Cankaya University
Faculty of Engineering
Mechanical Engineering Department

ME 611 Advanced Conduction Heat Transfer
Course Syllabus

Fall 2018

1: Foundations of Heat Transfer: Lumped, Integral and Differential Formulations. Heat Conduction Equation and its Boundary and Initial Conditions
2: Steady One Dimensional Problems.
3: Steady Problems. Separation of Variables
5: Unsteady Problems. Separation of Variables.
6: Steady Periodic Problems. Complex Temperature.
7: Unsteady Problems: Laplace Transform
8: Solutions With Integral Transforms.
9: Heat Conduction with Local Heat sources
10: Further Analytical methods
   a) Variation of Parameters
   b) Duhamel's method
   c) The similarity method
11: Numerical Methods