

**Course Name:**  
Ground Improvement

**Course Number:**  
20894

**Credit:**  
3

**Course Content (outline):**

1. Introduction
2. Groundwater Lowering & Drainage
3. Compaction
4. Dynamic Compaction
5. Deep Vibro Compaction Techniques
6. Permeation Grouting
7. Jet Grouting
8. Deep Excavations
9. In Situ Ground Reinforcement
10. Soil Mixing
11. Vertical Screens

**References:**

- “Ground Control and Improvement”, P.P.Xanthakos, L.W.Abramson, D.A.Bruce, John Wiley, 1994
- “Ground Improvement”, M.P.Moseley, K.Kirsch, 2<sup>nd</sup> Edition, Spone Press, 2004
- “Grouting of Rock and Soil”, C.Kutzner, Balkema, 1996
- “Grouting Technology in Tunneling and Dam Construction”, S.Shah, 2<sup>nd</sup> Edition, Balkema, 1999
- “Chemical Grouting”, R. Karol, 1990
- Ground Improvement Journal, Thomas Telford
- Related Journals & Proceedings (16ICSMGE)
- Catalogs & Manuals
- Related Project & Technical Reports