Year & Sem:	Course Code: ME3510	Course Name: **Micro Electro Mechanical Systems**	No. of Credits: 4	L	T&PS	P
				2	2	0

Introduction, history, development and need of micro-electro-mechanical systems.Overview of MEMS technology: Different electro-physical processes used for machining- dealing with MEMS materials; Relevant non-conventional processes; IC fabrication processes used for MEMS; MEMS sensors and actuators; Mechanical process techniques and process models for micro-machining; Fabrication processes and design of the process sequences; Agile prototyping of design and manufacture processes in micro machining and computer based design; Reliability and process control of micro manufacturing processes; Introduction and exposure to nano-technology processes and systems

References/Text Books:

1. MEMS and Microsystems Design and Manufacture" by Tai-Ran Hsu. Tata McGraw-Hill Publishing Company Ltd.
2. "Foundation of MEMS" by Chang Liu. Pearson Education.
3. Mohamed Gad – el – Hak, "MEMS Handbook", CRC Press, 2002.
4. Rai - Choudhury P. "MEMS and MOEMS Technology and Applications", PHI Learning Private Limited, 2009.
5. Sabrie Solomon, "Sensors Handbook," Mc Graw Hill, 1998.
6. Marc F Madou, "Fundamentals of Micro Fabrication", CRC Press, 2nd Edition, 2002.

Lecture Plan: Unit-I & -II syllabus for MID-I, Unit-III & -IV syllabus for MID-II and Unit-V & -VI syllabus for MID-III examinations.

Video Lectures (Web Links):

1.
2.

Study Materials (Web Links):

1.
2.

Problems & Solutions (Web Links):

1.
2.

Assignments (Web Links):

1.
2.