

**Title: Cellular and Tissue Engineering [3-0-0-6]**

**Content :**

Basic cell biology, cell-matrix interactions, receptor biology, cell culture, gene therapy and gene transfer techniques, protein and peptide engineering, stem cell programming, controlled release and drug delivery, tissue ablation, engineering angiogenesis, vascularization, material based immunotherapy and case studies involving skin, bone, liver, muscle tissue engineering.

**Texts / References:**

- Blitterswijk CV, Tissue Engineering, Academic Press (2008).
- Saltzman WM, Tissue Engineering, Oxford University Press (2004).
- Lanza RP, Langer R, Vacanti JP, Principles of Tissue Engineering, Academic Press, 3rd Edition (2007).
- Palsson B and Bhatia SN, Tissue Engineering, Pearson Prentice Hall (2003).