

The 19th SEFI Mathematics Working Group Seminar

26th - 29th June, Coimbra, Portugal

Programme

Location: ISEC - Coimbra Institute of Engineering, Coimbra

Tuesday 26/6/2018

Time	Location	Event
18.00 – 20.30	DFM, Department of Physics and Mathematics	Registration and mingle

Wednesday 27/6/2018

Time	Location	Event	Speaker
8:00 – 9:00	ISEC auditorium	Registration (tea/coffee)	
9:00 – 9:30	ISEC auditorium	Welcome Addresses: Local organizers Mário Velindro, ISEC President Daniela Velichová, Chair of SEFI Mathematics Working Group	
9.30 – 10.30	ISEC auditorium	Keynote Lecture 1 (chair Daniela Velichová)	
		Teaching mathematics for engineers as the NORWEGIAN national framework says – is it possible?	Morten Brekke
10:30 – 11:00	ISEC auditorium	Tea/Coffee	
		Paper Presentations: Putting the concept of Mathematical competencies into practice (chair Burkhard Alpers)	
11:00 – 11:20	ISEC auditorium	One Competency Approach in Mathematics for Engineers	Marie Demlová; Peter Habala
11:20 – 11:40	ISEC auditorium	Teaching Engineers how to communicate mathematically: some first steps	Michael Carr; Eabhnat Ní Fhloinn
11:40 – 12:00	ISEC auditorium	RULES_MATH: New Rules for assessing Mathematical Competencies	Araceli Queiruga-Dios
12:00 – 13:00		Group Discussions on Rules for assessing Mathematical competencies (chair Burkhard Alpers)	
	DFM/109	Group 1, Group leader: Daniela Richtáriková	
	DFM/LG	Group 2, Group leader: Kirsi-Maria Rinneheimo	
	DFM/A1	Group 3, Group leader: Araceli Queiruga-Dios	
13:00 – 14:20	MR	Lunch	
14.20 – 15.00	DFM/BR	Poster presentations at the exhibition area	
		Design a strategy to decrease failure in mathematics in Engineering	M. Emília Bigotte de Almeida; Carla Fidalgo
		The use of ICT in the support of teaching and learning mathematics in engineering courses.	Arménio Correia
		Employment of Mathematical Skills in Economic Science	Martina Bobalová; Veronika Novotná
		Mathematics competencies in higher education: a case study	Cristina M.R. Caridade; Deolinda M. L. D. Rasteiro

14.20 – 15.00	DFM/BR	Poster presentations at the exhibition area	
		Implementing Computer-assisted Exams in a Course on Numerical Analysis for Engineering: Why, How, and How much does it cost?	Karsten Kruse, Christian Seifert
		Potatoes drying process – a vehicle to put into practice mathematical competencies in engineering students	Madaleno, R.O., da Silva, P.M., Castro L.M.M.N., Coelho Pinheiro, M.N.
		Using Quizzes on a Regular Basis to Motivate and Encourage Student Learning	Marjeta Škapin Rugelj; Jože Rugelj
		Mathematical Economics - Marginal analysis in the consumer behaviour theory	Jorge Marques, Rui Pascoal
		Conservative continuous flows	Marta Peña
		On Grounds for Competency Oriented Teaching and Assessment	Daniela Richtáriková
		A hybrid test for mathematics	Harry Aarts
	DFM/LG	Parallel Paper Presentations: Motivation of Students (chair Angela Schwenk)	
15:00 – 15:20		A learning center for first-year students combining professional competencies and soft skills at Mannheim University of Applied Sciences	Wiebke Werft, Susanne Kreim, Steffen Rasenat
15:20 – 15:40		New Methodologies for Teaching Math Courses in Engineering Degrees	Carla Pinto, Susana Nicola, Jorge Mendonça, Daniela Velichová, Ariane Heler
15:40 – 16:00		Effective teaching of mathematics in engineering courses	Arménio Correia
16:00 – 16:20		Widening Access to Engineering with Mathematics for STEM	C Breen, M Carr, T Brannick, P. Robinson
	DFM/ A1	Parallel Paper Presentations: Education, new trends (chair Ion Mierlus-Mazilu)	
15:00 – 15:20		Assessing Statistical Methods Competencies and Knowledge in Engineering	Deolinda M. L. D. Rasteiro, Cristina M.R. Caridade
15:20 – 15:40		Evolving of Mathematical Competencies by Blended Learning	Kathrin Thiele, Gabriela Bender
15:40 – 16:00		eduScrum - a methodological framework for a mathematical lecture in the first-year education of engineers at University of Applied Sciences. Presentation of the method and first investigations	Pia J. Raab; Anna Luther, Guido Pinkernell, Wiebke Werft
16:00 – 16:20		Future mathematics project: the experiences and practices for mathematics learning and teaching with technology	Kirsi-Maria Rinneheimo, Hanna Kinnari-Korpela, Daniela Velichová, César Benavente-Peces, Ion Mierlus-Mazilu
16.20 – 16.30	ISEC auditorium	End of the day - summary	
16:30 – 17:00	ISEC auditorium	Tea/Coffee	
17:00 – 19:30		Walking tour to the city center	
19:30 -		Dinner at own cost	

Thursday 28/6/2018

<i>Time</i>	<i>Location</i>	<i>Event</i>	<i>Speaker</i>
9.00 – 10.00	ISEC auditorium	Keynote Lecture 2 (chair Marie Demlová)	
		Mathematics for engineers and engineering mathematics, evolution in the French education system	Edwige Godlewski
	DFM/LG	Parallel Paper Presentations: Instigate students to be active learners (chair Morten Brekke)	
10:00 – 10:20		Recent Developments in Germany on Competence Orientation at School: Statistic on Final School Grades, Examples from Engineering Courses, Urgent Open Letter	Angela Schwenk, Norbert Kalus
10:20 – 10:40		INVOLVE ME AND I LEARN – video-lessons to teach math to Engineers	Cristina M.R. Caridade, Deolinda M. L. D. Rasteiro
10:40 – 11:00		Going up and down by the lift to learn Linear Algebra	Araceli Queiruga-Dios, María Jesús Santos Sánchez, Ascensión Hernández Encinas, Juan José Bullón Pérez, Jesús Martín Vaquero, Cristina Prieto Calvo
	DFM/A1	Parallel Paper Presentations: Math learners' influencers (chair Tommy Gustafsson)	
10:00 – 10:20		Mathematical Academic Malpractice in the modern age. A problem affecting Engineers.	C.D.C. Steele
10:20 – 10:40		Influence on learning outcomes by human factors	Stefanie Winkler, Ruth Leskovar, Andreas Körner
10:40 – 11:00		The contribution of ICT in the acquisition of mathematical, algorithmic and programming knowledge and skills of students of engineering	Arménio Correia, Nuno Lavado, Nuno Baeta
11:00 – 11:30	DFM	Tea/Coffee	
	DFM/LG	Parallel Paper Presentations: Math Education – reflections (chair Edwige Godlewski)	
11:30 – 11:50		Different views of Mathematicians and Engineers at Mathematics: The Case of Continuity	Burkhard Alpers
11:50 – 12:10		Reflections on student-focused initiatives in engineering mathematics education	Folashade Akinmolayan, Abel Nyamapfene, Henri Huijberts
12:10 – 12:30		The Effect of using a Project-based Learning (PBL) approach to improve engineering students' understanding of Statistics.	Fionnuala Farrell, Michael Carr
	DFM/A1	Parallel Paper Presentations: Software for teaching Maths (chair Norbert Kalus)	
11:30 – 12:00		MatLab Presentation	Helen Lomas
12:00 – 12:30		Maple Presentation	Linda Simonsen
12.30 – 12.40	ISEC auditorium	End of the day - summary	
13:00 – 14:00	MR	Lunch	

14:00		Bus to the Coimbra University	
14:30-15:15	Science Museum	Teaching Tiles	Carlota Simões (chair Deolinda Rasteiro)
15:15 – 19:30		Excursion	
20:00		Conference dinner at Quinta de São Pedro da Pousada	

Friday 29/6/2018

Time	Location	Event	Speaker
9.00 – 10.00	ISEC auditorium	Keynote Lecture 3 (chair Cristina Caridade)	
		Teaching and assessing mathematical competencies and understanding	Jaime Carvalho e Silva
10:00 – 10:15		Tea/Coffee	
10:15 – 11:15		Group Discussion on Putting the concept of mathematical competencies into practise (chair Burkhard Alpers)	
	DFM/109	Group 1, Group leader: Anna Luther	
	DFM/LG	Group 2, Group leader: Michael Carr	
	DFM/A1	Group 3, Group leader: Emily Cook	
	DFM/LG	Parallel Paper Presentations: Technology (chair Paul Robinson)	
11:30 – 11:50		Competence-based Learning in Engineering Mechanics in an Adaptive Online-Learning Environment	Markus Linke, Karin Landenfeld
11:50 – 12:10		CDF Files to learn mathematical concepts... Why not?	Rodrigues. R.C., Silva, P.M.
12:10 – 12:30		Dynamic Mathematics in Learning Management Systems	Wigand Rathmann, Alfred Wassermann
	DFM/A1	Parallel Paper Presentations: Mathematical Competencies (chair Jaime Carvalho e Silva)	
11:30 – 11:50		Mathematical Competencies through Credentials in a Practice-based Engineering Degree	Emily Cook
11:50 – 12:10		Sense and Nonsense of Teaching Math for Engineers	Reinhard Kahle
12:10 – 12:30		A New Tool for the Assessment of the Development of Students' Mathematical Competencies	Yannis Liakos, Svitlana Rogovchenko, Yuriy Rogovchenko
12.30 – 12.40	ISEC auditorium	End of the day - summary	
12.40 – 12.50	ISEC auditorium	20th SEFI MWG seminar in 2020 Presentation	
12:50 – 13:00	ISEC auditorium	Closing	
13:00 – 14:00	MR	Lunch	

Note: MR – Multipurpose Room; LG – Leonor Gouveia auditorium; BR – Biomedical Room; A1 – DFM auditorium.