New versus old 1st year modules.

These notes provide some more information about the relationship between the 1st year modules in 2019/20 and the modules from previous years. They should help you to find suitable practice past exam and January test questions on the Maths Central Blackboard site. They should also help you to locate relevant lecture notes (official or unofficial) from previous years: for example, on some lecturers' websites or the MathSoc site.

What is provided here is only a brief outline: your lecturers may provide more information about what past exam questions they think are relevant for your revision, or provide you with additional practice material.

MATH40001/9: Introduction to University Mathematics.
The first two sections formed a large part of M1F: Foundations of Analysis.
The material on vectors and geometry in 2 and 3-dimensional space was in M1GLA: Geometry and Linear Algebra.

MATH40002/40010: Analysis 1/ Analysis for JMC (term 1 only).
Term 1: The early material on real numbers, countability, sup and inf was covered in M1F: Foundations of Analysis. The rest of the material was covered in M1P1: Analysis 1.
Term 2: The material on continuity and differentiation was covered in M1P1: Analysis 1. The 2nd year module M2PM2: Analysis 2 contained material on Riemann integration of functions of a single real variable.

MATH40003: Linear algebra and groups
Term 1: The material on systems of linear equations, matrices, vector spaces was covered in M1GLA. Linear maps and change of basis were covered in detail in M1P2: Algebra 1.
Term 2: Determinants and eigenvalues of 2×2 and 3×3 matrices were covered in M1GLA. The full theory was covered in the 2nd year module M2PM2: Algebra 2. The group theory was done in M1P2 (with a few topics, such as isomorphisms and homomorphisms not covered until M2PM2). M1P2 also included material on Rings, which will not be covered until year 2.

MATH40004/ 40011: Calculus and Applications/ Calculus for JMC (term 1 only)
Term 1: The material on limits, differentiation and integration was covered in M1M1: Mathematical Methods 1. Fourier series were covered in M2AA2: Multivariable Calculus.
Term 2: The material on ODEs was contained in M1M1 and M1M2; the material on multivariable calculus was in M1M2. Fourier transforms were covered in M2AA2.

MATH40005: Probability and Statistics
Term 1: The material on axioms of probability, counting arguments, definitions of random variables and common distributions was covered in M1S in previous years.
Term 2: This is a new (half of a) module, there are no corresponding exam questions from previous years. Linear regression and maximum likelihood estimation were covered in M2S1 in previous years.

MATH40007: Introduction to Applied Mathematics
This is a new module. There are no corresponding exam questions from previous years.

MATH40012: Calculus, Algebra and Analysis for JMC
The relevant modules here are M1J1/2.