Tribology

Metrology of surfaces, nature of friction and wear processes
Materials for wear reduction and control; coatings for wear resistance
Theory, testing and control of corrosion, Lubricants and bearing materials
Hydrodynamic lubrication, Steady state and dynamically loaded bearing design, Elasto hydrodynamic lubrication, rolling element bearing and gear lubrications, Hydrostatic lubrication, Lubrication problems at certain extreme environmental conditions e.g. pressure, temperature and vacuum
Analysis and design of variable speed drive elements.

References:

1. Friction Wear Lubrication: Tribology Handbook Vol. I, II and III by I.V. Kragelsky and V.V. Alisin - MIR Publishers
2. Basic Lubrication Theory by A. Cameron, C.M. Mc. Ettles - Wiley Eastern
3. Fundamentals of Tribology by N.P. Suh and N. Saka - MIT Press
4. Theory & Practice of Lubrication for Engineers by D.D. Fuller - John Wiley