



**Indian Institute of Technology Gandhinagar**  
**Asymmetric Synthesis and Catalysis (CH 626)**

Credits	L T P C 3 0 0 4
Prerequisites (if any)	Instructor's consent
Instructor Name	Chandrakumar Appayee
<p><b>Course contents:</b></p> <p>Introduction to asymmetric synthesis, chiral auxiliaries and chiral pool approach.</p> <p>Chiral resolution processes such as Kinetic Resolution (KR), Parallel Kinetic Resolution (PKR), and Dynamic Kinetic Resolution (DKR).</p> <p>Asymmetric catalysis like Biocatalysis, Metal catalysis and Organocatalysis.</p> <p>Application to the asymmetric synthesis of active pharmaceutical ingredients.</p>	
<p><b>Text books:</b></p> <p><i>Comprehensive Asymmetric Catalysis I-III</i>, Eric N. Jacobsen, Andreas Pfaltz, Hisashi Yamamoto, Springer 1999.</p> <p><i>Asymmetric Synthesis with Chemical and Biological Methods</i>, Dieter Enders, Karl-Erich Jaeger, WILEY-VCH 2007.</p> <p><i>Asymmetric Organocatalysis – From Biomimetic Concepts to Applications in Asymmetric Synthesis</i> (3<sup>rd</sup> Edition), Albrecht Berkessel, Harald Groger, WILEY-VCH 2005.</p> <p>Recent reviews and research articles on asymmetric synthesis and asymmetric catalysis will also be referred.</p>	