Both uncased active and passive component elements are candidates for embedding but the process of selecting these components must be made early in the design process. Developers have realized that in addition to passive components, embedding one or more active die elements on an inner layer of the circuit in close proximity to prepackaged semiconductor(s) mounted on the outer surface, electrical interface between components can be minimized, considerably improving functional performance. This closer coupling of key passive and active semiconductor elements will:

- Significantly reduce inductance
- Contribute to increasing signal speed
- Lower overall power consumption

Some components are easy candidates for integrating into the substrate while others may involve more complex processes and will be difficult to rationalize. And although a majority of the discrete passive and active devices may remain mounted on the outer surfaces of the circuit board, embedding a majority of the resistor functions and one or more silicon-based semiconductor elements within the inner layers of the structure can enable greater utilization of the circuit boards outer surfaces. This half-day course furnishes a comprehensive introduction to IPC-7092, Design and Assembly Process Implementation for Embedded Components.