Key Competences Kit
for facing Lifelong Learning

MATHEMATICAL COMPETENCES

AND

BASIC COMPETENCES IN SCIENCE AND TECHNOLOGY

8 KEY COMPETENCES KIT

July 2009

Education and Culture DG
Lifelong Learning Programme

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Education and Training

Curriculum: 8 Key Competences Kit for facing lifelong learning

Partner: University of Craiova, Romania

Module Number: 3

Module Title: Mathematical competences and basic competences in science and technology

Number of Units: 8

Author:

Adrian Iasinschi

Contacts in case of questions or support:

aiasinschi@yahoo.com

Total duration of the module: 16 academic hours

Theory: 5 hours

Exercises, practices: 10 hours

Evaluation: 1 hour

Documents for completed course: CERTIFICATE

Form of Module: Compulsory

Credits: 1

Prerequisite for participation:

- Basic knowledge of mathematics

Target group:

Adults with lack of basic training or education gaps in risk of social exclusion: immigrants, premature school leavers, women's collectives, adults over 55, former young offenders, low-qualified workers etc.

Knowledge to acquire:

- Solid knowledge of the basic mathematical notions, such as functions, equations, areas and volumes, probability and statistics.
- The use of mathematics in modelling real life problems.
- Understanding the way mathematical notions are being used in modern computer applications.

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Skills:

- the trainees should be able to use mathematics for real life problems
- the trainees should acquire a basic knowledge and understanding of mathematics
- the use of basic concepts useful in fields like economics, constructions, retail and others

Attitudes:

- Development of a positive attitude towards mathematics as a tool used to solve problems.
- Development of confidence towards using mathematics as a tool in real life situations.
- Disposition to learn relatively new concepts in order to obtain a better understanding of mathematics as a useful instrument.

Methodologies for delivering of the training:

- e-learning
- Face to face tutoring
- Blended learning.

Learning evaluation:

- Online content-based questions;
- Online tests (multiple choice, false/true etc.).

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Module Contents

Didactic Unit	Theme	Time (theory / practice)
Didactic Unit 1. Integer Numbers	Number Systems and Number Sense	**0.5 / 1.5 hours**
	Basic operations over the integers	
	Representations and relationships for integers	
	Applications	
Didactic Unit 2. Fractional Numbers	Basic operations with fractional numbers	**1 / 1 hours**
	Representation and relationships between fractional numbers	
	Percents and applications in banking	
	Other applications of fractional numbers	
Didactic Unit 3. Real numbers	Basic operations with floating point numbers	**0.5 / 1.5 hours**
	Representation and relationships between real numbers.	
	Simple linear equations	
	Applications	
Didactic Unit 4. Geometry	Length, Distance, and Angles	**1 / 1 hours**
	Surface Area and Volume	
	Applications	
Didactic Unit 5. Measurement Units, Calculations, and Scales	Describe the main scales of measurement and the relationships between different scales	**0.5 / 1.5 hours**
	Solving related problems	
Didactic Unit 6. Calculation and Estimation	Explain the meaning and uses of averages and weighted averages.	**0.5 / 1.0 hours**
	Applications.	

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Didactic Unit 7. Probability	Definition of probability, examples	**0.5 / 1.0 hours**
	Real life applications	
Didactic Unit 8. Statistics	Samples, populations	**0.5 / 1.5 hours**
	Sample means. Data representation. Bar charts and histograms	
	Applications	
Evaluation	Tests	**1 hour**

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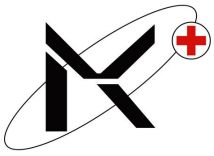
Project Partners:



Associated Partner:

Promoter:

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