Course of study in

"SCIENCE AND TECHNOLOGY IN EDUCATION AND CHILDCARE" - [L19].

a.y. 2021/2022

SUBJECT

Computer Laboratory

ECT: 6

I YEAR; II SEMESTER

Lecturer: Prof. **Beatrice Miotti**

Disciplinary tutor:

Qualification and scientific background of the lecturer	Beatrice Miotti, currently a technologist at Indire, has a degree in Computer Engineering and a PhD in Computer Science and Artificial Intelligence obtained in 2010. At Indire, she works in the field of laboratory teaching, in particular educational robotics and coding as teaching methodologies to be used in the classroom at all education levels.
Description of contents and subdivision of the programme into teaching modules	**TABLE AND DEFINITION OF CONTENTS** The course is divided into 2 modules, that take place every 2/3 weeks according to the needs of the participants: ➢ **Module 1: Formal Languages and Text Processing and DTP Software** ➢ **Module 2: Educational Robotics and Coding** Furthermore, there is a **section dedicated to readings on different topics,** which cannot be discussed in the course, but are nevertheless considered of interest. As a laboratory, it is structured in such a way as to develop, through mainly practical activities, basic skills in the use of applications and codes, that can be usefully employed in various learning experiences. The course is divided into 2 modules, for each of which general and introductory resources will be offered, with the aim of providing an overview of the subject and stimulating the students on the possible

	applications in their own professional context. In addition to these, tools will be provided for carrying out specific activities, provided for each module, with less theoretical and more tutorial aspects, so that even less experienced learners can complete the assigned tasks. All activities require the use of computers. A contextual forum will be set up for each module, where discussions will take place on any problems, suggestions or sharing of further resources by students. The use of free or open source software is encouraged. Materials will be provided by the lecturer as attachments or links to external resources. Reference to paper bibliographical resources is not excluded, as suggestions for further in-depth study. All the practical activities, to be delivered through the IUL environment, contribute to the formulation of the final assessment, as well as the involvement of the students and their ability to contribute to the growth of the virtual class. The final examination will consist of a critical review, in the light of each participant's professional experience, of the proposed contents.
Abstract	The course is structured in the way to develop basic practical skills in the use of applications and codes, which are believed to be usefully employed in various teaching experiences. The course is divided into 2 modules, for each of which general and introductory resources will be proposed, with the aim of providing an overview of the topic and stimulating the students on the possible applications in their professional context.
Learning objectives	**LEARNING OBJECTIVES** **A.** To acquire skills and knowledge to work as an educator in services for children, adolescents and adults, including the third age. **B.** To offer a theoretical and practical-methodological study pathway for the design of educational activities in the main services aimed at childhood and other ages of life. **C.** Promoting the learning of organisational and management skills also through the use of multimedia technologies and distance learning systems.

	D. Facilitating the learning of cultural, creative, computer and communicative-relational skills to work in teams in public and private social services. **E.** Fostering environmental and intercultural education, self-learning skills, training and continuous self-updating.
Expected learning outcomes	**A. Knowledge and understanding** Development of basic skills necessary to use software useful in the activities of an educator. **B. Applied knowledge and understanding** Realisation of specific assignments for the formalisation of the knowledge learned. **C. Autonomy of judgement** Each student is encouraged to participate in discussions, as a ground for critical comparison of different approaches and solutions. **D. Communication skills** Through the implementation of required activities each student will be able to highlight his/her critical and collaborative work skills. **E. Learning ability** The chosen topics are proposed in such a way that the student develops the ability to find appropriate sources and methods to carry out the required tasks, developing 1) awareness that software is subject to obsolescence 2) skills in the choice of information and training sources and in self-learning.
Skills to be acquired	**EXPECTED RESULTS** **A.** Use of bibliographical and multimedia resources for the realisation of assignments through the drafting of texts, html pages and coding projects. **B.** Professional approach to work and possession of adequate skills to devise arguments, support them and solve problems within the subject studied.

	C. Ability to collect and interpret data useful for making autonomous judgements. **D.** Ability to communicate information, ideas, problems and solutions to specialists and non-specialists. **E.** Ability to undertake further studies with a high degree of autonomy.
Didactics organisation	**DIDACTICS PROVISION** ➢ 4 recorded video lessons available on the platform; ➢ 2 synchronous platform meetings; ➢ Podcasts of all the above mentioned video lessons. **INTERACTIVE DIDACTICS** ➢ 1 course orientation forum; ➢ 2 thematic follow-up forums (1 per module); ➢ Possibility to carry out work in groups; ➢ 2 structured *e-activities* (as described in the section **"*in itinere* assessment methods"**). **SELF-LEARNING** Teaching materials are provided for each module: in-depth thematic studies, articles and slides by the lecturer, open access readings, online resources, reference bibliography, etc.
Recommended examination texts	Handouts on the topics covered will be made available during the course.
In itinere assessment methods	Access to the final examination is subject to the completion of the following **2 E-activities***:* ➢ **Etivity 1 - n.1** design of a report plus webpage/pdf on an assigned topic related to the course; ➢ **Etivity 2 - n.1** final product realised through visual programming (with report).
Procedure for the final examination	The assessment of learning will take place through an oral interview on the course contents and on the paper(s) presented. The grade (min 18, max 30 with possible honours) is determined by the level of performance for each of the following dimensions of the oral interview:

	mastery of contents, appropriateness of definitions and theoretical references, clarity of argument, command of specialist language.
Language of instruction	Italian