Become a distinctive graduate in Mathematics

The programmes in Mathematics will allow you to develop your intellectual, personal and professional capabilities. You will be equipped to progress to a career, or further study in the subject. Although many graduates do not use explicitly the mathematics they have learnt, the programmes provide a number of generic skills which are seen as extremely desirable by many employers. Generally, programmes at Keele will provide you with ten graduate attributes, which will be of value in your life and career, whether or not this is in the field of mathematics. If you studying a Dual Honours programme, with Mathematics as one component, then these attributes will also be addressed in you other Principal subject.

What are Keele’s graduate attributes and where in the Mathematics programmes will I develop them?

The ten attributes are listed below. Some of these are developed throughout the programmes, others in specific modules. What follows will help you recognise and highlight the skills and aptitudes you have gained.

1. An open and questioning approach to ideas, demonstrating curiosity, independence of thought and the ability to appreciate a range of perspectives on the natural and social worlds:

Lectures, Examples Classes and assignments develop an open and questioning approach to ideas, curiosity and independence of thought. Assignments and projects develop independent thought, reasoning, analysis and logical and mathematical argument. The ability to appreciate a range of perspectives on the natural and social worlds is developed in a number of applied mathematics options at all three levels.

2. An appreciation of the development and value of your chosen subjects of study, awareness of their contexts, the links between them, and awareness of the provisional and dynamic nature of knowledge:

This is addressed implicitly throughout the programme.

3. Information literacy: the ability to locate, evaluate and synthesise large amounts of frequently conflicting information, ideas and data:

This is not appropriate in most Mathematics modules but students are encouraged to make extensive use of the Keele Learning Environment, the library and the computing laboratory. Level 3 projects often involve locating and evaluating information from a number of different sources.

4. The ability creatively to solve problems using a range of different approaches and techniques, and to determine which techniques are appropriate for the issue at hand:
This ability is developed throughout the programme through lectures, Examples Classes and a variety of assessment methods. It is specifically addressed in Level 1 ‘Applicable Mathematics’, Level 2 ‘Mathematical Modelling’ and level 3 projects.

5. An appreciation of the social, environmental and global implications of your studies and other activities, including recognition of any ethical implications:

This is not explicitly covered in Mathematics programmes at present, although there is an opportunity to develop this attribute by opting for a Level 3 project.

6. The ability to communicate clearly and effectively in written and verbal forms for different purposes and to a variety of audiences:

Modules in Mathematics are assessed using a variety of methods, including problem sheets, class tests, mini-projects, group presentations and examinations. Part of the assessment of Level 3 projects involves an oral and visual presentation. Participation in Examples Classes provides practice in communication skills. In some modules, group work in examples classes is encouraged to develop further the ability to communicate effectively with peers.

7. The knowledge, skills, self-confidence and self-awareness actively to pursue your future goals:

This is developed throughout the programme. In particular, it is addressed by having regular discussions with Personal Tutors, module tutors and lecturers, and supervisors of Level 3 projects.

8. The ability and motivation to participate responsibly and collaboratively as an active citizen in the communities in which you live and work:

There are opportunities to contribute to Open and Visit Days, serve on the Staff-Student Liaison Committee and also on the Mathematics Courses Committee.

9. A professional and reflective approach, including qualities of leadership, responsibility, personal integrity, empathy, care and respect for others, accountability and self-regulation:

This is provided by group assignments in certain Level 2 modules and group mini-projects in certain Level 1 and Level 2 modules. There is also an opportunity for personal development planning.

10. The flexibility to thrive in rapidly changing and uncertain external environments and to update skills and knowledge as circumstances require:
This is provided by an opportunity to study abroad for one semester during the second year.