Objective

The main aim of this project is to conduct metallography and fracture analyses on failed 3D-printed titanium alloy and/or nickel superalloy samples in order to investigate the root cause of failure.

Project Details

In the aerospace industry, the service life of components is typically determined based on the predicted rate of crack initiation and growth for a given operation environment. Thus, the student will study 3D-printed samples that have failed under tensile, fatigue and plane-strain fracture conditions to provide insight on how such 3D-printed alloys would perform in service that can be used for the design considerations of 3D-printed aerospace components.

Prerequisites

None. Training will be provided as part of the project.

Additional Information

None.