ME 314 Design of Machine Elements (3-0-0-6)

Principles of mechanical design; Factor of safety, strength, rigidity, fracture, wear, and material considerations; Stress concentrations; Design for fatigue; Limits and fits; Standardization; Design of riveted, bolted, and welded joints; Rigid and flexible couplings; Belt and chain drives; Power screws; Shafts; Keys; Clutches; Brakes; Axles; Springs.

Texts:

- [1] Design Data Book of Engineers, Compiled by Faculty of Mechanical Engineering, PSG College of Technology, Publisher Kalaikathir Achchagam, Coimbataore, 2009.
- [2] M.F Spotts, T.E Shoup, L.E. Hornberger, S.R Jayram, and C. V. Venkatesh, Design of Machine Elements, 8th Ed., Person Education, 2006

References:

- [1] J. E. Shigley, Mechanical Engineering Design, McGraw Hill, 1989.
- [2] A. H. Burr and J. B. Cheatham, Mechanical Analysis and Design, 2nd Ed., Prentice Hall, 1997.
- [3] V B Bhandari, Design of Machine Elements, 2nd Ed., Tata Mcgraw Hill, 2007.
- [4] R. C Juvinall and K. M Marshek, Fundamentals of Machine Component Design, 3rd Ed., Wiley Student Edition, 2007.