COURSE SPECIFICATION FORM
for new course proposals and course amendments

Department/School:	Mathematics	**Academic Session:**	2020-21
Course Title:	Field Theory	**Course Value:** (UG courses = unit value, PG courses = notional learning hours)	200 h
Course Code:	MT5485	**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 covering the elementary theory of groups, rings and fields.	**Co-requisites:**	-
Co-ordinator:			
Course Staff:	-		
Learning Objectives:	This module will introduce some of the basic theory of field extensions, and applies the theory to solve various problems including some dating back to the ancient Greeks.		
Learning Outcomes:	By the end of the module the student will understand simple field extensions of finite degree; be able to classify finite fields and determine the number of irreducible polynomials over a finite field; state the fundamental theorem of Galois theory; compute in a finite field; understand some of the applications of fields. The student will 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 lecturer if the student wishes.		
Key Bibliography:	Introduction to Finite Fields and their Applications – R. Lidl and H. Niederreiter (Cambridge UP 1994); Library reference 512.4 LID. Galois Theory – I. Stewart (Chapman and Hall 2003); Library reference 512.4 STE.		
Formative Assessment & Feedback:	Formative assessment 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%.		

Updated December 2019