



TEACHING COMPUTATIONAL TOOLS BY MULTIMEDIA

Description of the innovative teaching practice

- Contemporary trend in educational technology
- Google search for:
 - teaching + multimedia returns about 248,000,000 results
 - “teaching +computational tools + multimedia” returns about 12,600,000 results
- Computation tool: computer program or utility that helps users: represent data, perform analysis, visualize data, process databases and etc.
- Multimedia: content that uses a combination of different content forms such as text, audio, images, animations, video and interactive content.
- Innovative practice oriented to structural engineering computational tools
- Communicating with Generation Z (born between 1995-2015) - Utilizing modern information technologies for teaching and learning

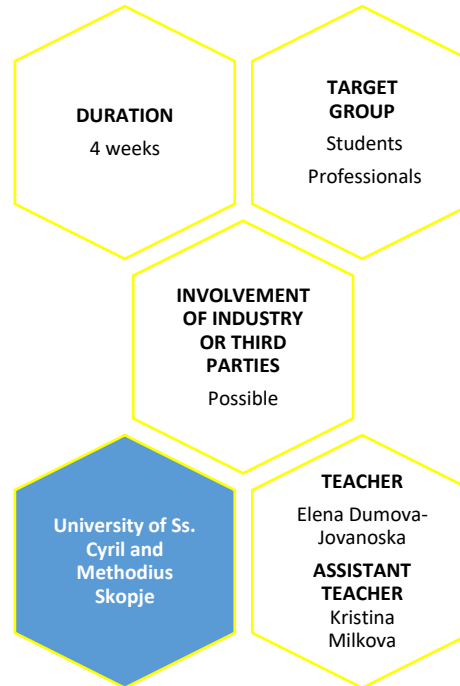
Skills to be acquired/ improved:

Hard skills:

- Computer literacy,
- Structural Engineering analysis programs,
- Multimedia programs,
- Exercises such as assignments to reinforce skills
- Structural Analysis and Finite Element method

Soft skills:

- Critical thinking
- Communication skills
- Exchange of ideas and opinions among students–students and teacher–students; discussions
- Individual learning through practice and feedback (also hard skill)
- Problem solving through trial and error



Methods and techniques

Methods:

- Clarifying and illustrating complex subjects
- Adapting to individual learning styles
- Improving retention and aiding recall
- Reaching nonverbal learners

Techniques:

- Individual work: problem-solving, experiments, trial and error
- Group work: discussions, brainstorming, presentations, demonstrations

Methods for assessment and evaluation of the practice

Methods for assessment:

- Problem solving assignments
- 3-2-1 reflective activity (3 ideas or issues that were learnt, 2 example or uses for how the ideas could be implemented, 1 unresolved area question)

Methods for evaluation:

- Attendance and Completion (Participation)
- Student feedback forms (Data Collection)
- Testimonials (Subjective-Qualitative)