GeoGebra Institute of Sheffield

GIS: http://research.shu.ac.uk/geogebra/index.html

Teaching with GeoGebra

Developing your technical skills to create learning resources

Delivered by: Mark Dabbs
From 10:00am **till** 15:30pm

Please contact m.f.dabbs@shu.ac.uk for more information.

Course cost: Free to all participants.

GeoGebra software

GeoGebra is free, open source mathematics software for teaching and learning. It has flexible, easy access so it can be used to quickly illustrate an impromptu idea or, more deliberately to demonstrate a topic from a previously constructed and saved file. It also has a very intuitive and pupil-friendly interface which makes it ideal for pupil investigation work. GeoGebra has a world-wide and rapidly growing number of users, many of whom contribute their own files freely to an on-line, categorised database of materials (www.geogebratube.org/).

Geogebra is not just about Euclidean Geometry. It also has a very powerful dynamic graph plotter; a spreadsheet containing a comprehensive set of statistical and probability functions; a computer algebra system; 2D and 3D plotting windows, a programming environment and much more!

Course dates

Beginners Level	Intermediate Level
(1) Saturday 22nd November	(1) Saturday 28th March
(2) Saturday 17th January	(2) Saturday 23rd May
Advanced Level	
(1) Saturday 18th July	

Both Beginners and Intermediate Level courses will run twice over with the same content, respectively.

Course descriptions

All level courses will focus on **developing your technical skills** in using GeoGebra to create resource files for the classroom. Exemplar material from Key Stages 3, 4 and 5 will illustrate what is possible. You will be supported in creating your own files which:

- Use GeoGebra to construct geometrical objects (and diagrams) and to illustrate their properties. Examples include: the circle theorems, transformations of shapes, etc.

- Use GeoGebra as a graph plotter. Examples include: sequences such as: $U_n = 3n + 1$, functions such as $y = mx + c$, $y = ax^2 + bx + c$, $y = \sin(x - a^\circ)$, with parameters varied dynamically in real-time.

- Use GeoGebra as a spreadsheet. Examples include: sequences dynamically linked to their plot, random data sets, averages, stem and leaf diagrams, box plots, scatter and cumulative frequency graphs.

- Link both Graphics Windows to create dynamic loci that illustrate geometric relations. For example, the area of a rectangle of fixed perimeter alters with its width. This can be investigated with an interactive diagram and an associated graph of area against width.

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