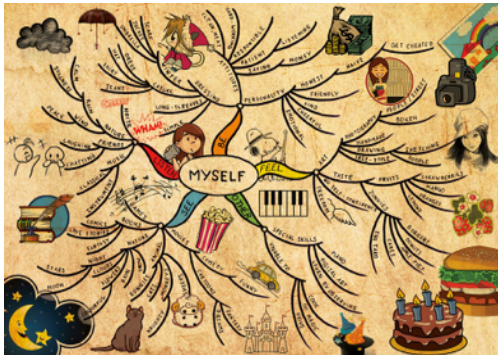
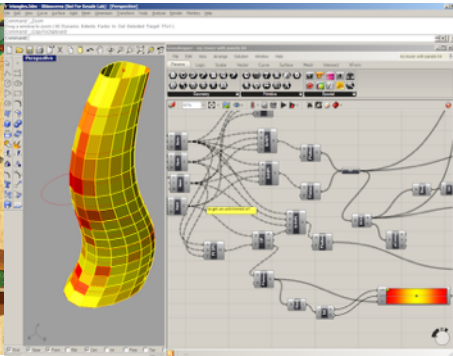


# Visual Modeling

## MODELING & SIMULATION (ATEC 6362 & CS 6328)



Knowledge



Space



Time

**Time, Place, and Class Size: TTh 4-5:15, ATC 3.910, 10 ATEC and 10 CS students maximum**

**Overview:** The goal is to teach students three different types of modeling languages that are widely used in industry. These models cut across boundaries of science, engineering, art, design, games, animation, and sound. The models cover (1) knowledge, (2) space, and (3) time.

**Models:** All models are based on visual diagrams. Knowledge models capture our thoughts and concepts: mind maps, concept maps, semantic nets all translate to knowledge modeling. Space models capture shape and geometry, with the option of digital fabrication in at least one project, and Time-based models capture process over time. The goals are to get students to understanding the breadth of modeling through diagrammatic node-based editing. This type of editing has become standard practice in music, game, video, and animation design. Skills learned are tool-independent.

**Tools:** For mind maps we will use free concept mapping software. For modeling space, we will use Grasshopper, which runs on top of Rhino. For modeling time, we will be using Max/Msp. All tools are available in the ATEC computer labs. Students can optionally buy their own software, if desired.

**Pre-reqs:** The class is project-based with individual and team projects as appropriate. ATEC students should be familiar with technical design and editing tools and CS students should have a good grasp on programming.

**Cost:** Students should be prepared to pay up to \$150 for the semester on any software or physical fabrication materials. Using the lab versions of the software will save on cost.

**Instructor:** Dr. Paul Fishwick, ATC 3.206 ([paul.fishwick@utdallas.edu](mailto:paul.fishwick@utdallas.edu))

**Grading:** No Exams. Project-based. Estimated # of projects estimated: 4-5 for the semester, each with incrementally phased deliverables.