COURSE SPECIFICATION FORM

for new course proposals and course amendments

Department/School:	**Mathematics**	**Academic Session:**	**2020-21**
Course Title:	Number Theory	**Course Value:** (UG courses = unit value, PG courses = notional learning hours)	15 credits
Course Code:	MT3110	**Course JACS Code:** (Please contact Data Management for advice)	G100
Availability: (Please state which teaching terms)	Term 2	**Status:**	Optional Condonable
Pre-requisites:	MT1810	**Co-requisites:**	-
Co-ordinator:	-		
Course Staff:	-		
Learning Objectives:	In this module, students will learn some elementary tools used to analyse the multiplicative structure of the set of integers, will learn techniques to understand solubility of congruences, and will apply these tools to some classical questions in number theory serving as entry points to more advanced recent developments.		
Learning Outcomes:	On completion of this module students should be able to use the Fundamental Theorem of Arithmetic; handle congruences; use arithmetic functions; understand the concept of primitive roots; appreciate quadratic reciprocity; and be able to apply these concepts both theoretically and computationally in examples.		
Teaching & Learning Methods:	30 hours of lectures and examples classes. 120 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:	Introduction to the Theory of Numbers – I Niven, H S Zuckerman and H L Montgomery. 5th edition (Wiley 1991). Library Ref. 512.91 NIV Elementary Number Theory in Nine Chapters – J JTattersall. (Cambridge 2005) Library Ref. 512.91 TAT		
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: 85%. **Coursework:** Set exercises: 15%		