COURSE SPECIFICATION FORM
for new course proposals and course amendments

Department/School:	**Mathematics**	Academic Session:	**2020-21**
Course Title:	Combinatorics	**Course Value:** (UG courses = unit value, PG courses = notional learning hours)	200 h
Course Code:	MT5454	**Course JACS Code:** (Please contact Data Management for advice)	G100
Availability: (Please state which teaching terms)	Term 1	**Status:**	Optional Condonable
Pre-requisites:	An undergraduate course in discrete mathematics	**Co-requisites:**	-
Co-ordinator:	-		
Course Staff:	-		
Learning Objectives:	In this module students will be introduced to the discrete side of mathematics. The main theme could be described as "How to count?". To this end a wide range of different techniques will be introduced and applied to interesting examples.		
Learning Outcomes:	Upon completion of this module, a student should be able to demonstrate an understanding of a range of combinatorial techniques such as bijective proofs, principle of inclusion and exclusion, generating functions, permutations and Ramsey theory, and be able to apply these to solve combinatorial problems. The student should be able to demonstrate a breadth of understanding appropriate for an M-level course and demonstrate independent learning skills.		
Teaching & Learning Methods:	30 hours of lectures. 170 hours of private study, including work on problem sheets and examination preparation. This may include discussions with the course leader if the student wishes.		
Key Bibliography:	Discrete Mathematics −N L Biggs (Oxford UP) 510 BIG. Combinatorics: Topics, Techniques, Algorithms – P J Cameron (Cambridge UP) 512.23 CAM. Invitation to Discrete Mathematics = J Matoušek and J Nešetřil (Oxford UP) 512.23 MAT		
Formative Assessment & Feedback:	Formative assignments in the form of 8 problem sheets. The students will receive feedback as written comments on their attempts.		
Summative Assessment:	**Exam:** A two hour written exam: 75%. **Coursework:** Miniproject: 10% Set exercises: 15%.		