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

1862
RĪGAS TEHNISKĀ
UNIVERSITĀTE

Improvement of master-level education in the field of physical sciences in Belarusian universities
Physics
Co-funded by the Erasmus+ programme of the European Union

Improvement of master level education in the field of physical sciences in Belarusian universities

Student's mobility and training event
Riga Technical University 12/1, Azenes Street Riga, Latvia
24th September – 7th October, 2017

RTU MAIN BUILDING

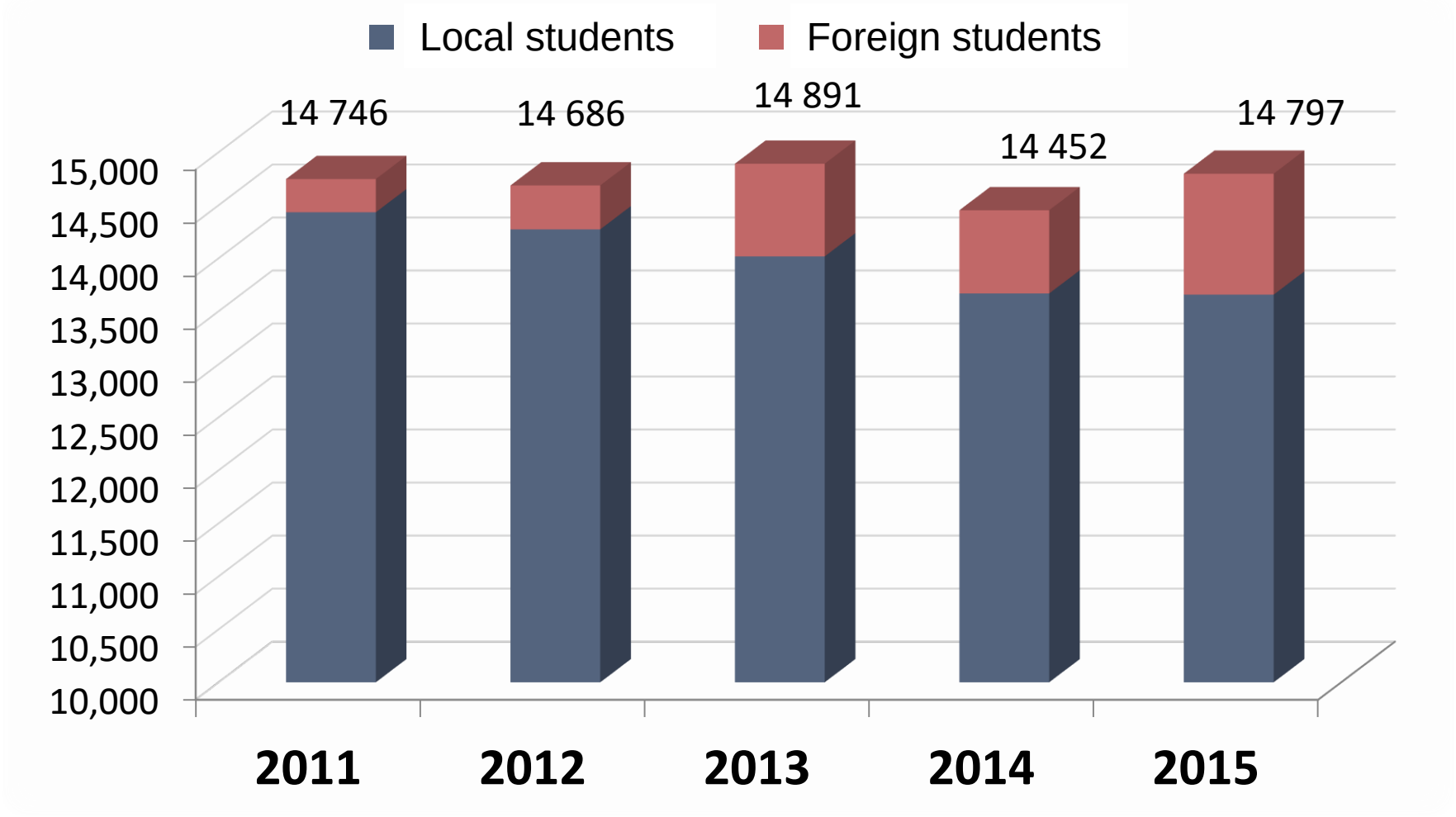
150 years old

11 faculties and filials

THE FACULTY OF POWER AND ELECTRICAL ENGINEERING

Most energy efficient building in Riga

The number of students



RTU research platforms

I. ENERGY AND ENVIRONMENT

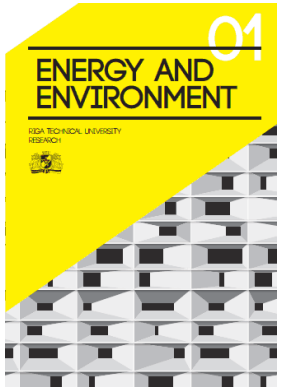
II. CITY AND THEIR DEVELOPMENT

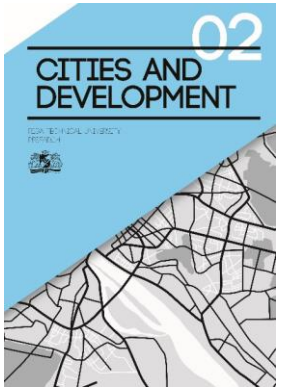
III. INFORMATION AND COMMUNICATION TECHNOLOGIES

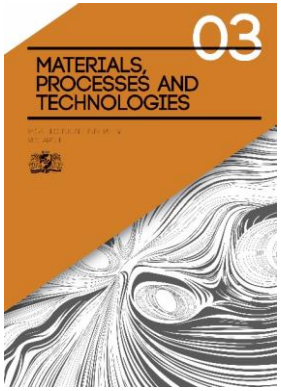
IV. TRANSPORTATION

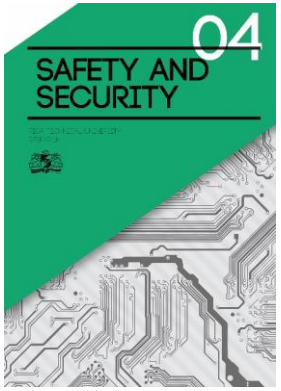
V. MATERIALS, PROCESSES AND TECHNOLOGY

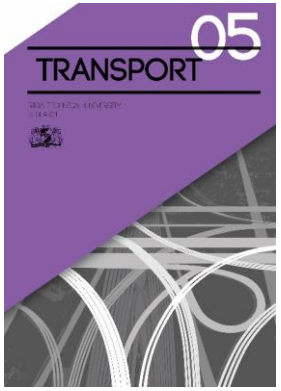
VI. SAFETY AND SECURITY

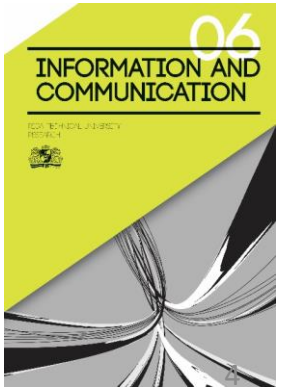






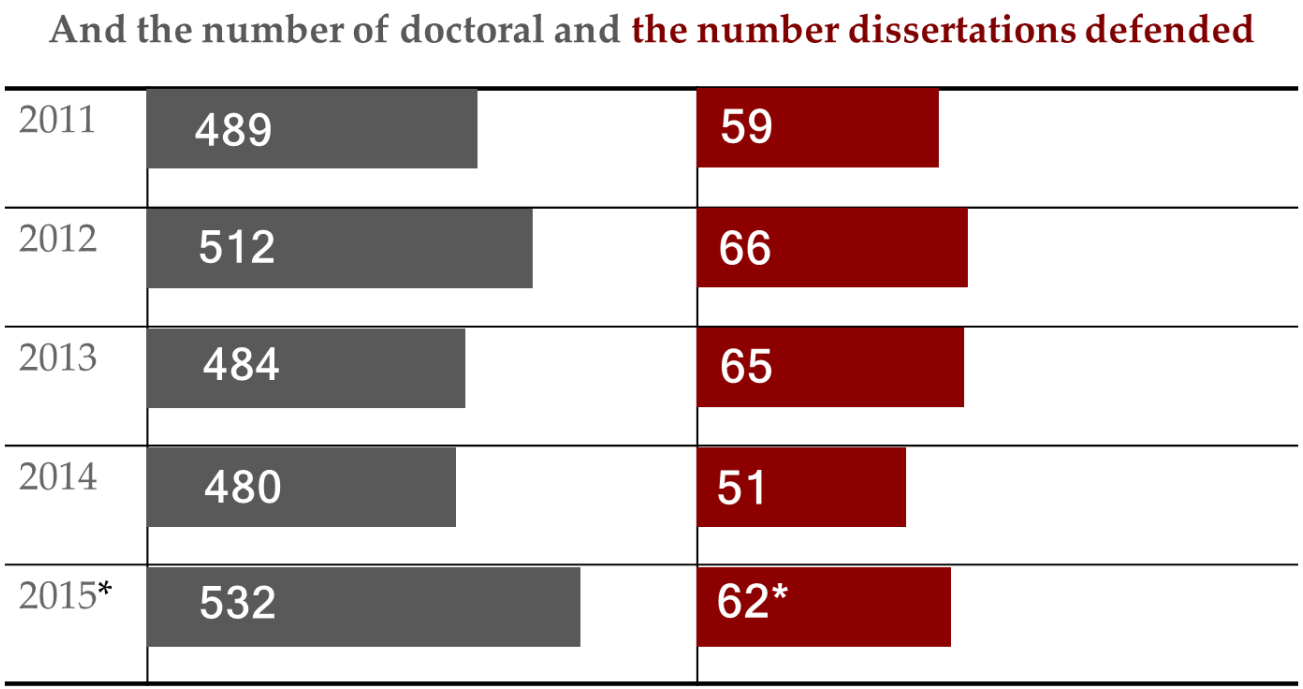






PhD

RTU offers 21 doctoral programs in engineering, natural sciences, architecture, social sciences and services.



* Prognoze

No 01.01.2015. līdz šim aizstāvēti jau 54 promocijas darbi

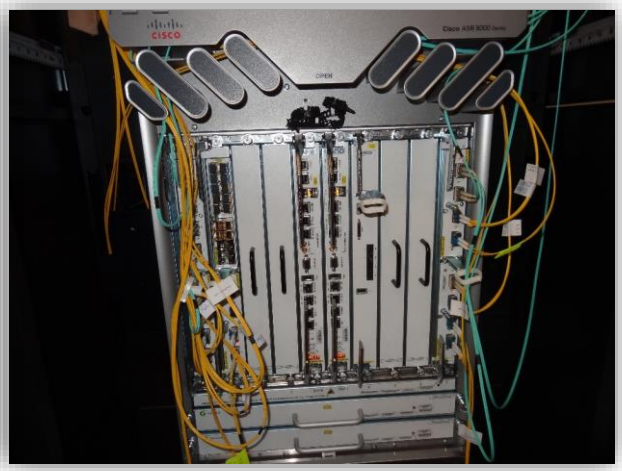
RTU infrastructure development in Kipsala

New Scientific library building

Laboratory building

RTU Kipsala swimming pool

Academic Network of HPC (high-performance computer infrastructure) center

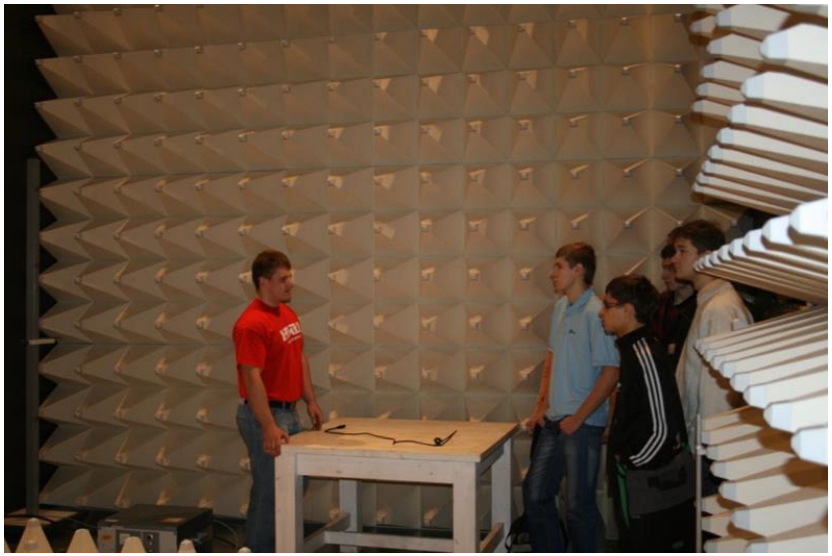


RTU women's choir «DELTA» Concert noted the 55-year anniversary

RTU graduates in politics after independence

- Latvian President of the Republic - 1
- The Prime Ministers - 3
- Ministers - 19
- European Commission Vice-President - 1
- European Union members of parliament - 2
- Parliament members - 11

Faculty of Power and Electrical Engineering



Electromagnetic Compatibility and Electric Security Research Centre

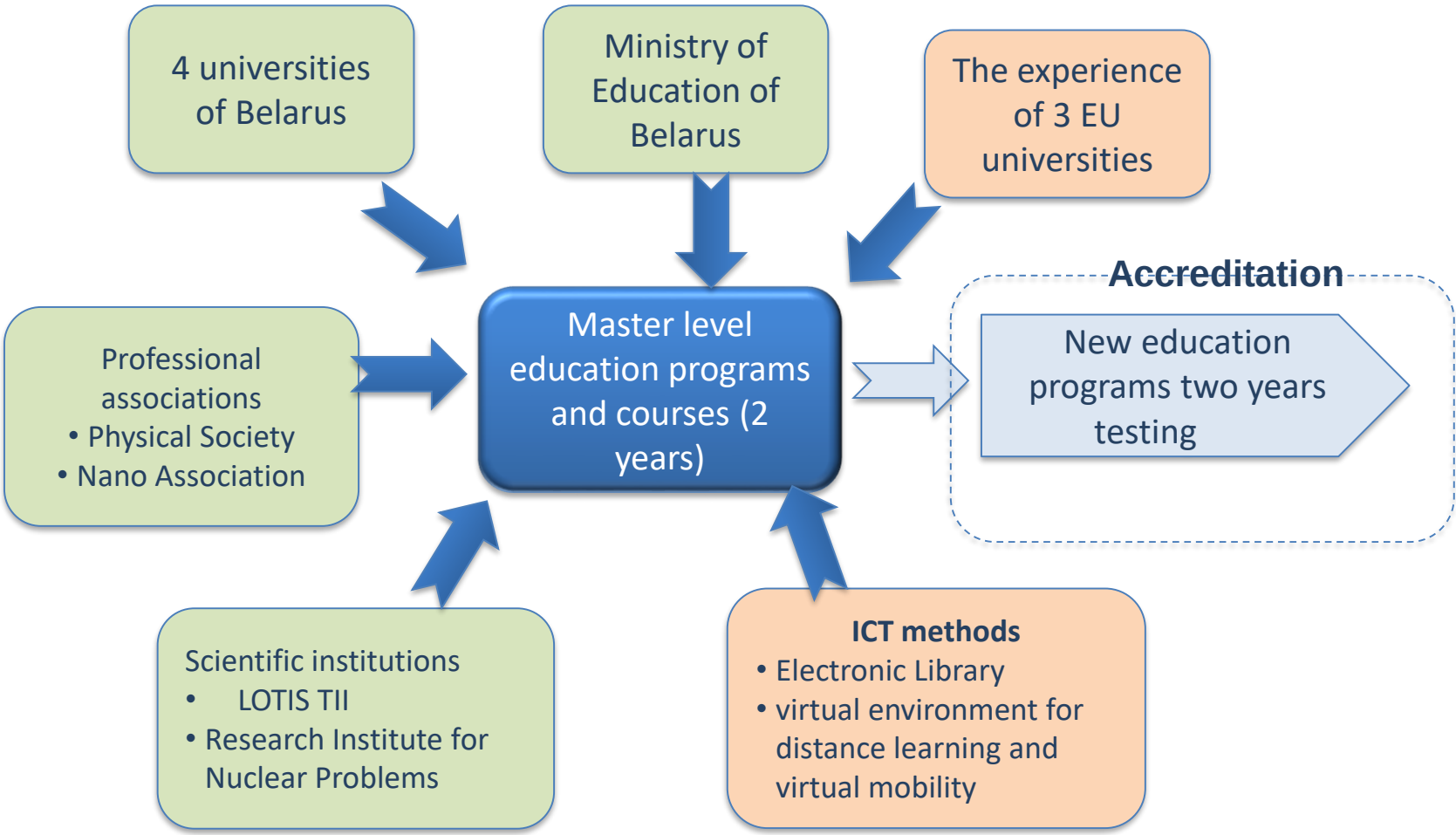
Institute of Industrial Electronics and Electrical Engineering main topics of research

- ✓ Energy Saving
- ✓ Electric Drives, DC Traction Drives
- ✓ Converters, Power Electronics
- ✓ Hydrogen Power Electronic Converters
- ✓ Control and Regulation
- ✓ Signal transmitting
- ✓ Energy storages
- ✓ Electric transport
- ✓ Non-Destructive Testing using Capacitance Method
- ✓ Analysis and optimization of public transport

European High Education Area

Goals Declaration	Objectives Measurable	Tools
Social Dimension Citizen of Europe Employability Lifelong Learning	3 cycle Learner centered Academic Recognition Quality Assurance and Enhancement	- Qualifications Framework - Learning Outcomes Levels - ECTS - European Credit Transfer and Accumulation System - Diploma Supplement - Credits and Grades - Common structure - Standards and Guidelines / Register

Project "Physics" Approach



"Physics" objectives

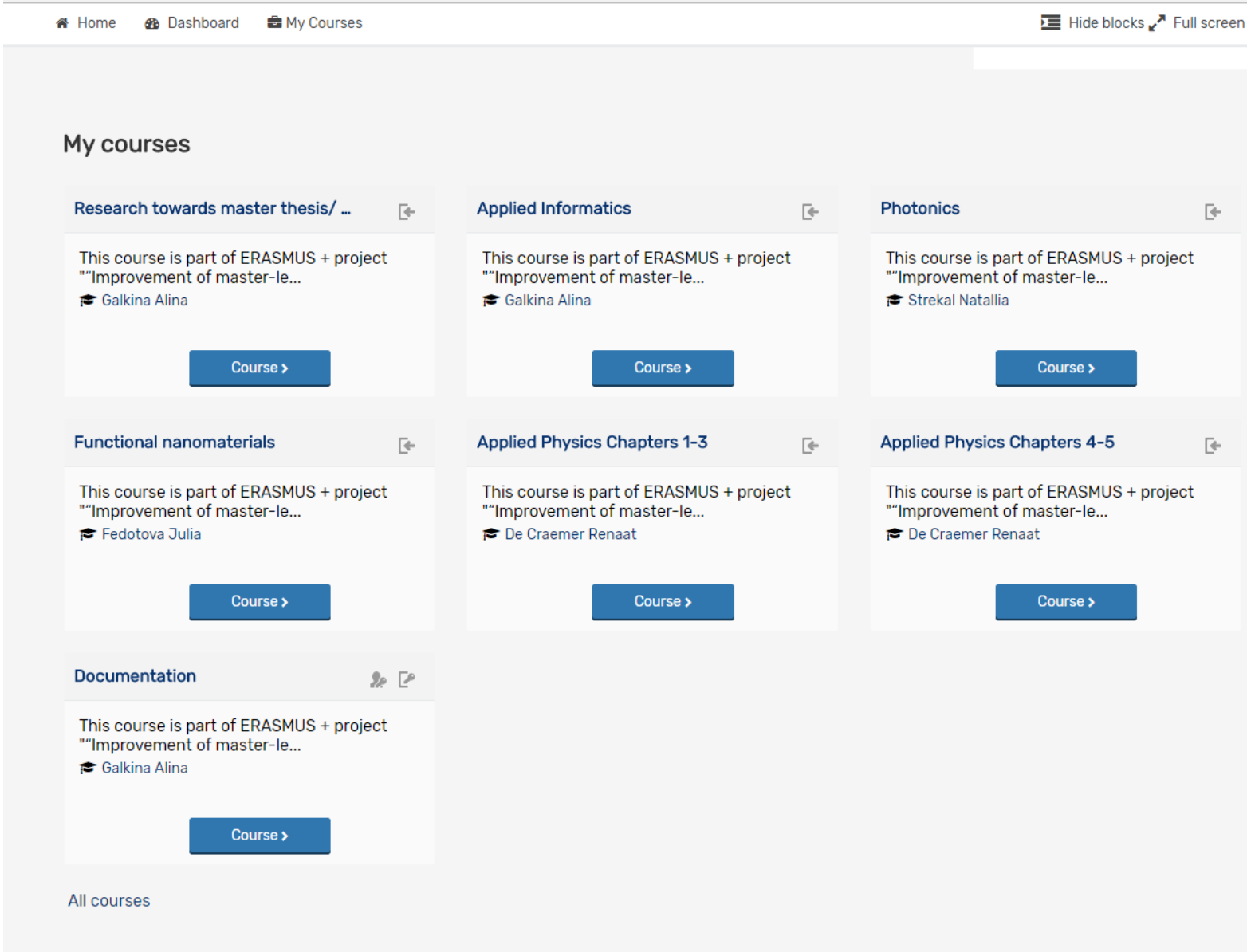
- To develop ***modern master-level programs*** in the field of functional nanomaterials, photonics and applied physics, and to implement it at four Belorussian universities;
- To develop and update courses and teaching materials for two ***master-level model educational programs*** *Functional nanomaterials and Photonics*;
- To improve teachers' qualifications and skills;
- To improve Belarusian academic staff competences for teaching of developed courses in English;
- To implement ***modern technical infrastructure*** for teaching and learning.
- To develop ***innovative ICT based teaching and learning*** environment;
- To bring the Higher Education Institutions of Belarusian ***closer to the Labour Market needs***.

Course books

1. Applied Physics (curator – KU Leuven)
2. Functional nanomaterials (curator – BSU)
3. Photonics (curator – BSU)
4. Applied Informatics (curator – RTU, *Nadezhda Kunicina*)
5. Research towards master thesis/ scientific project management (curator – The University of Cyprus)

E-environment

https://dl.bsu.by/?lang=en



E-environment

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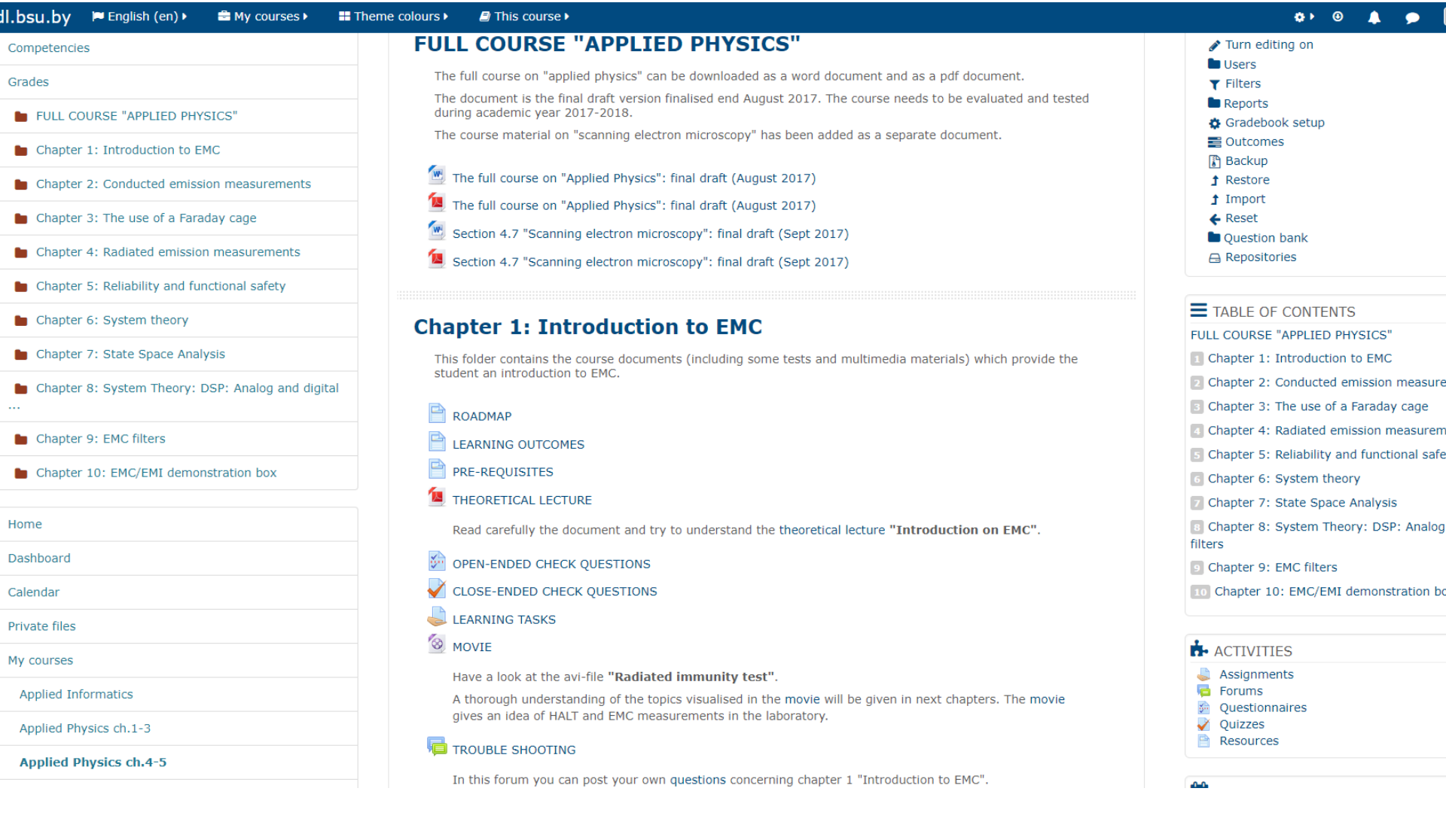

Meetings and trainings

Place	Responsible	Meeting topics and responsible for the topics	Date
Minsk	Belarusian State University and Ministry of Education	WP5: Information sessions with stakeholders	September 20th 2017
Riga	RTU	Students training in RTU (2 weeks)	September 24th – October 7th 2017
Riga	RTU	WS6: Workshops for curricula development. Courses acceptance and testing is started.	November 30th – December 1st 2017
		MC5 meeting	
Riga	RTU	Teachers training in RTU (1 week)	February 5-9th 2018
Nicosia	UCY	Students training in UCY (2 weeks)	February 2018
Minsk	GoSU/ BSU	WS7: WP2: Workshops for curricula development and testing	April 12-13th 2018
		MC6 meeting	
Nicosia	UCY	WS9: WP2: Workshops for curricula development. First testing results, acceptance.	June 27 - 28th
Minsk	BSTU	Final conference	September 2018

English language courses for teachers, June 2017

Course program 1st week

Schedule	Activity	Responsible contact
Monday 25th of September **9.00 – 12.00**	Overview schedule + main goals of mobility program Scientific projects management	Dr. A.Zabasta Prof. N.Kunicina
Monday September 25th **13.00 – 16.00**	Short campus tour. Laboratory demonstrations: solar energy, wind energy, fuel cells A walk around Old Riga	Head of laboratories A. Avotins Prof. N.Kunicina, A.Zabašta
Tuesday, September 26th **9.00 – 16.00**	Prototype development	Prof. I. Galkins
Wednesday September 27th **9.00 – 16.00**	Prototype development	Prof. I. Galkins
Thursday September 28th **9.00 – 16.00**	Prototype development -EMC laboratory	Senior researcher G.Asmanis
Friday September 29th **9.00 – 16.00**	Prototype development -EMC laboratory	Senior researcher G.Asmanis

Course program 2nd week

Schedule	Activity	Responsible contact
Monday October 2nd **11.15 – 14.00**	Scientific – visit To Riga co - generation station Getlini	Project manager Arta Legzdina, Dr. A.Zabasta, Prof. N.Kunicina
Tuesday October 3rd **9.00 – 16.00**	Lecture: the elements of automation theory	Prof. A. Ziravecka Prof. N.Kunicina
Wednesday October 4th **9.00 – 12.00**	RTU common project with CERN Introduction to applied physics disciplines photonics and nanomaterials	Prof. P. Apse-Apsitis Belarusian State University and Belarusian Physics Society
Wednesday October 4th **13.00 – 16.00**	New product development Prototype production	Prof. Elīna Gaile-Sarkane Prof. N.Kunicina, Prof. A. Ziravecka, Dr. A.Zabasta
Thursday October 5th **9.00 – 12.00**	Introduction to applied physics disciplines photonics and nanomaterials	Belarusian State University and Belarusian Physics Society
Thursday October 5th **13.00 – 16.00**	Prototype presentation preparation	Prof. N.Kunicina, Prof. A. Ziravecka, Dr. A.Zabasta
Friday October 6th **9.00 – 16.00**	Presentation of prototype The end of the seminar	Prof. N.Kunicina Prof. A. Ziravecka, Dr. A.Zabasta

Logistics

- **Access to Wi-Fi network:**

  Username: viesis.viesis

  Login: Viesis2017

- **Dropbox: “**Physics Students training in RTU September 2017”
- **WEB resources:** http://physics.rtu.lv/documentation/ ; https://dl.bsu.by/course/
- **Food**
  - A student canteen is allocated at the 1st floor of the Faculty of Power and Electrical Engineering, Azenes str. 12/1. Working time 8.00 – 17.00. Complex lunch:2.80 and 3.00 euro per person.
  - Shopping centre Olimpia across the street, were you can find a lot of café at the 2nd floor.

RTU Team

Nadezhda Kunicina,
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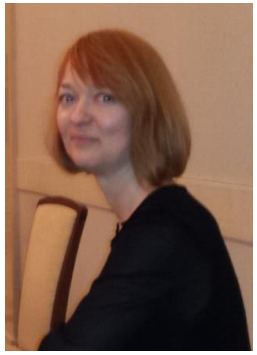
Nadezhda Kunicina, Professor, Dr.sc.ing., leading researcher
Nadezda.Kunicina@rtu.lv

Anatolijs Zabashta, Dr.sc.ing., MBA, leading researcher, "Physics" coordinator
Anatolijs.Zabasta@rtu.lv

Gundars Ashmanis, Dr.sc.ing., leading researcher



Anastasija Žiravecka, Professor, Dr.sc.ing., leading researcher
Anastasija.Ziravecka@rtu.lv

Elina Gaile-Sarkane,
Professor, Dr.sc.ing., Head of Senate of RTU

RTU Team

Inna Bunina, Associate professor, Dr.sc.ing., Inna.Bunina@rtu.lv

Pēteris Apse Apsītis, Associated Professor, Dr.sc.ing., leading researcher, Head of department

Iļja Galkins, Professor, Dr.sc.ing., leading researcher