



DEVELOPING BRIDGING COURSES FOR MATHEMATICS AND SCIENCE TEACHER STUDENTS

ERASMUS+ Programme Key Action 2 Strategic Partnership for higher education

<https://www.bridge2teach-project.eu>

PROJECT AIM

The main aim of the project is to develop, test, revise, finalise and disseminate materials for a bridging course for mathematics teacher students and a bridging course for science teacher students, and provide workshops for teacher trainers and for university staff who deliver bridging courses to mathematics and science students, demonstrating and working on how they can use these materials in their own mathematics and science teacher training bridging courses.

TANGIBLE RESULTS

- reports on status quo of local/regional math/science teacher training bridging courses,
- guidelines for developing bridging courses for mathematics and science teacher students,
- an evaluation form for bridging courses,
- curricula and teaching materials for bridging courses for mathematics teacher students and for science teacher students,
- a report about process and results of bridging course evaluation,
- a final conference,
- a project website.

BRIDGING COURSE STRUCTURE

Science BC

- Module 1 - Physics**
- Nature research - general concepts and laws
 - Natural sciences about the micro-, macro- and mega- world
 - 21st century physics, quantum physics essence
 - Introduction to natural science practical work
 - Self-test
- Module 2 - Chemistry**
- Laboratory guide
 - The periodic table of elements
 - Chemical reactions
 - Appendix
 - Self-test
- Module 3 - Biology**
- Cells
 - Simple organisms: viruses and bacteria
 - The chemicals of life
 - Transmission of nerve impulses
 - Self-test

Mathematics BC

- Module 1 - Introduction and overview**
- A brief general introduction into mathematics.
 - An overview of the various fields of mathematics.
- Module 2 - Basic concepts**
- Logic and sets
 - Geometry
 - Vectors
 - Linear and quadratic equations
 - Introduction to functions
- Module 3 - Functions**
- Linear and quadratic functions
 - Exponential and logarithmic functions
 - Trigonometric functions
- Module 4 - Tools for real life**
- Probability
 - Statistics
 - Limits, derivatives and integrals

PROJECT TEAM & ACTIVITIES

Ionization energy
Electron affinity
Atomic radius
Nonmetallic character
Metallic character
Electron affinity
Ionization energy
Atomic radius

Palacky University Olomouc, Czech Republic
University of Palermo, Italy

Constantine the Philosopher University, Slovakia
Vilnius University Šiauliai Academy, Lithuania

After jumping out of an airplane, a skydiver (parachutist) moves in freefall (not considering air resistance) until the parachute opens. The distance d that the skydiver covers in the time interval $[0, t_1]$ is approximately $d(t) = 5t^2$ ft in seconds, d in meters). Give an equation for the average speed $V(a, t_1)$ in a time interval $[a, t_1]$.

PROJECT PARTNERS

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