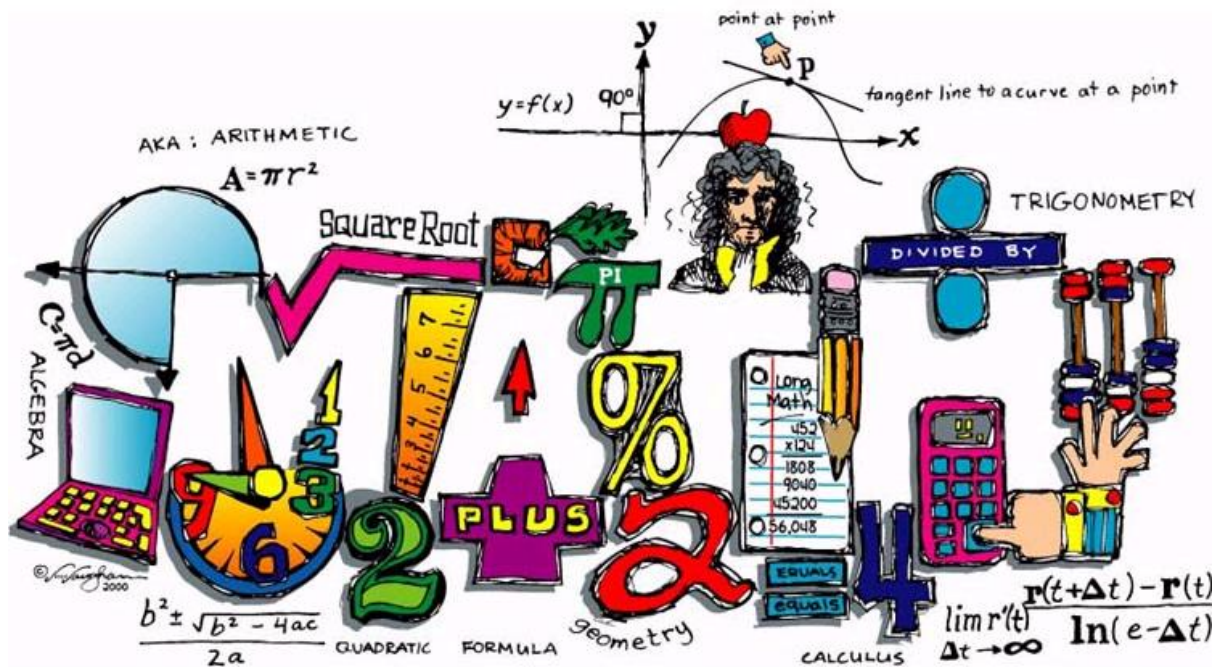


# Mathematics Department



## Staff

Head of Mathematics – Andy Dolan

Teachers of Mathematics – Bernie Mulligan, Adrian McAlary, Terri Lagan, Catherine Hyland, Joe Doherty, Margaret Kelly, Teresa McBrearty, Naomi Hamilton, Mark McCrea, Katy Herron, Ciaran Daly, Ann Gormley, Michelle Campbell and Caroline Browne.

## Aims of the Department

1. To help pupils to understand, appreciate and enjoy mathematics.
2. To provide pupils with mathematical skills, concepts and the language necessary to equip them to meet the demands of a complex society
3. To help pupils to apply their concepts, skills and language across the curriculum
4. To cultivate a logical approach to decision making and problem solving.
5. To provide each pupil with some formal recognition of his/her time studying Maths in Holy Cross College.
6. To provide an atmosphere conducive to good social integration.

### *Description of the curriculum*

In addition to developing mathematical skills studying maths also improves ...

- *Analytical Skills* – clear thinking, attention to detail, ability to follow complex reasoning, ability to understand and construct logical arguments.
- *Communication skills* – ability to answer questions clearly and to communicate an argument precisely and logically, both orally and in written form.
- *Investigative Skills* – knowing where and how to find information.
- *Learning Skills* – ability to understand difficult concepts and apply them to a problem.
- *Problem Solving Skills* – being able to present a solution clearly, take a flexible approach, tackle a problem with confidence and appreciate when to seek help.
- *Self management* – thorough approaches to work, time management, ability to work independently, determination.
- *Team Work* – students often work together to solve problems.

### *Key Stage 3*

The aim of Mathematics at KS3 is to provide pupils with the opportunities to develop:

- knowledge and understanding of:
  - Number
  - Algebra
  - Shape, Space and Measures
  - Handling Data;
- knowledge and understanding of personal finance issues; and skills to enable competent and responsible financial decision making;
- the application of mathematical skills to real life and work situations;
- the creative use of technology to enhance mathematical understanding;

by demonstrating:

- creative thinking in their approach to solving mathematical problems;
- increasing competence in mental mathematics skills;
- increasing competence in pencil and paper methods;
- increasing confidence in the use of mathematical language and notation; practical skills using technology.

### *Key Stage 4*

Pupils are either entered for the two year CCEA GCSE Modular course.

The top twenty students entering Year 11 are given the opportunity to complete their GCSE in one year followed by the GCSE Further Mathematics course in Year 12.

### **GCSE Foundation Tier**

<b>Content</b>	<b>Assessment</b>	<b>Weighting</b>	<b>Availability</b>
----------------	-------------------	------------------	---------------------

Unit T2:	<b>External written examination <u>with</u> calculator</b>  <b>1 hour 30 minutes</b>	45%	Summer Year 11
Unit T5: Foundation Completion Test (Compulsory)	<b>2 external written examinations:</b>  • Paper 1 <u>without</u> calculator 1 hour  • Paper 2 <u>with</u> calculator 1 hour	55%	Summer Year 12

### GCSE Higher Tier

Content	Assessment	Weighting	Availability
Unit T3:	<b>External written examination <u>with</u> calculator</b>  <b>2 hours</b>	45%	Summer Year 11
Unit T4:  <i>Note: Higher score of T3 or T4 counts</i>	<b>External written examination <u>with</u> calculator</b>  <b>2 hours</b>	45%	January Year 12
Unit T6: Higher Completion Test (Compulsory)	<b>2 external written examinations:</b>  • Paper 1 <u>without</u> calculator 1 hour 15 minutes  • Paper 2 <u>with</u> calculator 1 hour 15 minutes	55%	Summer Year 12

### Key Stage 5

Pupils complete CCEA AS and A2 exams

AS Modules: C1, C2 and S1/M1 Summer Year 13

A2 Modules: C3, C4 and S2 Summer Year 14

## *Careers*

Mathematics A level students and graduates are in high demand by employers. A qualification in maths will make your students stand out from a crowd. Employers recognise the importance of maths qualifications and reward accordingly!

Those with maths A level earn on average around 10% more than those without.

The average graduate starting salary is £17 715. However, the average starting salary for a maths graduate is £19 342.

A person with a maths degree can expect to earn £220 000 more over their lifetime than a person whose education ceased at A level.

Don't forget many courses or jobs specify GCSE Grade C in maths as a minimum entry requirement.

- **Finance and Banking**

Accountant, Auditor, Credit manager, Investment banker, Stock broker

- **The Natural and Life Sciences**

Bioinformatician, Climatologist, Geophysicist, Meteorologist, Oceanographer, Uncertainty analyst, Pharmacologist, Geneticist

- **Art, Design and Music**

Multimedia specialist, Computer game designer, Musician, Designer

- **Business Consultancy and Operational Research**

Data analyst, Business development manager, Operational researcher, Actuary, Management consultant

- **Engineering**

Aerospace engineer, Civil engineer, Design engineer, Medical engineer, Sports engineer, Mechanical engineer, Electrical engineer, Marine engineer, Structural engineer, Technical brewer, Physicist, Naval engineer, Building technician

- **Actuary and Insurance**

Actuary, Risk manager, Loss adjuster, Insurance broker, Insurance claims settler, Pensions manager

- **IT and Computers**

IT product developer, Technical support technician, Computer games tester, Forensic computer analyst, Software developer, Web designer

- **Medicine and Health**

Medical statistician, Medical laboratory assistant, Medical physicist

- **Education**

Maths teacher, Primary school teacher, Numeracy co-ordinator, Special needs teacher, Deputy head teacher, Head teacher, Research mathematician

- **Other Sectors**

Defence and the Military, Space and Astronomy, Science Communication and the Media, Sport

### *Extra Curricular*

After School Exam Revision Classes

### *Web links*

For specifications and course details of the GCSE and AS/ A level content:

#### **GCSE:**

<http://www.rewardinglearning.org.uk/qualifications/Results.aspx?g=2&t=0&s=62&dt=0&v=0&f=0&d=r>

#### **GCSE Further Mathematics**

<http://www.rewardinglearning.org.uk/qualifications/results.aspx?g=2&t=0&s=143&dt=0&v=0&f=0&d=r>

#### **A Level Mathematics**

<http://www.rewardinglearning.org.uk/qualifications/results.aspx?g=1&t=0&s=62&dt=0&v=0&f=0&d=r>