

# Shifting from Lines to Surfaces: Virtual to Empirical

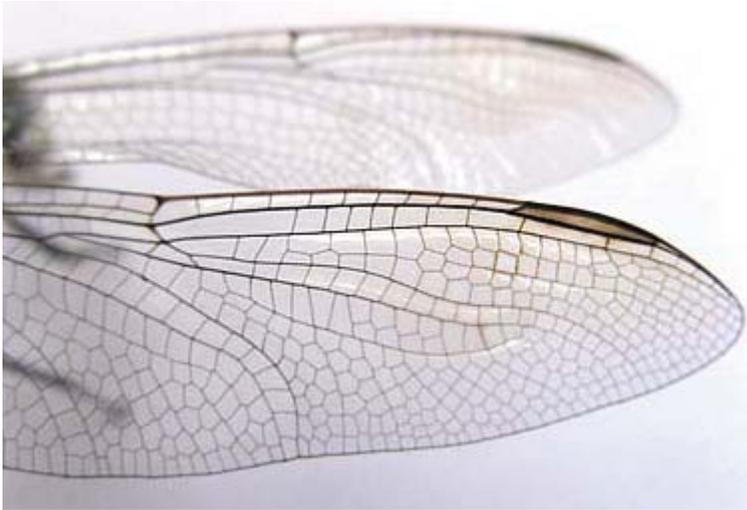
Fall 2010

TuTh 6:30-8

Steinberg 204

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The aim of this course is to introduce students to a 'diagrammatic' way of thinking, according to which, any given 'field' can be mapped in such a way that will transform it into something new. The function of the diagram, as understood in the context of this class, is not to interpret or represent, but rather to invent.

This is a course in computing theory and techniques using two-dimensional digital software and three-dimensional modeling software. This course bridges the gap between 2D computational tools that define lines and the 3D tools that develop complex surfaces. The final project consists of 2D drawings, digital models, and physical models produced by advanced CAD/CAM technology.

By employing alternative techniques and emerging technologies of manufacturing, new forms of objects and perceptions will re-define multiple design processes.

During the first week, students will create 3 separate photographic series of natural systems. Each series should concentrate on 1 system or pattern, but include at least 5 images, of varying scale and detail. Students are also encouraged to explore how these systems work both internally and with the addition of an outside force (ie – sunlight, wind, water).

Over the following weeks, students will create tracings of a chosen pattern series in order to produce two-dimensional maps. Through a process of reverse engineering, students will analyze the photographs through drawing, deconstructing the images in order to create a more thorough understanding of its logic and pattern with special interest in its response to external factors.

From this third set of drawings, the students will use this system to create a three-dimensional model and renderings. Each time, students will be creating a series of transformations that will produce a new diagram or map. Finally, the output of the latest process is going to again be used as the input for a final transformation model, in three-dimensions, represented both digitally and physically.

The course does not concentrate only on moving between different platforms (autocad, illustrator, rhino...), but also working within the representation of different dimensions (1-d, 2-d, 3-d, 4-d). The scope of the diagrams is not to interpret the original drawing or to represent what is already there, but to discover or invent systems that are not obvious in the images that we initially perceive.

08.31 - introduction and assignment 1: photographic series

09.02 - desk crits/review of assignment 1,  
intro to assignment 2: mapping

09.07 - 09.09 - deskcrits

09.14 - 09.16 - deskcrits

09.21 - 09.23 - deskcrits

09.28 - 09.30 - review of assignment 2

10.05 - 10.07 - intro to assignment 3: transformation (3-d)

10.12 - deskcrits

10.14 - Fall Break

10.19 - 10.21 - deskcrits

10.26 - 10.28 - review of assignment 3

11.02 - 11.04 - intro to assignment 4: realization

11.09 - 11.11 - deskcrits

11.16 - 11.18 - deskcrits

11.23 - deskcrits

11.25 - Thanksgiving break

11.30 - deskcrits

12.02 - 12.07 - final exhibition preparation

12.09 - Final Review and Exhibition