

An Introduction to the Dynamic Mathematics Software GeoGebra

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4 December 2009

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- ◆ Established under the aegis of the Shannon Consortium. Partner institutions are LIT, Mary Immaculate and IT Tralee.
- ◆ Strategic Innovation Fund (SIF 2)/HEA 2008-2011.
- ◆ Co-directors Prof. John O'Donoghue & Dr. George McClelland.
- ◆ 10 full time staff members plus 14 full/part time Masters and PhD students.

To address issues in teaching and learning in science and mathematics by:

- ◆ Conducting best practice research into teaching and learning in science and mathematics.
- ◆ Collaborating and sharing information with all third level institutes (key requirement).
- ◆ Provision of advice to the sector (key activity).

Design, inform, advise on, and deliver:

Nationally recognised courses and nationally accessible routes for

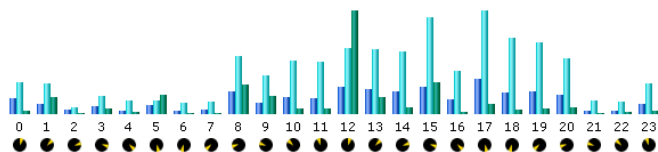
- ◆ Top-up qualifications.
- ◆ Qualification of out-of-area teachers of mathematics and/or science.

- ◆ GeoGebra (www.geogebra.org), developed by Markus Hohenwarter in 2001, is a FREE mathematics resource for exploring the areas of Geometry, Algebra, Calculus and Statistics.
- ◆ GeoGebra allows users to create constructions using points, lines, circles, etc. and then change them dynamically afterwards.
- ◆ GeoGebra also offers users the possibility of entering equations, coordinates and commands directly via the input bar.
- ◆ GeoGebra also has the capability of dealing with variables, finding derivatives and carrying out other more complex mathematical calculations.

Mathematical Support via Technology

- ◆ Technology provide opportunities for new forms of interaction not available via traditional pedagogical approaches.
- ◆ Technology enables learning to become much more flexible which is becoming an increasingly important factor as people have busier lifestyles and more students are registered for part-time courses. It promotes the notion of “24-7” support.
- ◆ Current generation students are more familiar with technology than previous generations.
- ◆ Technology may provide a more “economical” means of teaching and offering support.

24-7 Support



Hours	Pages	Hits	Bandwidth	Hours	Pages	Hits	Bandwidth
00	87	183	10.60 MB	12	157	379	359.71 MB
01	56	174	58.07 MB	13	142	369	59.35 MB
02	21	35	1.45 MB	14	128	355	23.25 MB
03	40	99	18.11 MB	15	154	555	110.91 MB
04	18	73	5.27 MB	16	80	245	7.04 MB
05	51	75	64.53 MB	17	200	590	35.48 MB
06	15	60	3.64 MB	18	122	437	12.71 MB
07	20	69	3.14 MB	19	126	411	17.90 MB
08	125	334	100.41 MB	20	105	318	23.27 MB
09	59	219	63.55 MB	21	18	77	3.96 MB
10	97	306	16.47 MB	22	18	66	5.16 MB
11	87	300	16.39 MB	23	53	176	8.82 MB

- ◆ Look at existing Applets on the CEMTL/NCE-MSTL website.
- ◆ Introduce and explain features of GeoGebra.
- ◆ Demonstrate how easy it is to create your own applets using GeoGebra.