

**Title: Transport phenomena in polymeric systems**

Units: 3

Type: Theoretical

Prerequisite: None

Hours: 48

**Syllabus:**

- Introduction to continuum
- Mass balance in polymeric systems
- Heat balance in polymeric systems
- Momentum balance in polymeric systems
- Tensor application in polymeric systems
- Case studies in polymer science and engineering

**References:**

1- J. Welty, C. E. Wicks, G. L. Rorrer, R. E. Wilson, Fundamentals of Momentum, Heat and Mass Transfer, 5th Edition, Wiley, 2008.

2- T. L. Bergman, A. S. Lavine, F. P. Incropera, D. P. DeWitt, Fundamentals of Heat and Mass Transfer, Wiley, 2011

3- R. B. Bird, W. E. Stewart, E. N. Lightfoot, Transport Phenomena, 2nd Edition, Wiley, 2001