DET2130 - Advanced 3D Printing and Scanning

Credits:	2 (1/1/0)
Description:	In this course, students explore and apply advanced concepts in three-dimensional printing and scanning using multiple design platforms, 3D printers, hand-held and table scanners, and multiple-scan model creation.
Prerequisites:	• DET1210 • DET1230
Corequisites:	• DET2110 • DET2140
Pre/Corequisites*:	
Competencies:	1. Calculate printed model tolerances to reverse engineer parts and assemblies. 2. Generate and assess the functionality of mesh and solid models on objects of various sizes, shapes and materials. 3. Create multiple printed objects to analyze noise, resolution, and print quality uncertainty with a variety of textures and finishes. 4. Utilize topology optimization in scan-based redesign and reverse engineering sequences. 5. Analyze ergonomic design functionality in 3D printed and scanned objects. 6. Design and create a 3D model of a small work cell used for planning robotic integration and functions.
MnTC goal areas:	None

**Can be taking as a Prerequisite or Corequisite.*