

Course title: **New ways of teaching mathematics and physics – practical and cross-curricular approach**  
Ljubljana 20<sup>th</sup> – 24<sup>th</sup> August 2012

## Program

### Sunday 19<sup>th</sup> August

Arrival of the Participants for Teacher's Professional Development

All the sessions/meetings will be held in the room "Fizikalni laboratorij" at the first floor of the *Diocesan Classical Gymnasium* at *St. Stanislav's Institution*, Zavod sv. Stanislava, Štula 23, 1210 Ljubljana, Slovenia – EU.

### Monday 20<sup>th</sup> August

Time	Approx.	Session	Theme	Presenter/Moderator
8-12	30 min	Presentation	Welcome, Introduction	Tine Golež, Simon Zell
	30 min	Discussion	Participants introduce themselves	
	40 min	Presentation	Calculus; from physics ...	Tine Golež
	15 min	Coffee (app. at 9:40)		
	120 min	Presentation	Calculus; from physics ... [see Wednesday at 14]	Tine Golež
12-13	Lunch			
13-20	420 min	Excursion (Workshop)	Measurements in real world – field work incorporated into science teaching (tourist) excursion	Gregor Bregar, Tine Golež

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**Tuesday 21<sup>st</sup> August**

Time	Approx.	Session	Theme	Presenter/Moderator
<b>8-12</b>	45 min	Presentation	Technology, motivation, teaching	Damjan Kobal
	60 min	Workshop	Hands on simple techno-math ideas	Damjan Kobal
	15 min	Coffee		
	120 min	Workshop-CL	From real to virtual with GeoGebra	Damjan Kobal
<b>12-13</b>	Lunch			
<b>13-15:15</b>	60 min	Presentation	Interdisciplinary teaching involving geometry	Simon Zell
	15 min	Coffee		
	60 min	Presentation	Experiments and concept of variable	Simon Zell
<b>15:15</b>	Free			

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**Wednesday 22<sup>nd</sup> August: PARALLELE SESSIONS**

**MATH TEACHERS:**

Time	Approx.	Session	Theme	Presenter/Moderator
<b>8-12</b>	60 min	Presentation	Interdisciplinary lessons between mathematics and biology	Simon Zell
	60 min	Presentation	Interdisciplinary lessons between mathematics and biology	Simon Zell
	15 min	Coffee		
	60 min	Workshop	Creating interdisciplinary lessons between math and science	Simon Zell
	45 min	workshop	Creating interdisciplinary lessons between math and science	Simon Zell

**PHYSICS TEACHERS:**

Time	Approx.	Session	Theme	Presenter/Moderator
<b>8-12</b>	60 min	Presentation	Advanced physics experiments for A-level students	Iztok Kukman, Gregor Bregar
	60 min	Workshop	Advanced physics experiments for A-level students	Iztok Kukman, Gregor Bregar
	15 min	Coffee		
	60 min	Workshop	Advanced physics experiments for A-level students	Iztok Kukman, Gregor Bregar
	45 min	Workshop	Advanced physics experiments for A-level students	Iztok Kukman, Gregor Bregar

**ALL TOGETHER:**

Time	Approx.	Session	Theme	Presenter/Moderator
<b>12-13</b>	Lunch			
<b>13-15:30</b>	150 min	Presentation, Workshop	... towards mathematics	Tine Golež

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**Thursday 23<sup>rd</sup> August**

Time	Approx.	Session	Theme	Presenter/Moderator
<b>8-12</b>	105 min	Workshop-CL	Learning GeoGebra	Damjan Kobal
	15 min	Coffee		
	60 min	Workshop-CL	Teaching with GeoGebra	Damjan Kobal
	60 min	Workshop-CL	Teaching with GeoGebra	Damjan Kobal
<b>12-13</b>	Lunch			
<b>13-14:30</b>	90 min	Workshop	Physics experiments prepared for 2nd and 3rd graders lab-work <b>or</b> Matura Math – state prepared final exam for all secondary school students (Parallele session for physics and math teachers)	Gregor Bregar, Iztok Kukman Marina Rugelj
<b>15 - 22</b>	Excursion – <i>ad libitum</i>			

**Friday 24<sup>th</sup> August**

Time	Approx.	Session	Theme	Presenter/Moderator
8-12	50 min	Presentation	Modelling motion: the case of horizontal launch	Tine Golež
	40 min	Presentation	Modelling motion: the case of shooting in water	Tine Golež, Gregor Bregar
	15 min	Coffee		
	40 min	Presentation	Science and/or common sense	Damjan Kobal
	60 min	Discussion	Final discussion + evaluation	All
	35 min	Conclusion and farewell		