

# Innovative Open Source courses for Computer Science curriculum — Erasmus+ KA2 Strategic Partnership Project

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## 1 Introduction

This proceedings is a result of the *1st International Conference on Open Source tools in Computer Science university education* held in Brno on 25–26th of October 2021. The conference is first multiplier event planned as part of the project “Innovative Open Source courses for Computer Science curriculum”.

## 2 Information about the project

The project “Innovative Open Source courses for Computer Science curriculum (IOSCS)” is funded under EU Erasmus+ Programme in Key-Action 2 “Cooperation for innovation and the exchange of good practices”, Action Type “Strategic Partnerships for higher education”. Project duration is from 1st of September 2019 until 31st of August 2022.

### 2.1 Project participants and teams’ leaders

Project consortium is composed of three Higher Education Institutions in Central Europe:

1. Zachodniopomorski Uniwersytet Technologiczny w Szczecinie — ZUT (PL) [coordinator]
2. Mendelova univerzita v Brně — MENDELU (CZ)
3. Žilinská univerzita v Žiline — UNIZA (SK)

The teams at each participating university are lead by:

1. ZUT — dr. inż. Remigiusz Olejnik
2. MENDELU — doc. Ing. Jiří Rybička, Ph.D.
3. UNIZA — RNDr. Aleš Kozubík, PhD.

## 2.2 Project goals

Main goal of the project is **to develop 6 study courses, based on Open Source approach**. The courses will cover fields of programming, mathematics, operating systems, embedded systems, systems controlled by computer and other hardware and/or software applications.

The results of IOSCS project will be:

- descriptions of the courses
- materials necessary for lectures and practical classes
- handbook composed of the materials necessary to follow the courses by the students

The courses will be tested during summer intensive courses — the university teachers from the consortium organizations will deliver the courses to the selected group of the students. All the results will be publicly available on the website of the project IOSCS and involved organizations. Moreover they will be spread during International Conferences on Open Source tools in Computer Science university education

## 2.3 Selected courses

The consortium decided to develop a materials for the following courses:

1. Open Source tools for text processing
2. Probability and statistics with programming in R
3. Mathematical Analysis supported by wxMaxima
4. Programming language Lua
5. Mobile Application Development
6. Wireless Signal Processing in GNU Radio Environment

## 2.4 Intellectual Outputs

In order to develop the courses the works are divided into three phases:

1. IO1 — Developing courses based on Open Source tools **[already finished]**
2. IO2 — Developing the materials for the intensive courses **[already finished]**
3. IO3 — Developing a handbook on Open Source tools for Computer Science study programmes implemented at university level

## 2.5 Summer intensive courses

The courses are to be tested during summer intensive courses. The project plans two such events:

1. 2021 — Žilina
2. 2022 — Brno

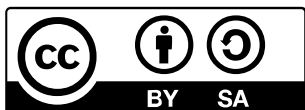
## 3 Multiplier events

The results of the project are to be spread during two international conferences:

1. 2021 — Brno: 1st International Conference on Open Source tools in Computer Science university education
2. 2022 — Žilina: 2nd International Conference on Open Source tools in Computer Science university education

## Author

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