

Module: Mathematics and Environment

Number of credits: 10 CS

Subjects:

- 1) **Mathematics Education and Methodology 1**
- 2) Mathematics Education and Methodology 2
- 3) Environmental Education and Methodology
- 4) Health Education

Name of subject: Mathematics Education and Methodology 1 Course code: BLOVOP1009ANG	Credits: 2
Subject classification: compulsory	
Division of course content in theory and practice: 50 % theory and 50 % practice	
Type and number of lessons: 5 seminars and 5 lectures per semester Language: English Other methods used during the course: <ul style="list-style-type: none">• course outline available electronically• digital course material, internet resources, videos provided through Google Classroom• presentations in person/online (Google Meet)• use of international literature	
Method of assessment: Seminar mark Other means of learning evaluation: <ul style="list-style-type: none">• continuous, active participation during lessons• written assessment of the acquired mathematical material• preparation of games and mathematical tools for use in nursery groups• collection of mathematical games and activities related to the topics of the semester• completion of preschool activity plans	
Place of subject in the curriculum: third semester	
Prerequisites: none	

Course description:

Set theory and mathematical logic
Nursery school games referring to set operations.
Set theory and mathematical logic connected to nursery school activities and environment.
The concept and interpretation of natural numbers (numbers as pieces or measurement)
Sorting in the set of natural numbers. Cardinal and ordinal numbers. Counting.
Relations. Order theory. Equivalence relations, equivalence classes, classification.

Required and recommended literature:

1. Lukács Józsefné – Ferencz Éva (2010): *A játék nem csak játék!? Matematikai fejlesztőjátékok óvodásoknak*. Flaccus Kiadó, Budapest. ISBN 978 963 9412 81 1
2. Fisher, Robert (2011): *Brain Games for Your Child*. Souvenir Press. ISBN 978-0285640436
3. Perlai Rezsőné (2016): *Matematika az óvodában. Kézikönyv óvodapedagógusok számára*. Flaccus Kiadó, Budapest.
4. Pound, Linda (2008): *Thinking and Learning about Mathematics in the Early Years*. Routledge. Oxon. ISBN 978-0415432368
5. Zsámboki Károlyné (2003): *Óvodai matematikai nevelés. Módszertani javaslatok az óvodai nevelés alapprogramjához*. k.n., Sopron. ISBN 963 7315 38 7
6. Zvonkin, Alexander K. (2011): *Maths from Three to Seven. The Story of Mathematical Circle for Preschoolers*. American Mathematical Society ISBN 978 0 8218 6873 7

Required competencies and competency elements that this subject contributes to and helps to develop

a) Knowledge

- Students have basic knowledge about the psychological and biological factors and characteristics determining the process of maturation and development of children aged 3-7 as well as the nature of children's learning; show awareness of the importance of early childhood as a developmental phase giving foundation to an individual's life path, its significance in the development of personality, its role in life-long learning, and the methods supporting this development.
- Can understand the utmost significance of play in children's development.
- Can use different strategies and methodology to help the personal development of children aged 3-7 considering their age specific characteristics and individual pace of development.
- Can interpret the socio-culturally embedded nature of children's development and preschool education, and the effect of this on the pedagogical process.
- Are familiar with the digital tools of knowledge acquisition, ICT-techniques, and problem solving methods in their specific field.

b) Capabilities

- Students adapt their pedagogical, psychological, sociological and methodological expertise as well as a holistic approach to preschool education with consideration to the characteristics of the child and the child's age group.
- Understanding the characteristics of the age group, students should be able to identify and select the appropriate educational goals, tasks and content. Students should furthermore be able to manage, analyse, and evaluate the differentiated pedagogical process.
- Can observe, analyse and record the characteristics of the personality and skills of children aged 3-7, and the socio-cultural determinants of the family environment surrounding them.
- Can support the harmonious personality development of children aged 3-7, and the shaping of their physical, social, and mental skills age-specifically
- Build and develop a bias-free respectful and trustworthy relationship with children institutions (such as families, nurseries, childcare services, and other public educational

institutions). Communicate professionally and clearly in professional situations and assist and offer help relating to the problems of children.

c) Attitude

- Students show commitment to the complete health development of children aged 3-7.
- Their personality should be free from prejudice, and characterised by tolerance, social sensitivity, and helping attitude. They have an inclusive and multicultural approach, seek to preserve the cultural identity and support children's integration into their community.
- Make their decisions in electronic communication with the careful consideration of legal, ethical and other relevant norms.

d) Autonomy and Responsibility

- Students take responsibility for the personality development of children aged 3-7 in a harmonious and complex way, and for all the staff and equipment arrangements necessary to enhance healthy mental and physical development.
- Take responsibility for their decisions and the consequences of their pedagogical activity during the educational process.
- As a reflective preschool teacher and autonomous personality, they are conscious leaders of their own professional development.
- Can plan and develop their digital literacy independently

Responsible for course: Mrs. dr. Anna Runyó , college professor

Other teacher(s) involved in course: Ágota Buzogány, college assistant lecturer