This two or three day short course will provide an overview of additive manufacturing of both metals and polymers. The objective is to provide the attendees with an understanding of the potential value of this new technology.

On the metal side, the course will provide an overview of manufacturing technologies and equipment for powders, beam-powder interactions, powder bed heating, solidification, and post-processing. The advantages and disadvantages of laser- and electron-beam technologies will be discussed along with support structures, software for support structure, design, and layout of parts in build volumes. Manufacturing aspects such as tolerances, repeatability, and powder removal will be covered along as case studies involving mini-blisk and foils. Attendees will tour UConn’s Additive Manufacturing Center.

On the soft material side, we will provide an overview of additive manufacturing methods such as inkjet printing, fused deposition modeling (FDM), selective laser sintering (SLS), stereolithography (SLA), and bio-printing. Basic material requirements such as rheology and surface tension, will be discussed along with a variety of application examples. Attendees will get to see some of UConn’s current soft material capabilities in action.

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