A. COURSE DESCRIPTION

Credits: 2
Lecture Hours/Week: 0
Lab Hours/Week: 0
OJT Hours/Week: *
Prerequisites: None
Corequisites: None
MnTC Goals: None

This course will explore the processes utilized in the creation of a consumer product model by means of a product redesign or new design. This will include an introduction to the basics of form, fit and function and its relationship to the creation of a 3D model. The process will include a scaled 3D drawing to be utilized in the construction of a physical model. The course will require students to utilize many processes, including traditional machining (woods/metals), 3D printing, CNC and other shop equipment. Emphasis will be on shop safety, accuracy, professionalism, project management, problem solving and working within specified tolerances.

B. COURSE EFFECTIVE DATES: 08/20/2022 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Introduction to form, fit & function
2. Reverse engineering
3. Project management software and tools
4. Professional presentation of product model
5. Individual and group project construction
6. Professionalism and

D. LEARNING OUTCOMES (General)

1. explain form, fit, function, and relationship to product development.
2. relate ergonomic factors related to consumer interaction.
3. utilize multiple equipment and processes to construct project.
4. compile journal of processes and techniques.
5. utilize project management tools to track project construction.
6. demonstrate lab and personal safety.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted