Career and Technical Education (CTE)

Three Dimensional Modeling

Course Title:	Content Area:	Grade Level:	Credit (if applicable)
Three Dimensional Modeling	Career and Technical Education (CTE): Engineering and Technical Sciences	9-12	0.5 (45 - 75 minute classes)

Course Description:

This course provides an introduction to creating, editing, and analyzing 3D models. Develops foundational skills to work with, and navigate the digital 3D modeling workspace to create 3D objects. Examines basic elements of the 3D development of modeling, texturing, lighting, animating, and rendering. Along with building foundational skills in 3D modeling, students work toward the advanced skills of creating 3D models with moveable parts.

Aligned Core Resources:	Connection to the _BPS Vision of the Graduate_
Autodesk Fusion 360 **Autodesk Inventor** **Ultimaker Cura** **Parametric Modeling with Autodesk Fusion** Spring 2024 Edition. Shih, Randy H. Oregon Institute of Technology. SDC Publications. ©2024 ISBN-13: 978-1-63057-686-8 ISBN-10: 1-63057-686-7 SDC Publications, P.O. Box 1334, Mission, KS 66222 913-262-2664, www.SDCpublications.com	**Critical Thinking and Problem Solving** - Collect, assess and analyze relevant information - Reason effectively. Use systems thinking - Make sound judgments and decisions. Identify, define and solve authentic problems and essential questions. - Reflect critically on learning experience, processes and solutions - Transfer knowledge to other situations

Additional Course Information: _Knowledge/Skill Dependent courses/prerequisites_	Link to _Completed Equity Audit_
As an introductory course, no prior knowledge of 3D modeling or CAD software is required. Students do need to be experienced with the Windows operating system and have an introductory background in drafting 3D parts which can be developed with TinkerCAD and/or SketchUp.	3D Modeling Equity Curriculum Review Fall 2024

Standard Matrix

Advance CTE Standard	Unit 1 CAD Fundamentals	Unit 2 Part & Assembly Modeling	Unit 3 3D Solid Modeling
ESS01.02: Demonstrate language arts knowledge and skills required to pursue the full range of post-secondary education and career opportunities. Comprehend key elements of written information such as cause/effect, comparisons/contrasts, conclusions, context, purpose, charts /tables/graphs, evaluation/critiques, sequence,	✔	✔	✔