Advanced 3D Modeling
Inorganic (Mechanical) Model Project
Due Date: See Day 02, Week 05
Grade Contribution:

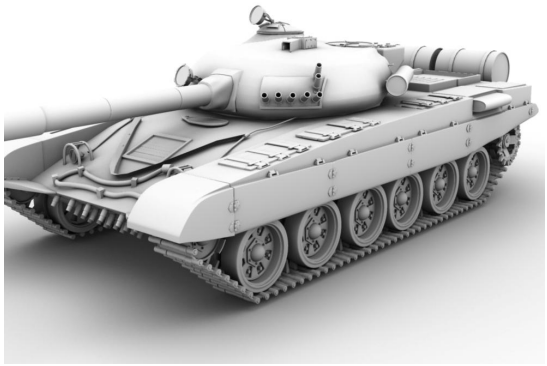
- **Preproduction materials = 20 points**
- **Rough Draft 01 = 25 points**
- **Rough Draft 02 = 25 points**
- **Final Draft = 30 points**

Total: 100 points, 25% of course grade.

Modelers need to demonstrate that they can work in a variety of styles. In any studio other than the largest, you will likely be building a character one week, a vehicle the next, and a set the week after that. In that spirit, you will balance your creature head project with an inorganic modeling project of your choice.

Learning Objectives:

1. Predict what modeling methods are most efficient in building objects (e.g. surface type, topology)
2. Control NURBS and polygon surfaces to achieve precise inorganic shapes
3. Create objects with multiple pieces that fit and work together spatially
4. Apply ambient occlusion or similar technique to show properly rendered form
5. Produce a refined, print-quality rendered image



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The subject matter for this assignment is varied, with valid choices including exterior architecture, vehicles, and interior sets (for the sake of variety in your portfolio, you may want to choose one of these subjects as opposed to a prop, which you explored in the Gadget project from Intermediate 3D Modeling). Pick something that you feel is visually engaging AND is achievable in the given time frame for this assignment. Note in the parameters below that **you must approve your concept with your instructor before proceeding, or you forfeit your right to receive credit for this project.**

Assignment Parameters:

Preproduction materials:
(to be turned in Day 02, Week 02)

1. You may create an original work of your own design (such as an interior set) or reproduce an existing object (such as a vehicle). Choose something reasonable for the schedule you are allotted for this assignment. Your model(s) may be fully textured and lit, or they may remain gray-shaded – however if you do not texture your model, you are expected to produce a more elaborate model than those students doing full color and light.
2. Gather useful reference images to help you complete your model(s) with complete and accurate detail. If you are creating an original work, collect photographs, drawings, and so on to use as reference in creating a logical and detailed design.
3. Present your references to your instructor for approval. **YOU MUST RECEIVE THE INSTRUCTOR'S APPROVAL TO PROCEED.** At this time you should also discuss what visual style you will achieve (Photorealistic? Stylized? Stylized how, and why?). Once you have received approval, begin creating the model(s), using whatever geometry types you feel will be most effective. Also, start building your PowerPoint file using these reference images (see below).

Rough Draft 01:
(to be turned in Day 02, Week 03)

4. As you begin modeling, make intelligent decisions about where to use NURBS and/or polygons (you may use both in the same model if you choose). Primary factors here are the shape of each piece you are building and how prominent that piece is in the final render – objects that require branching are frequently more easily modeled using polygons, while the smoothness inherent in NURBS holds up better at high resolutions without creating dense topology.
5. Since you will not be texturing this model, decide which details to include and which would be best left for textures. If you finish your model with time to spare, consider going above and beyond by creating additional detail through textures – but do not apply simple or incomplete textures to a finished model since it will hurt the overall quality of the presentation.

Rough Draft 02:
(to be turned in Day 02, Week 04)

6. At the end of each significant working session (at the end of lab, or after spending a couple of hours working outside of class), frame your work-in-progress in an appropriate view, turn on Wireframe on Shaded in your viewport's Shading menu, and capture a print screen. Paste it into a Photoshop file and crop appropriately. Save it as a JPEG and add it to your PowerPoint file (see below for details). You should have several of these in your final PowerPoint, which will create a time-lapse view of your process.

Final Draft:
(to be turned in and presented Day 02, Week 05)

7. Your objects should be modeled using clean, efficient, and manifold topology. Use Polygons > Cleanup periodically to check for problems in poly meshes (if you are using them) and fix any issues.
8. When the modeling portion is finished, create several wireframe-on-shaded print screens of the model(s) from appropriate angles. Include them in the PowerPoint.
9. Remember to compose the scene artfully, as opposed to just framing the object arbitrarily.
10. Control rendering parameters such as shadows and anti-aliasing to eliminate render artifacts.
11. Render a TIFF of the final shaded and lit model. The image should be 3000 X 2400 pixels, (or 300 dpi for a 8X10 printed image). You will include a smaller, JPEG or BMP version of the final image for your PowerPoint.

Presentation and Submission of Work:
Your work will be presented primarily through a "documentary" of your process using PowerPoint.

Your PowerPoint file, along with files of the project itself, will be submitted at various stages throughout the first half of the quarter for grading, ***(Rough Draft 01, Rough Draft 02, Final Draft)***. As such, you will build your presentation file as you work, as opposed to building everything at the end.

Specific information regarding what is to be submitted, and when, is in the weekly outline for the class. Score reductions will result if the following formats are not used, or if any of the required information does not appear in the presentation.

All images included in PowerPoint files should be of the following format:

- Roughly screen resolution (scale down oversized images in Photoshop before importing into PowerPoint – this helps reduce file size)
- High-quality JPEGs

Below is the format you will use for your PowerPoint presentation. Each section should include a title slide – use the category headings as they appear below (with the exception of the title slide, which should contain your personal information).

TITLE SLIDE (includes project title and student name)

RESEARCH

- Slides of the images you found online or in books that may contribute to your inorganic model design (or, if you are re-creating an existing real-world entity, images that reveal information about your subject)
- Slides of comments from in-class critique

DESIGN

- Slides of your sketches as you brainstorm ideas, followed by your final model sheet illustrations (or, if you are re-creating an existing real-world entity, blueprints or other design documents that you will use as primary modeling reference)
- Slides of comments from in-class critique
- Revised model sheet illustrations (if applicable)

SCHEDULE

- A slide of your project schedule, broken down into milestones for each class until the end of the quarter

-- your PowerPoint file will be submitted for grading at this stage --

WORK-IN-PROGRESS

- Slides of print-screens of the model (with wireframe on shaded turned on, without smoothing) in various stages of completion (probably 5-10 stages overall, taken at the end of each working session)
- Slides of comments from in-class critique

-- your PowerPoint file will be submitted for grading at this stage --

FINAL MODEL

- Slides of print-screens of the final model (with wireframe on shaded turned on) from various angles (front ¾, back ¾, etc.)

FINAL RENDER

- A slide of the final model, smoothed if appropriate, rendered with proper lighting. Ambient occlusion or Final Gather should be used for proper shading.

-- *your PowerPoint file and final assets will be submitted for grading at this stage* --

A poor presentation will result in a non-professionalism deduction on the rubric.

Final Output: For this assignment, create a folder named as your *lastName, firstName* under **Z:\Steve Paul\advMod\inorganic**. Submit the following under your folder. **IMPORTANT:** Failure to submit **any** of the below items may result in your receiving a zero for the final assessment.

- Your final PowerPoint presentation
- The 3K TIFF and 1K JPEG of your final creature head
- Your final Maya/Max scene file with the lo-rez model, unsmoothed (or with smoothing at level zero)

Evaluation Criteria: Your grade will be based on the quality of the 3D forms, topology, and presentation of work. A rubric will be provided that will give you more information.

Due Date: The various stages of this project must be turned in by the due dates listed in the weekly outline to be considered on time. For work-in-progress submissions, he standard deduction schedule applies – one full letter grade dropped if submitted before the following class, two full letter grades dropped if submitted after that but by the start of the last class meeting of the quarter, otherwise no credit. For the final project submission, however, **NO LATE PROJECTS WILL BE ACCEPTED.**