

I	Course Code	MA 217001								
II	Course Title	Ergodic theory								
III	Credit Structure	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">L</td> <td style="text-align: center;">T</td> <td style="text-align: center;">P</td> <td style="text-align: center;">C</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">4</td> </tr> </table>	L	T	P	C	3	1	0	4
L	T	P	C							
3	1	0	4							
IV	Prerequisites (If any)	Basic knowledge of measure theory								
V	Course Content	<p>Measure-Preserving Transformations; Recurrence; Ergodicity; Associated Unitary Operators; The Mean Ergodic Theorem; Pointwise Ergodic Theorem;</p> <p>Strong-Mixing and Weak-Mixing; Proof of Weak-Mixing Equivalences; Continuous Spectrum and Weak-Mixing; Induced Transformations;</p> <p>Some number theoretic applications: Continued fractions; The Continued Fraction Map and the Gauss Measure; Lagrange's Theorem;</p>								
VI	Text/References	<ol style="list-style-type: none"> 1. Ergodic theory with a view towards number theory; Manfred Einsiedler, Thomas Ward. 2. An introduction to Ergodic theory; Peter Walters. 								