CS 232: Computer Modeling and Shading   **Spring 2001**
Project three: Fruits and Vegetables

In this project you will model and shade a piece fruit or a vegetable using subdivision surfaces and whatever texturing tools you like. Pick your own subject, but take note: SAGA has only a small selection, so you may find a trip to Atkins very useful.

Part One, due Thursday March 29ᵗʰ at the beginning of class

Hand in a TYPED analysis of the shape and textural qualities that make your chosen subject what it is (2-3 pages, double-spaced). Start with the geometry: What do you have to model? What are the approximate sizes? Does your subject have symmetries that you can exploit? What are the asymmetries that make it unique (the telltale curve of a banana, for instance)? How do you plan to model it? What small surface variations can be cheated with bump maps in the shader?

Then move on to the texture of your subject. Study it with a color picker open on a computer next to you. What is its primary color? Find it in the color picker and write it down. How does that primary color vary over the surface? Is the material specular? If so, how glossy is it? Is the surface reflective? Does the surface have little ridges? Spots? Wrinkles? Try hard to break the texture down into layers that you can imagine implementing with texture maps and/or procedural textures. It's fine at this stage if you aren't sure how to create the wrinkles, just make sure you identify in the paper that the wrinkles are an important part of the shader.

At the end of your paper, **prioritize** the geometric and textural qualities that make your subject what it is. Use a bulleted list if you like. A banana must be yellow, for instance, so that should have a high priority (and will be the first thing you do when shading it). The small discoloration at the tips of the banana would be subordinate to the primary yellow color, but would this be more important or less important than the little specks in the banana's surface? You tell me. This ordering will be the list you check off when you actually start building and shading the model in the coming days.

Part Two, due Thursday April 5ᵗʰ at the beginning of class

Hand in the finished model to the **fruits and veggies** folder on e-work. See the instructions below for how to hand them in. You should have started playing with the shader as well, and we will spend class time answering questions about creating the variations you want with procedural textures and gradients. So come prepared with questions about your subject (at least one per person).

Part Three, due Thursday April 12ᵗʰ at the beginning of class

Put a content directory with your name in the **fruits and veggies** folder on e-work. This content directory should have an **Objects** folder with your model, and a **Scenes** folder with a copy of the turntable scene that has your model in it. It should also contain an **Images** folder with any texture maps you may have used and a **turntable movie** and/or some **hi-res stills** showing off your model and shader.