# IMPLEMENTATION OF PILOT SHORT CYCLE AND PATR-TIME F2F PROGRAMS ON VISER

**Svetlana Štrbac-Savić [1]**

svetlanas@viser.edu.rs

**Vera Petrović [2]**

verap@viser.edu.rs

## 1. INTRODUCTION

The government of the Republic of Serbia adopted in September 2017 a change of the law on higher education, which legally enabled the organization of short cycle and part-time programs.

School of Electrical and Computer Engineering of Applied Studies in Belgrade, VISER, has organized three short cycle programs. Two F2F programs: *Professional development of professors and teachers* and *Vehicle diagnostics* and one online short cycle program *Web Application programmer*.

During the 2017/2018 school year short cycle program *Professional development of professors and teachers* was organized twice, first in the winter semester, and second realization of this program on the summer semester. A total of 92 students were enrolled to this program. On first performance of the program 66, and on second 26 students. Enrolled students did not pay tuition fees.

Short cycle program *Vehicle diagnostics* was organized in the summer semester of 2017/2018 school year. Nine students were enrolled to this program, and they also didn't pay tuition fees.

All students have previously finishes undergraduate studies, because the low demanded that enrolled students to short cycle program have already at least 180 ETS points on some accredited high education institution.

Lessons were held on weekends, since most students are employed, and some of them are not from Belgrade.

Candidate application for two short cycle F2F programs and one online short cycle program was published on VISER official web site and on project official web site. Data that was required from candidate was candidate name, phone number, institution on which candidate works (if he works) and data about completed studies. Candidate application was conducted by e-mail communication with potential candidates.

http://websrv3.viser.edu.rs/index.php?page=static&id=1035

Information Systems is an undergraduate program 180 ECTS whose curriculum is developed within the project PT&SCHE. Tree students were enrolled to part-time study regime in school year 2018/2019.

---

[1] School of Electrical and Computer Engineering of Applied Studies, Belgrade/Professor

[2] School of Electrical and Computer Engineering of Applied Studies, Belgrade/Director

The enrollment of students in previous school year was impossible because the low was adopted after the enrollment process was finished in VISER for school year 2017/2018.

## 2. REALIZATION OF SHORT CYCLE PROGRAM *PROFESSIONAL DEVELOPMENT OF PROFESSORS AND TEACHERS*

Short cycle program *Professional development of professors and teachers* is intended for people who want to work as professors or teachers in secondary or primary school in Republic of Serbia, and who do not have teaching license. In the Republic of Serbia, the person who teaches at school must finish appropriate studies, and have professional knowledge of the subject that the teacher teaches and they must pass exams in Pedagogy, Didactics, Psychology and Teaching Methodology along the professional practice in teaching. This program gives necessary knowledge in these areas and allows candidates to be able to take a professional exam which enables them to get a teaching license in Republic of Serbia.

*Professional development of professors and teachers* was organized twice in 2017/2018 school year. VISER enrolled 92 students to F2F program Professional development of professors and teachers.

First enrolled was organized in October 2017 and 66 students were enrolled to Professional development of professors and teachers program. Second enrollment to the same program was organized in January 2018 and 26 students were enrolled to the program.

Lists of enrolled students to F2F program Professional development of professors and teachers program are available from the VISER site on links:

https://www.viser.edu.rs/download/2301

and also

https://www.viser.edu.rs/projekti/ptsche

All enrolled students have previous finished undergraduate studies. *Figure 6*. shows their previous education.
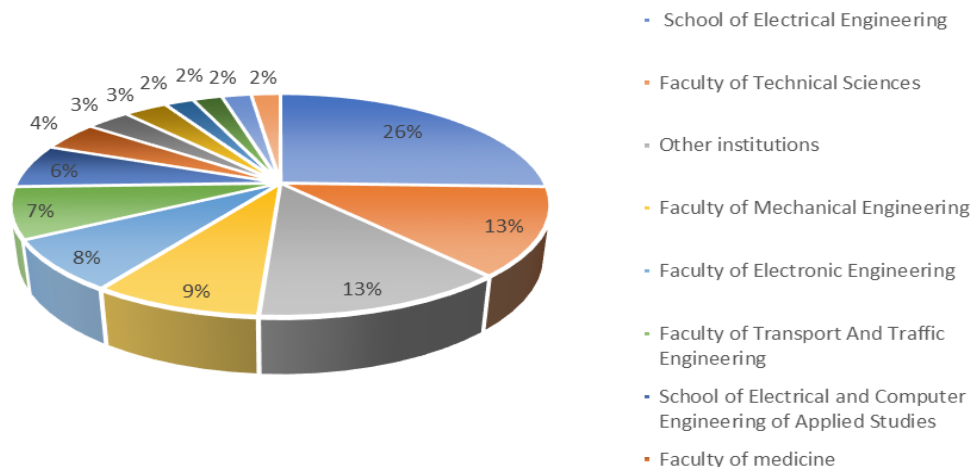
Figure 1. Previous education of enrolled students to short cycle program Professional development of professors and teachers

Program duration is one semester 30 ECTS and it consists four courses:
1. Pedagogy (8 ECTS),
2. Didactics (8 ECTS),
3. Psychology (8 ECTS), and
4. Teaching Methodology (6 ECTS).

Course lessons were organized at VISER during weekends since most of the enrolled student work, and a lot of them were not from Belgrade (*Figure 1*.). In addition to theoretical teaching students had seminar papers and workshops. They actively participated in lessons since some of them have teaching experience.

At the request of students, professional practice has been organized for additional 6 ECTS. Student who already work in primary and secondary school finished professional practice in their school, and for other student VISER organized professional practice in primary and secondary schools. Professional practice was not obligatory, because in the syllabus of this program it was not planned, it was optional, but almost all of the students finished it and in the end they got 36 ECTS.

Learning Management System (LMS) Moodle was used for distribution of e-learning materials, uploading domestic assignments and seminar papers and communication with students.

All students enrolled to F2F program Professional development of professors and teachers had accounts and access to Moodle Learning Platform. Username and password was assigned to each student for registration to courses.
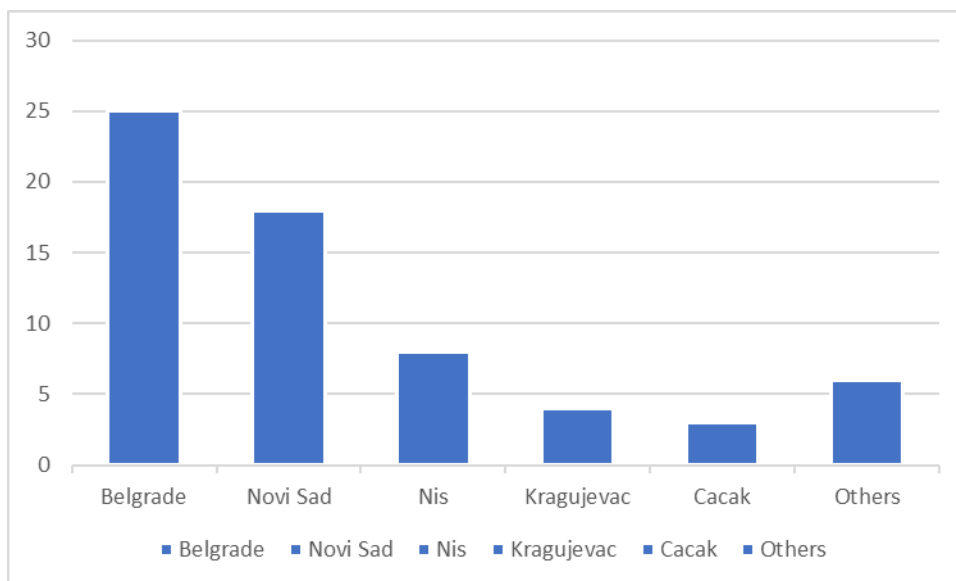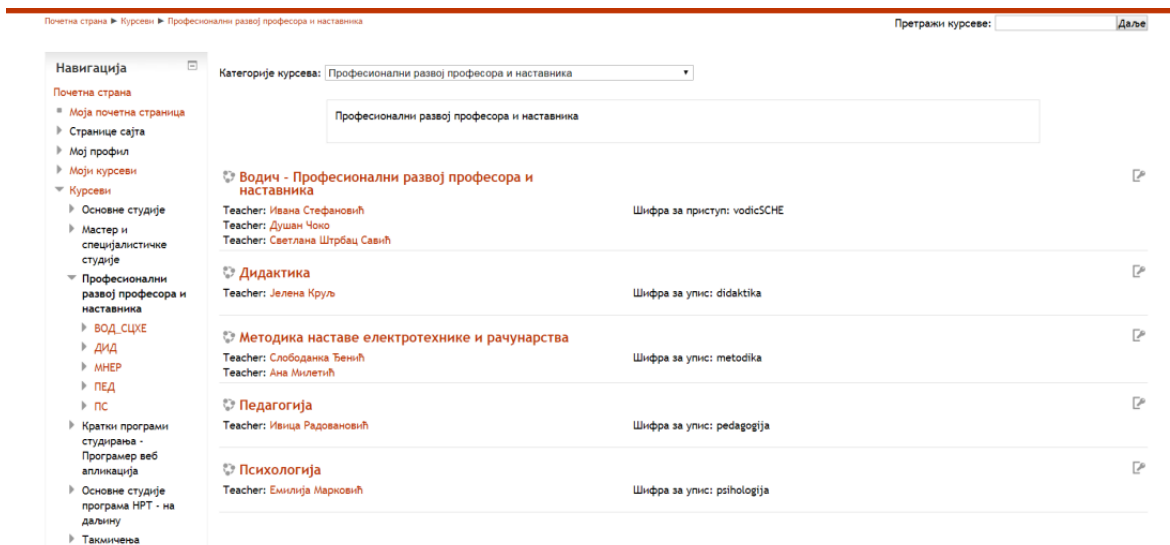
*Figure 2. Palace of residence of enrolled students to short cycle program Professional development of professors and teachers*

Students of sort cycle program *Professional development of professors and teachers* have access to different types of teaching and learning materials, questionnaires, tests etc. Most of the learning material is available via Moodle platform. Every course of the program has an online course created on the Moodle. In addition to these four courses, a Guide for students was created. Throughout the Guide students are informed about all important dates and events.

Printed materials were also prepared. Pedagogy Workbook was printed and distributed to students.



*Figure 3. Program structure on LSD Moodle*

## 3. REALIZATION OF SHORT CYCLE PROGRAM *VEHICLE DIAGNOSTICS*

Short cycle program *Vehicle diagnostics* is intended to people who already work as technicians in car workshops and who want to improve their knowledge and other people who would like to adopt necessary theoretical and practical fundamentals from the field of vehicle diagnosis.

Modern motor vehicles cannot be imagined without sophisticated management system, which means large-scale use of electronic control units and electronic components in management systems of motor vehicles. Because of strong technological progress and the emergence of new technologies, maintenance and repair of motor vehicles require a new profile of professionals who possess multidisciplinary knowledge from mechanical engineering, electrical engineering and computer science. In order to solve complex diagnosis problems of motor vehicles, trained mechatronic professionals are required, capable for performing proper communication and oscilloscope measurements into vehicle systems by usage of modern diagnostic tools.

This program was organized in summer semester of 2017/2018 school year. Program duration was one semester and 30 ECTS. Five courses were organized:

1. Basics of Vehicle Diagnostics,
2. Sensors and Actuators,
3. Ignition and Injection Systems in Gasoline Engines,
4. Injection Systems in Diesel Engines and.
5. Systems of Vehicle Stability, Passenger Safety and Comfort.

All the courses have 6 ECTS. Teaching process was organized at VISER during weekends since most of the enrolled student work. The teaching contained both theoretical and practical parts. Practical teaching was held in VISER's Training Centre for Automotive Diagnostics (equipped with following equipment: scissor lift with lifting table and front recesses for wheel alignment, wheel alignment gauge, roller brake tester, hybrid vehicle mustimeter, OBDII scanner device and other measurement tools)
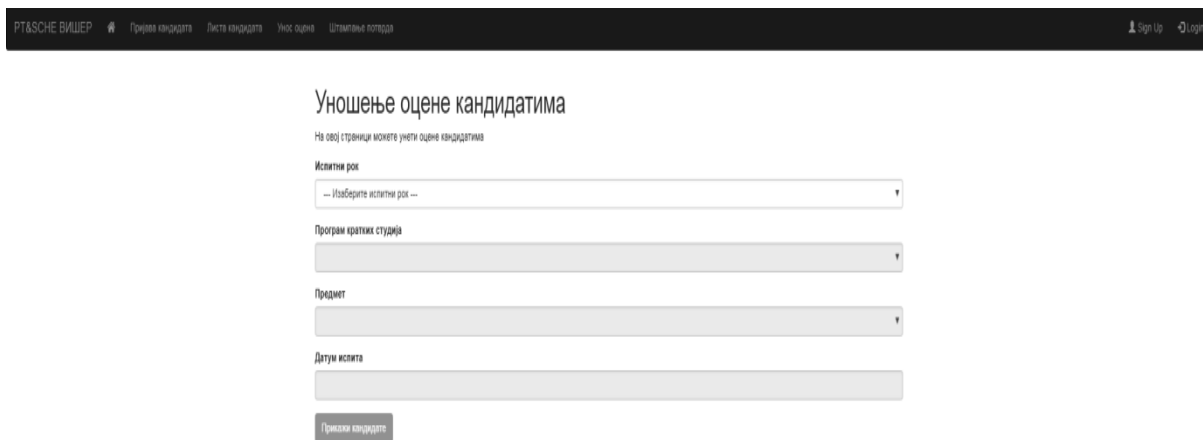


*Figure 4. Practical training in Training Centre for Automotive Diagnostics in VISER*

.

# 4. ADMINISTRATION OF SHORT CYCLE PROGRAMS

All necessary documentation for students registration was collected at the time of enrollment and in additional terms envisaged for the submission of documents. After collecting paper documents, an electronic database was created exclusively for students enrolled to F2F and short online cycle programmes. For each student, the following data is entered:

1. first name,
2. last name,
3. unique personal number,
4. completed studies,
5. the institution on which student works,
6. phone number,
7. mail address,
8. enrolled course,
9. date of enrollment to course,
10. user name and
11. password.

This electronic database beside student data also contains students' marks and data for certificates.



*Figure 4 Screenshot of form for entering data on exams on short cycle programs*

# 5. LEARNING MATERIALS

Learning materials to F2F programs and online short cycle program was free of charge for the students.
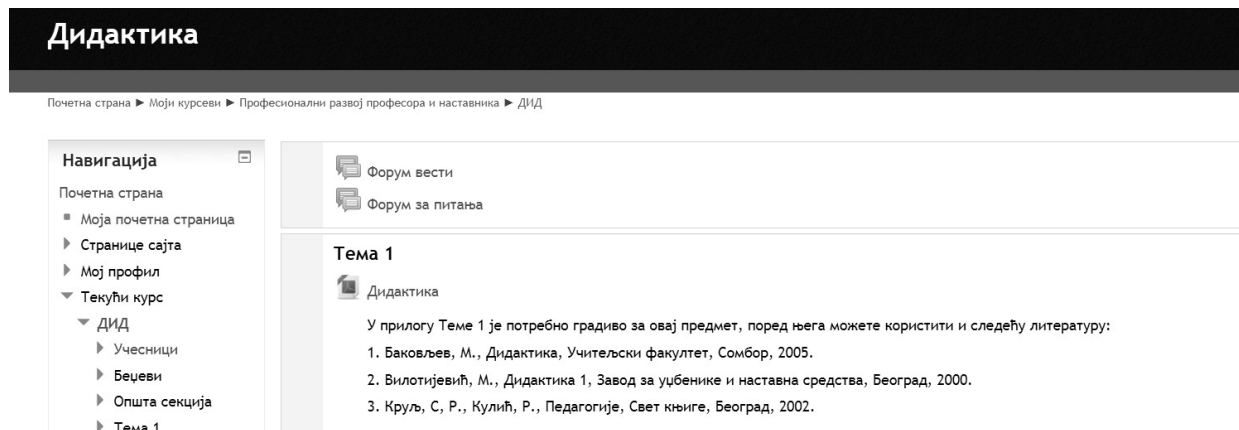
Three types of learning materials were created:
1. printed materials,
2. Online learning materials is available on Moodle Learning Platform, and
3. Multimedia materials recorded for short cycle program Vehicle diagnostics.

Printed publications prepared for short-cycle program students are:
4. Pedagogy Workbook
5. Web design Workbook
6. Ignition and injection systems in Internal combustion engines - Workbook

On Moodle Learning Platform for every course topic of short cycle programs Professional development of professors and teachers and Web application programmer the students have access to learning materials.

## Дидактика

Почетна страна ► Моји курсеви ► Професионални развој професора и наставника ► ДИД

**Навигација**

Почетна страна
- Моја почетна страница
▶ Странице сајта
▶ Мој профил
▼ Текући курс
  ▼ ДИД
    ▶ Учесници
    ▶ Беџеви
    ▶ Општа секција
    ▶ Тема 1

Форум вести
Форум за питања

**Тема 1**

Дидактика

У прилогу Теме 1 је потребно градиво за овај предмет, поред њега можете користити и следећу литературу:

1. Баковљев, М., Дидактика, Учитељски факултет, Сомбор, 2005.
2. Вилотијевић, М., Дидактика 1, Завод за уџбенике и наставна средства, Београд, 2000.
3. Круљ, С, Р., Кулић, Р., Педагогије, Свет књиге, Београд, 2002.

*Figure 1. Online learning materials*

Students also have access to Interactive materials, questionnaires and tests.



*Figure 2. Test on LSD Moodle*

## 6. EXAMS

Students of short cycle programs take exams at the same time as other students of VISER. All exams on short cycle F2F programs were organized on weekends. Students of F2F programs and online short cycle program have the right to take the exam free at any exams period without registering. Paper registration was prepared for each student in each exams period. Paper registration for each student contain name of student, name of professor, exams period and date of exams, course code and number of ESPB point. Paper registration and list of students was given to professors for each exam. After exams professors return fulfill paper exams registration.

*Figure 3. Paper exams registration*

Information on the terms of the exams and results of the exams was available on VISER website and emails were sent to students using Moodle platform information tools.



*Figure 4. Information on Moodle about the examination schedule*

Beside paper documentation all exams marks and data are entered and saved in electronic database.

![PT&SCHE logo — Introduction of part-time and short cycle studies in Serbia]

Co-funded by the
Erasmus+ Programme
of the European Union

## 8. SERTIFICATE

Official certificates for completed short programs are not yet defined by the Ministry of Education of the Republic of Serbia. The issue of official certificates should be resolved by sub-legal acts which are not yet published.

VISER has made a certificate for all the students who successfully completed short cycle program. Certificate includes basic information on the student, and finished short cycle program, number of ECTS of the program, and an attachment to certificate which includes marks and number of ECTS for every course on the program.

So far, a total of 86 students have finished F2F short cycle programs organized by VISER:
- 68 students finished short cycle F2F program Professional development of professors and teachers.
- 9 students finished short cycle F2F program Vehicle diagnostics.

## 9. REALIZATION OF PILOT PART-TIME PROGRAM INFORMATION SYSTEMS

Information Systems is an accredited program of undergraduate studies at VISER. Program has 180 ECTS and its duration is three years. First generation of students enrolled this program in school year 2017/018. In June 2017 the low on high education didn't allow part-time studies, that is why first part-time students were enrolled to this study regime in school year 2018/2018. In Republic of Serbia part-time study is recognized as "studying and working", and only employed students can be part-time students.

The information on part-time study was published on VISER website, and on the ceremony of reception of first year students of Information Systems.

To part-time program 3 students are enrolled.

The low on high education has allowed part-time students to choose from 30 to 60 ECTS per year. Reducing the number of points is not what attracted students to apply for this regime of studies, but the flexibility in students' obligations.

The problem is how to organize teaching classes when all the enrolled students are employed and they have different working hours. Considering that that fact, it was decided not to organize classes in the afternoon or weekends, but to organize mentoring classes of theoretical teaching. Students of part-time program are given the opportunity to earn points during classes, in the manner in which the professor determines it. Professors had the obligation to provide students with all the teaching and learning materials as well as with supplementary terms for conclusions. For each course, students had to have consulting appointments in the course during the week before noon and in the afternoon, because students who change shifts at work can come to consultation.

In VISER practical classes, on the majority of courses usually organized as laboratory exercises, are obligatory. Since VISER is high institution of applied studies, and practical training is very important for our students, it is necessary to find a way for part-time students to attend practical lessons. The solution to this demand is that students can customized dynamic of the laboratory exercises by choosing the appropriate existing group of exercises for regular students or by arrangement with associates on subjects. Unlike regular students who have one exercise by week, part-time students can have more exercises in one

week. This is good for them because if they have a free day from work, they can come to school and do more exercises from one subject per that day. On certain courses, professors also allow students work on exercises at home and then to demonstrate they work to professors and assistants.

## 10. CONCLUSION

Within the project PT&SCHE two pilot short cycle F2F programs: Professional development of professors and teachers and Vehicle diagnostics, and one part-time F2F program was successfully organized at VISER. Although legal regulations that prescribe the certificates and more detailed definitions of these programs have not yet come out, short cycle programs are recognized as a successful way for obtaining useful knowledge. Certificate of completed short cycle program Professional development of professors and teachers are recognized by responsible institutions for issuing teaching license in Republic of Serbia, and some of the students already obtained a teaching license.

Part-time studies on undergraduate program Information Systems is chance for employed students to succeed in studying. Flexible teaching dynamics and adaptation of teaching methods to students' needs are key to realization of part-time programs. We hope that students will recognize the benefits of part-time study in the future and that they will be more likely to decide for this type of study. On the other hand, experience from implementation of short cycle programs and part-time study will be very valuable for the future organization of these programs.