**TinkerCad Course Outline**

1. Goals
   1. To introduce 3D design concepts through TinkerCad.
   2. Establish an ongoing support network comprised of course graduates and the instructors.
   3. Provide a “Glossary of TinkerCad Terms” as a reference resource.
2. Introduction to TinkerCad
   1. The user Interface and logging in
   2. Navigation around the work area
   3. Grid setup and design precision
   4. Other
3. Adding & Moving Shapes
   1. Scaling and changing dimensions
   2. Rotating shapes
   3. Selecting strategies
   4. Using the work plane
   5. Measuring and using the ruler tool
   6. Grouping and ungrouping
   7. Using the hole object
   8. Aligning shapes
   9. Mirror tool
   10. Other
4. Creating & Duplicating Patterns
   1. Copying objects
   2. Creating linear patterns
   3. Creating circular patterns
   4. Other
5. Shape Generators
   1. Introducing shape generators (also called “primitives”)
   2. Extension generator
   3. Polygon generator
   4. Text generator
   5. Image generator
   6. Community generators
   7. Other
6. Cutting and Using Planes
7. Importing Files
   1. Importing SVG Files
   2. Importing STL Files
   3. Other
8. Finishing
   1. Splitting objects
   2. Chamfers
   3. Fillets
   4. Shell object
   5. Naming and sharing design files (or Models)
   6. Downloading the design
   7. Other
9. Design concepts
   1. Drawings and sketches
   2. Measurement
   3. Design tips
   4. Anticipating problems
   5. Other
10. Downloading TinkerCad files to a local computer
11. Preparing to print
12. Individual design projects
    1. Review and modify student ideas
    2. Develop a design strategy
    3. Work on designs
    4. Test print designs
    5. Re-design as appropriate
    6. Print final designs
13. Other