

### **Module 3, Learning Objectives:**

- Students should recognize the fin equation.
- Students should know the 2 general solutions to the fin equation.
- Students should be able to write boundary conditions for (a) very long fins, (b) insulated tip fins, (c) convective tip fins and (d) fins with a specified tip temperature.
- Students should be able to apply the boundary conditions to the fin equation and obtain a temperature profile.
- Students should be able to apply the temperature profile to the Fourier Law to obtain a heat flow through the fin.
- Students should be able to apply the concept of fin efficiency to define an equivalent thermal resistance for a fin.
- Students should be able to incorporate fins into an overall electrical network to solve 1-D, SS problems with no sources.