

Actuarial Science (1 Year) [MSc]

The MSc in Actuarial Science programme is fully accredited by the Institute and Faculty of Actuaries (IFoA), the official professional body of actuaries and the insurance industry in the UK. This entails there are regular meetings between the programme committee and representatives of the IFoA concerning the state and development of the programme. Furthermore students on this MSc programme can earn exemptions for some of the exams that are part of the education towards (fully) qualified actuary offered by the IFoA. In particular, exemptions for the IFoA exams CT3, CT4, CT6 and CT8 are obtained by students who perform satisfactory (currently, 'satisfactory' means an overall average in the taught component of at least 65% and all marks should be at least 50%). Students who don't satisfy these criteria can potentially still be awarded one or more of the above four exemptions provided their performance in the courses relevant for the exemption(s) under consideration is satisfactory. This will be decided on a case by case basis at discretion of the Independent Examiners (representatives of the IFoA). It should be noted that this programme has not been designed with maximising the number of exemptions for students in mind; instead the philosophy is to provide students with a strong and future proof grounding in the mathematics crucial for a modern actuary.

The programme is suited for those with a good first degree in mathematics or a degree with substantial mathematical content.

The programme combines elements from Mathematical Finance, Statistics and more specialised actuarial topics such as mortality models, risk theory and the use of Bayesian statistics to name a few in order to provide a student with a working knowledge of all the main mathematical techniques and concepts present in modern actuarial practice.

Above and beyond that the program offers an intensive and rigorous education in the probabilistic concepts that are at the core of the topics studied, thus providing a successful student with the mathematical skills and tools necessary to be ready for future developments in the actuarial field as well as to be eligible for a broader range of employment sectors, including for example financial and risk management.

In the summer dissertation period, in addition to the usual academic projects there are normally also a number of projects available in which a topic suggested by an industrial partner is studied (i.e. a 'real life' actuarial problem) and/or a number of paid internships in which some 'business as usual' is combined with working on the relevant topic and dissertation. All types of projects/internships are open to all students, and are assigned on the basis of student's preferences. However for the internships normally a (minimal) application procedure is organised which requires students to submit some paperwork (a CV etc.) and to attend a short interview with the partner in question. This partner also decides which students to invite for the internships. During such internships and other industrial projects students are normally supervised by a team consisting of one or more people from the industrial partners and one or more academics.

Course descriptions on each course unit includes information on assessment criteria's, lecturer, syllabus, learning outcomes, etc., and they are available from the 'My Course' tab in 'My Manchester' by searching the subject code or you can browse them from the Schools 'Study' website.

Level 6 course units

Description	Semester	Requirement	Credit Rating	Level
MATH67201 - Martingales Theory for Finance	1	Mandatory	15	6
MATH69511 - Actuarial Models 1	1	Mandatory	15	6
MATH69531 - General Insurance	1	Mandatory	15	6
MATH69551 - Quantitative Risk Management	1	Mandatory	15	6
MATH68032 - Time Series Analysis and Forecasting in Finance	2	Mandatory	15	6
MATH68052 - Generalised Linear Models and Survival Analysis	2	Mandatory	15	6
MATH69102 - Stochastic Modelling in Finance	2	Mandatory	15	6
MATH69542 - Risk Theory	2	Mandatory	15	6