



Strengthening Teaching Competences
in Higher Education
in Natural and Mathematical Sciences

New technologies in teaching and learning

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University of Niš, Serbia



Kick-off Meeting, Niš, January 15-17, 2019

Overview

- Why modern technology?
- Current situation
- Potential problems
- Suggestions for improvement



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Why modern technology?

Literature
accessibility

e-books

online
tests

examples
of previous
exams

Easier
communication
with teachers
and colleagues

e-mail

chat

forum

Target
audience

young
people

with
dynamic
on-line life

Why modern technology?

Expectation
of a future
employer

using
technology
to connect,
communicate

collaborate
with
workplace
technology

Distance
learning

lectures from
the best
faculty
available
from home

Next-
generation
learning

cut
operational
costs

preserve
highly valued
school and
university
brands

Why modern technology?

With the growth of modern technology the learning gets a whole new dimension

- Memorizing of facts becomes less important
- Focuses on getting functional knowledge



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Current situation

- Integration into the Bologna educational framework
- The gap between the modernization of study programs and its implementation
- Greater integration of new technologies is needed



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Teacher portal



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Teacher portal



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Наставнички портал

Ивана Мицић

Настава

Календар

Предмети

Вести

Наставнички профил

Испитни записник

Анкете

Извештаји

Упутство

7052, ИО-13, Увод у рачунарство

Рачунарске науке 2014, основне академске студије,

Недељни фонд 3+3+0+0, I семестар, Обавезни, 7.00 ЕСПБ

Студенти

Отпремање датотека

Делови испита

Заказивање обавеза

Слање обавештења

Настава

Списак студената у школској 2018/2019 години

РБ	Бр. индекса	Име и презиме	Емаил	Слуша	Испунио услове	ШГ, Оцена исп.рок
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3.	159	Андрија Стаменковић	andrija.stamenkovic@pmf.edu.rs	поново	ДА	
4.	172	Марко Мицић	marko.micic@pmf.edu.rs	поново	ДА	
5.	173	Тијана Јовановић	tijana.jovanovic3@pmf.edu.rs	поново	ДА	
6.	174	Анђела Васић	andjela.vasic@pmf.edu.rs	поново	ДА	

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Наставнички портал

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Настава

Вести

Наставнички профил

Испитни записник

Анкете

Резултати

Извештаји

Упутство

Претрага анкета

Школска година:

2015/2016

Ниво студија:

основне академске

Претражи




Резултати

РБ	БП	Шифра	Предмет	Број пријављених	Број анкетираних	
1.	4604	БИО104	Основи информатике	1	0	↓
2.	4652	БИО103	Основи информатике	64	37	↓
3.	7003	ИИ13	Увод у рачунарство и дигитална логичка кола	2	0	↓
4.	7052	ИО-13	Увод у рачунарство	56	24	↓

Moodle



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NetChem DLS

You are currently using guest access (Log in)





































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NetChem DLS

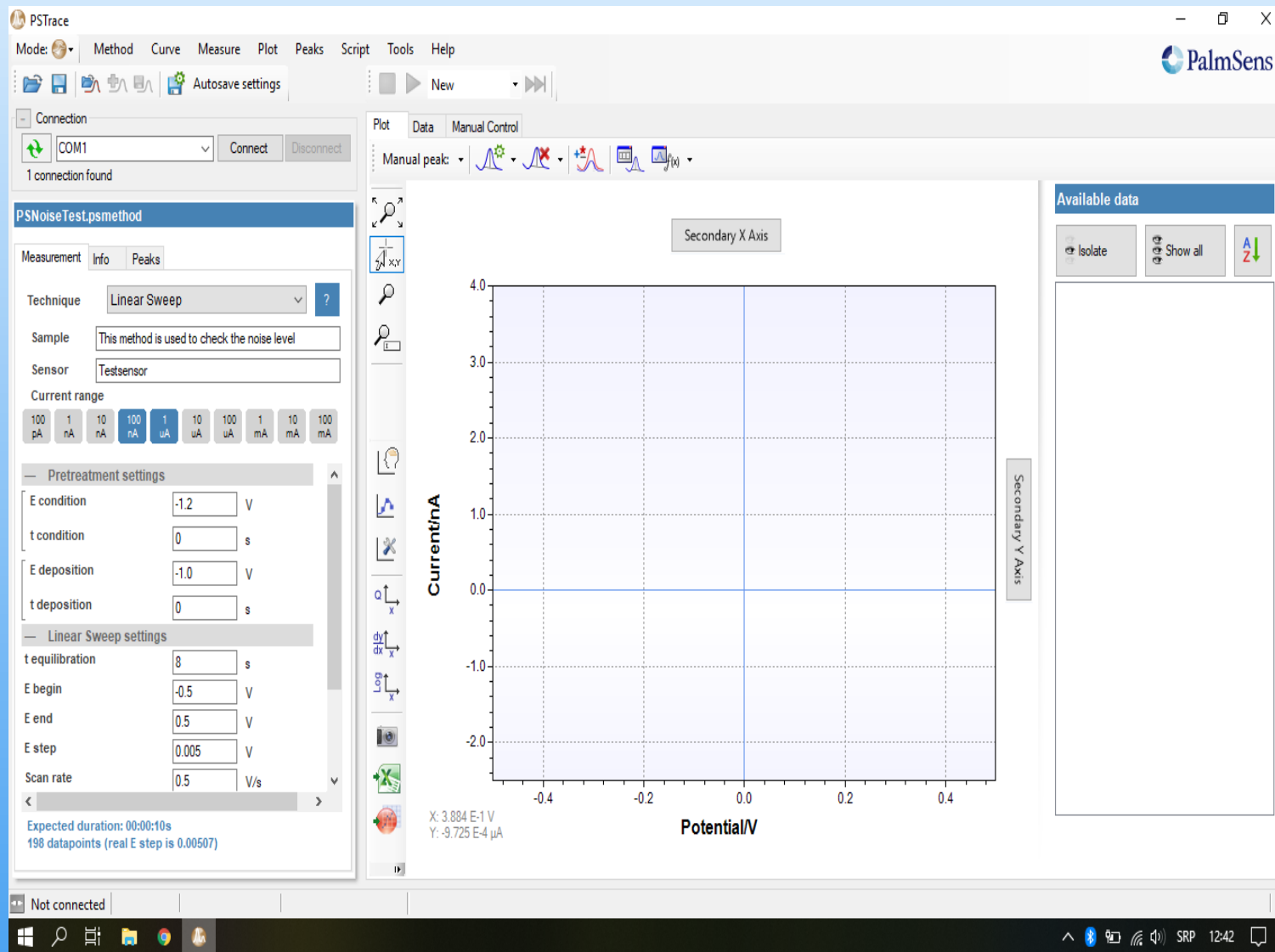
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Course categories:

Search courses

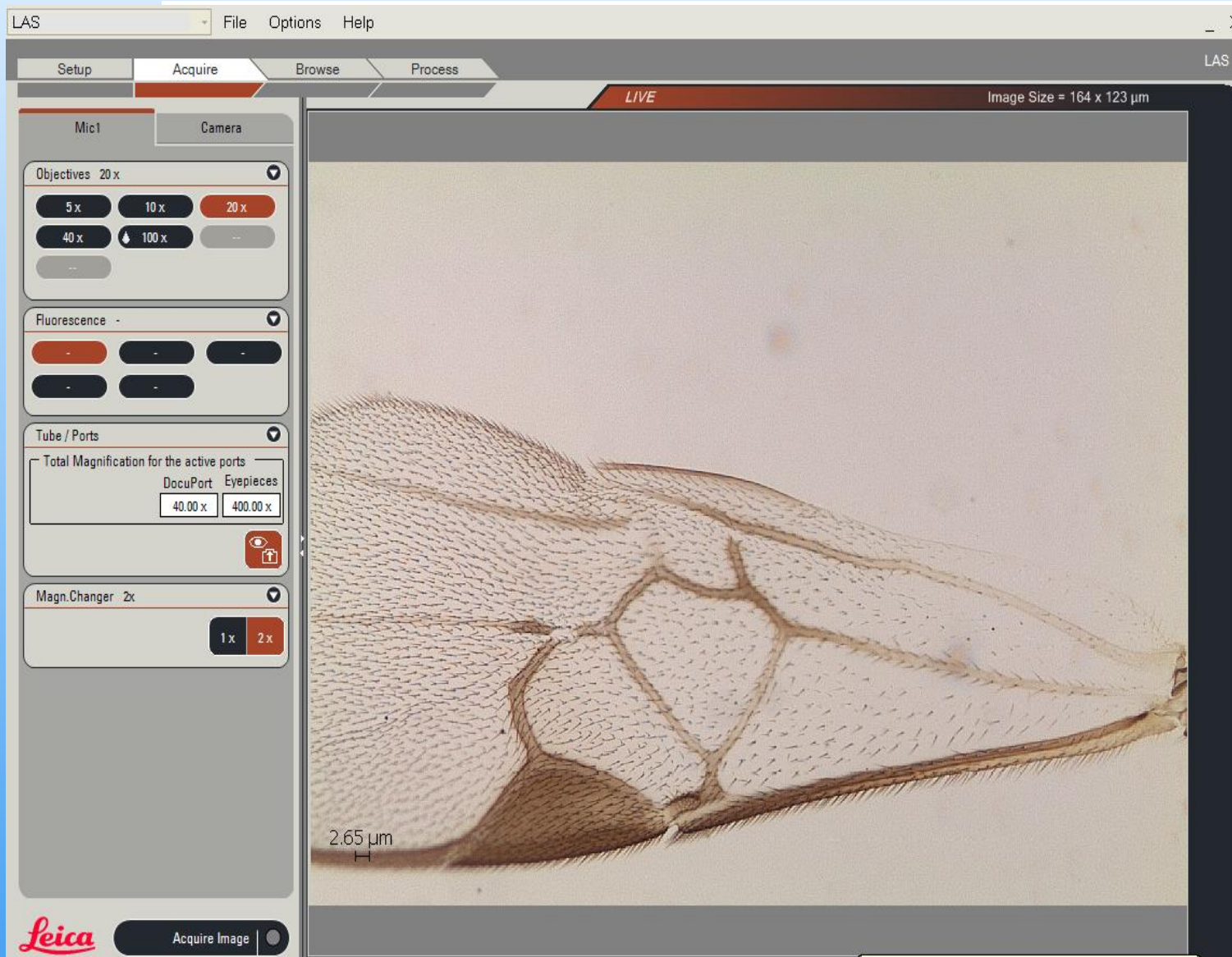
 P1-1 Environmental Chemistry 	
 P1-2 Green Chemistry 	
 P1-3 Chemodynamics of pollutants 	
 P1-4 Chemistry of Water And Wastewaters 	
 P1-5 Water and wastewater treatment technologies 	
 P1-6 Chemistry of surface processes 	
 P1-7 Remediation Technologies 	
 P1-8 Humic substances in the environment 	
 P1-9 Monitoring in the environment 	
 P1-10 Biochemistry 	
 P1-11 Molecular spectroscopy 	
 P1-12 Kinetics and Catalysis 	

PC-trace (chemistry)



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Leica Application Suit (biology)



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MySQL (informatics)



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MySQL Workbench

Local instance wampmysqld64

File Edit View Query Database Server Tools Scripting Help

Navigator

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

SCHEMAS

Filter objects

- diplomski_radovi
- drzava
 - Columns
 - Indexes
 - Foreign Keys

Information

Table: drzava

Columns:

- idrzava int(10) UN AI PK
- drzava varchar(30)
- drzavae varchar(30)
- sif1_id_drzava int(10) UN

Query 1

drzava

Limit to 1000 rows

1 • SELECT * FROM elifak.drzava;

Result Grid

	idrzava	drzava	drzavae	sif1_id_drzava
1		Југославија	NULL	NULL
2		Грчка	NULL	84
4		Бугарска	NULL	34
5		Хрватска	The Republic of Croatia	55
7		Словенија	The Republic of Slovenia	199
9		Македонија	The Republic of Macedonia	130
14		Ирак	NULL	104
15		Босна и Херцеговина	Bosnia and Herzegovina	28
16		Република Српска	NULL	NULL
17		Муслиманско-Хрватска федерација	NULL	NULL
18		Русија	NULL	NULL
19		Швајцарска	NULL	211
20		Савезна Република Немачка	Federal Republic of Germ...	81
21		Француска	NULL	74
22		Чешка Република	NULL	NULL
23		Аустрија	NULL	15

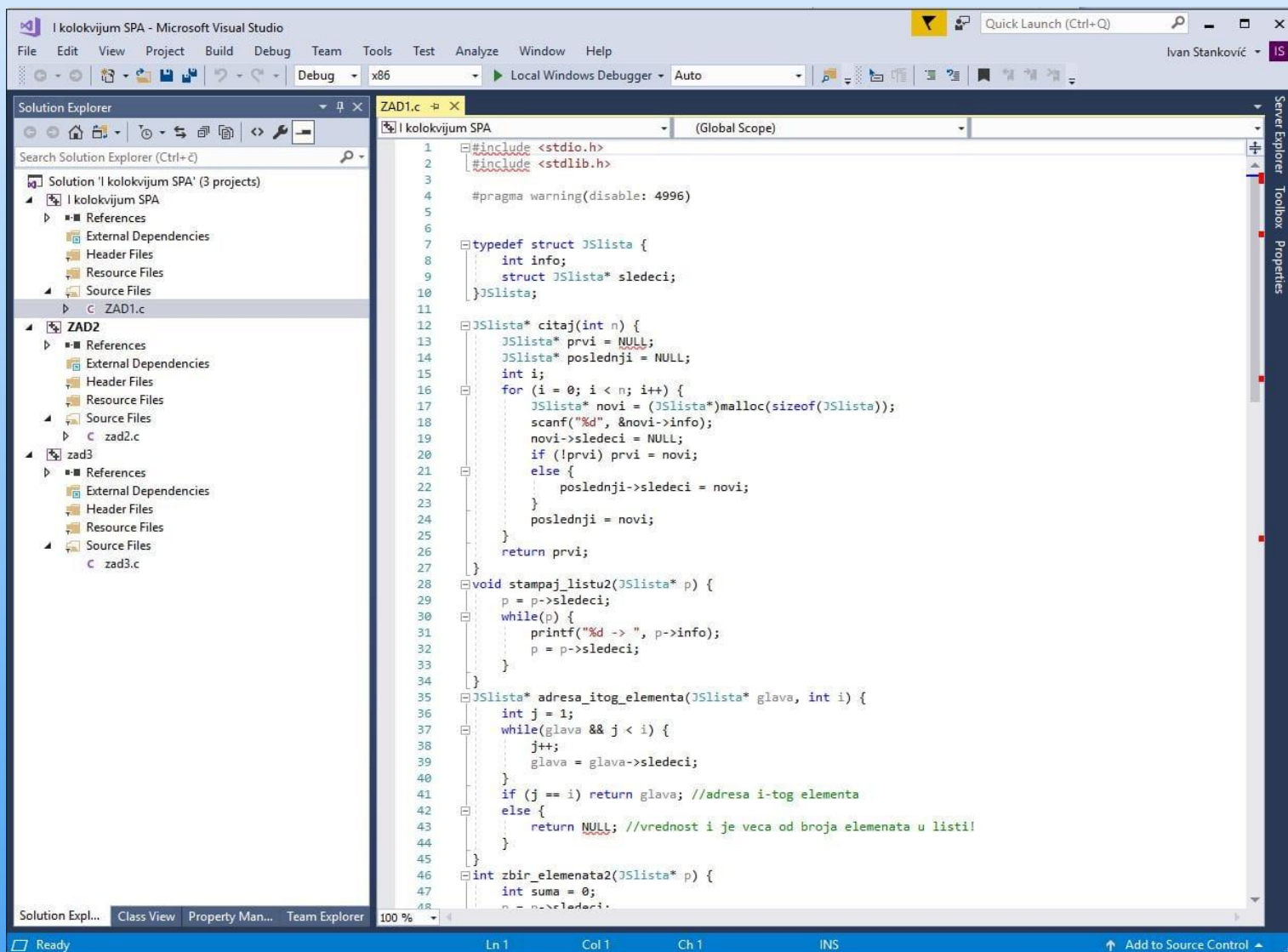
drzava 1

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	14:29:01	SELECT * FROM elifak.drzava LIMIT 0, 1000	28 row(s) returned	0.000 sec / 0.000 sec

Visual Studio (informatics)



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Potential problems

- Financing software packages required for work
- Enough available space for establishing teaching and digital learning labs
- Technical staff skill set to set up, use and maintain the equipment
- The unwillingness of the teaching staff to participate in the initiation of new technologies in the teaching
- Poor motivation of teaching staff for the integration of online technologies into their courses
- Motivation of technical staff for additional work



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Suggestions for improvement

- Encouraging the teaching staff to post course details, literature and lecture notes on-line
- Motivating the teaching staff to exchange information with students using modern means of communication
- Requesting the teaching staff to attend training courses for the use of new technologies in teaching
- Suggesting the teaching staff to use various modern technologies tools in classrooms



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Thanks for Your
attention!

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