

DIGITAL MEDIA | CMU SoA PRECOLLEGE 2018 WEEK FOUR: SLICE, FOLD, SMASH

Mon, 7/23	9:30-12:30	short lecture, Rhino tutorial, and working class for assignment
	22:00	part one of assignment due on server
Tue, 7/24	9:00 - 10:30	section A - second part of tutorial and working time for assignment
	10:45 -	introduction to digital fabrication seminar
Wed, 7/25	9:00 - 10:30	section B - second part of tutorial and working time for assignment
	10:45 -	final digital fabrication in and after seminar
Thurs, 7/26	22:00	part two of assignment due on the server
Mon, 7/30	9:30	physical model due at the start of class

PART ONE: FABRICATION EXPLICATION: Starting with one of the provided sets of contour lines, produce a surface and situate a small box somewhere along that surface. How does the box meet the ground? Deform the box to react to its placement on the topography - use basic transform tools (Move, Rotate) and new plastic modeling tools (Bend, Twist, CageEdit). Combine these two objects to create a single solid on a 4" x 4" base.

Using primarily Contour and Unroll, we will slice up the digital model in such a way that it can be translated to a physical model, digitally etched and cut from flat sheets of board material. Maintain your layers!

WHAT: The raw Rhino file will be due on the server for use in the digital fabrication seminar and workshop, sample file name is `wk4_unfold_perry.3dm`.

WHEN: This part should be completed by the end of class today (you will need both for the workshop and for the second part in class on Tuesday / Wednesday - therefore it will be due on the server Monday night 7/23 at 10pm.

REVISED version is due Tuesday night 7/24 at 10pm (see my individual email to you regarding notes).

PART TWO: PEEL AND STITCH: With the skeleton of our model in the process of digital fabrication, we now must prepare the "skin", or outer shell. Complex double-curved surfaces don't unfold easily, because they aren't made of planar materials (compare a sheet of paper to a rubber balloon). Using a variety of faceting tools in Rhino, we will modify the character of the surface so that it can be more easily unfolded. Organization is key : Use different line types to identify which edges should be cut, which should be folded inwards, which should be folded outwards, etc. Labeling (and, optional, tabs) can be added to increase ease of assembly.

After laying out your second set of surfaces, print to pdf. All exporting and printing should be done at 1:1 full scale.

WHAT: This 11x17 pdf should be printed and will be used in the final steps of fabrication. You may use as many sheets as you need to unfold all parts of your model's surface, but please lay out efficiently. [wk4_unfold2_perry.pdf](#)

WHEN: This pdf will be due on the server by Thursday night 7/26 at 10pm. The printed version has no due date, other than its appearance in the final physical model.

PART THREE: PHYSICAL MODEL: Assemble your laser-cut chipboard skeleton (recommend tacky or elmer's glue - use very little! - if friction fit is not stable). Print your unfolded sheets of the skin surface on 11x17 paper (black and white recommended - if you need color, there are color printers in the CFA cluster upstairs), cut, and assemble. Tape may be used to connected separated surfaces.

WHAT: Your final assembled physical model, with a chipboard skeleton and a paper skin, will be photographed by the TA team in class.

WHEN: Models should be completed by Monday 7/30, unless requested earlier by studio instructors.