών Τεχνολογιών στην Εκπαίδευση: Από τις Τεχνολογίες Πληροφορίας και Επικοινωνιών (ΤΠΕ) στην Ψηφιακή Ικανότητα και την Υπολογιστική Σκέψη*, Εκδόσεις: Gutenberg, ISBN:978-960-01-1998-5, Κωδικός Βιβλίου στον Εύδοξο: 86055158

- *Related academic journals:*

- AACE Journal
- ALT-J (Research in Learning Technology)
- British Journal of Educational Technology
- Computer Science Education
- Computers & Education
- Computers in Human Behavior
- Contemporary Issues in Technology and teachers Education
- Education and Information Technologies
- Educational Media International
- Educational Technology Research and Development
- Information technology in Childhood Educational Annual
- Innovations in Education and teaching International
- Interactive Learning Environments
- International Journal of Science Education
- International Journal on e-learning
- Journal of Computer Assisted Learning
- Journal of Computers in Mathematics and Science Teaching
- Journal of Educational Computing Research
- Journal of Educational Multimedia and Hypermedia
- Journal of Educational Technology & Society
- Journal of Educational Technology Systems
- Journal of Interactive Learning Research
- Journal of Technology and Teacher Education
- Learning, Media & Technology