JACKMAUCH
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Introduction to 3D Modeling for Artists and Craftspeople
Feb 15th – March 21st, 2024

Week 1 — Introduction and sketching
- Introduction to Fusion360 user interface
- Creating constrained sketches (the building block of all 3D modeling in Fusion360)
- Using the student portal
- Class introductions

Class project and homework: Creating a fully constrained sketch.
Practical applications: 2D layouts and technical drawing

Week 2 — Intro to solid modeling
- Review of homework and questions
- Exploring the possibilities of "parametric" modeling
- Intro to solid 3D modeling environment and tools

Class project and homework: Modeling a hinge
Practical applications: Design of simple 3D objects/parts

Week 3 — Solid modeling continued
- Review of homework and questions
- Introduction to further solid modeling tools
- Construction planes
- Measurement and analysis

Class project and homework: Modeling cups and mugs with handles
Practical applications: Design of rotationally symmetric parts for processes like pottery, glassblowing or turning.

Week 4 — Using Components

- Review of homework and questions
- Understanding components vs. bodies
- Review of many 3D modeling tools
- Physical materials and calculating material properties (weight, volume, etc)

Class project and homework: Design a mold
Practical applications: Mold-making and casting processes.

Week 5 — Joints and Assemblies

- Review of homework and questions
- Creating joints and assemblies
- Importing/deriving components

Class project and homework: Modeling a simple piece of furniture.
Practical applications: Furniture design, kinetic objects, simple machines.

Week 6 — Review, documentation and file export/sharing

- Review of homework and questions
- Useful tips and tricks
- Creating technical, dimensioned drawings
- File types for sharing your work and getting parts manufactured
- Super quick intro to rendering

Class project and homework: No homework.
Practical applications: Creating technical drawings for commissions/project proposals. Getting your designs made using digital manufacturing tools such as 3D printer, laser cutter, CNC router/plasma cutter, water jet, etc.