

<b>Course title:</b> Real Analysis and Optimisation			
<b>Course code:</b> MPE 117	<b>No. of credits:</b> 4	<b>L-T-P:</b> 48-12-0	<b>Learning hours:</b> 60
<b>Pre-requisite title:</b> 10+2 level understanding of Mathematics is required.			
<b>Department:</b> Department of Policy and Management Studies			
<b>Course coordinator:</b> Dr. Shantanu De Roy		<b>Course instructor:</b> Guest Faculty	
<b>Contact details:</b> shantanu.roy@terisas.ac.in			
<b>Course type:</b> Core		<b>Course offered in:</b> Semester 1	
<b>Course description:</b> This is an introductory course on the fundamentals of mathematics that is heavily used in certain disciplines of economics – microeconomics, macroeconomics, etc. The course is broadly divided into two parts: one is real analysis and the other is optimisation. The course covers sequences, limits, continuity, differentiability, convex analysis, unconstrained optimisation, optimisation with equality and inequality constraints.			
<b>Course objective:</b>			
<ol style="list-style-type: none"> <li>1. To develop the core concepts of mathematics that are used in economics.</li> <li>2. To develop mathematical sophistication and proof writing.</li> <li>3. To build analytical and technical skills by rigorous analysis.</li> <li>4. To apply these techniques and skills in economic applications.</li> </ol>			