- Cinema 4D

CalArts - Fall 2022

Week 01: Setup & Navigation

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Goals

1. Install Maxon App & Cinema 4D 2023 on Workstation Computers
2. Setup Trial accounts for workstation computers
3. Review Syllabus
4. Introduction to Viewport Navigation and Primitives in Cinema 4D

Workstation Setup [Workshop]

Log In

Workstation Login

Item	Value
Username	SOTcomputerroom@gmail.com
PIN	F109

Sign Up

Download & Install Cinema 4D

1. Download Maxon App
2. Install Maxon App
3. Create a Maxon Account
4. Click on the “Start Trial” button in the Banner Image at the top of Maxon App
5. Download & Install Cinema 4D

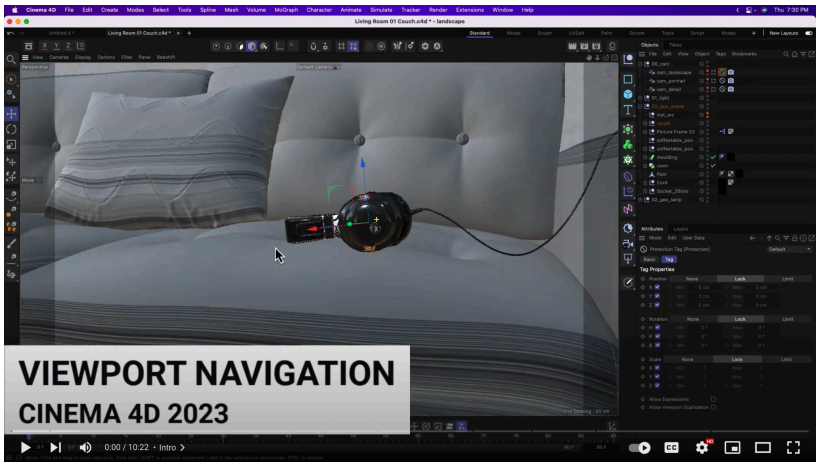
Create a Maxon Account

Item	Value	Notes
Username	CalArtsTDPMacLab+WS##@gmail.com	Where ## is your workstation as drawn in the diagram on the board.
Password	TDPMacLabF109!	
First Name	CalArts	
Last Name	TDPMacLab	

Repeat for your Personal laptop using your @alum.calarts.edu email address.

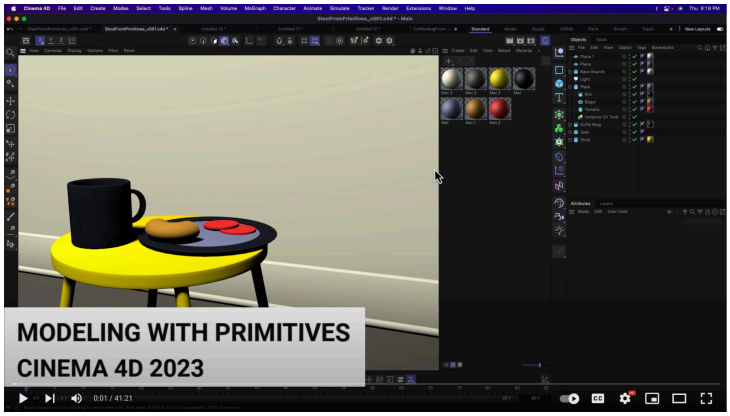
Review Syllabus [Lecture]

Viewport Navigation [Workshop]



Cinema 4D 2023 - Viewport Navigation

Primitive Modeling [Workshop]



Cinema 4D 2023 - Modeling with Primitives - YouTube

Resources

Course Links

Link	Notes
Cinema 4D Tutorial Wiki - Google Sites	Course Website
CalArts Cinema 4D Fall 2022 - Lecture Notes Wk01 - Setup and Navigation	Course Notes

Cinema 4D Resources

Link	Notes
Maxon: Filmmaking, Motion Design, Animation, VFX, and Editing ...	Makers of Cinema 4D
Cinema 4D Video Tutorials, Templates and Plugins - Cineversity ...	Cinema 4D Training Website
3D for Designers	Devin Ko's great intro to Cinema 4D for folks coming from a 2D design background.
C4D R25 Beginners Workshop (Part 1 - Getting Started)	Maxon's Training Team, featuring Elly Wade offers a multi-part intro to Cinema 4D

Greyscale Gorilla Tutorials	Great beginners tutorials for Cinema 4D
Eyedesyn Tutorials	EJ Hassenfratz' tutorial series

Week 02: Scene Layout & Set Dressing

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Questions

- Why can't I download all of the assets?
- How do I create my own materials?
- How do I manipulate polygons?
- How do I manipulate forms?
- How do I use reference imagery?
- Fillet!

Questions from Homework

- **How do you fix weird UV mapping with materials?**
- **How can you quickly select a lot elements (faces/vertices/etc) at once**
- **HDRIs where do you find them, how do you add to a render? What are they?**
- **Scale Stuff**
    - **How can you scale more efficiently?**
    - **How do you match real-world scales / objects?**
    - **How do you ensure that things fit together well?**
- **How do you render… with walls, but while using Backface Culling to allow you to navigate a scene quickly?**
- **Snapping - How do you snap two faces together? When moving/scaling an object how do you nap from one to another?**
- Rendering Shadows
    - Blinds in front of a window… but no vertical shadows?
-

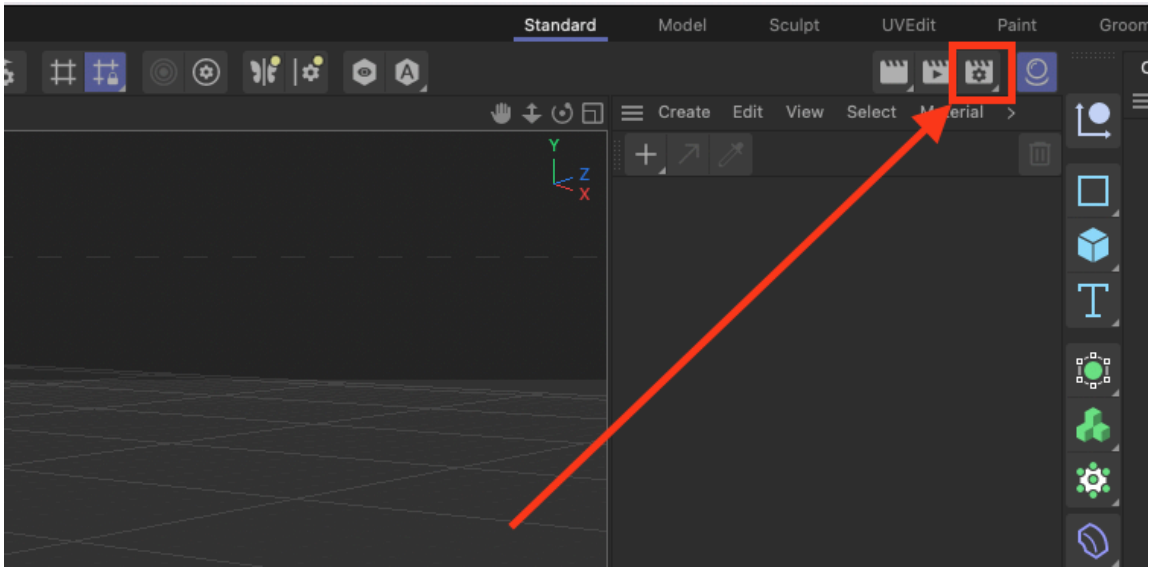
Week 03: Materials

Additional Resources:

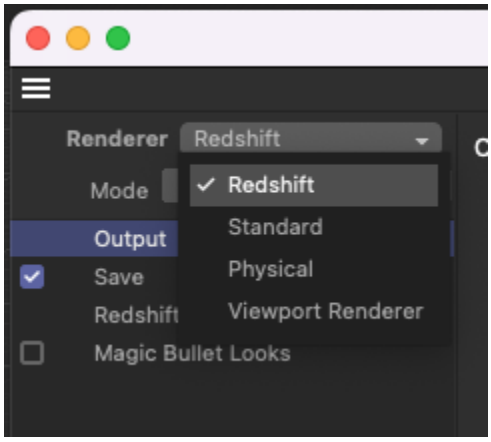
- Getting Started with Redshift Renderer in Cinema 4D
- Intro to Redshift: Materials - YouTube
- Intro to Redshift: Procedural Materials - YouTube

Creating a Redshift Material

1. Create a new Cinema 4D Project
2. Render > Edit Render Settings… or Click on this icon:

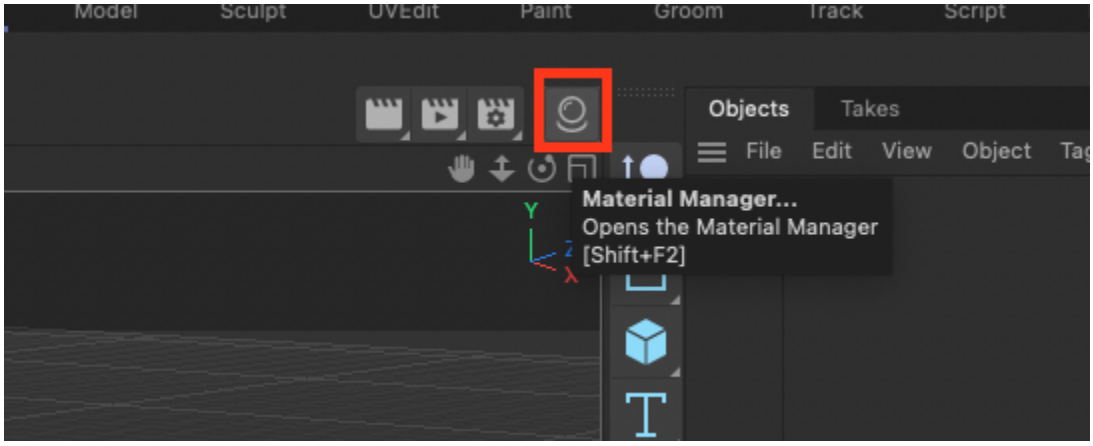


3. Change your **Renderer** to **Redshift**.

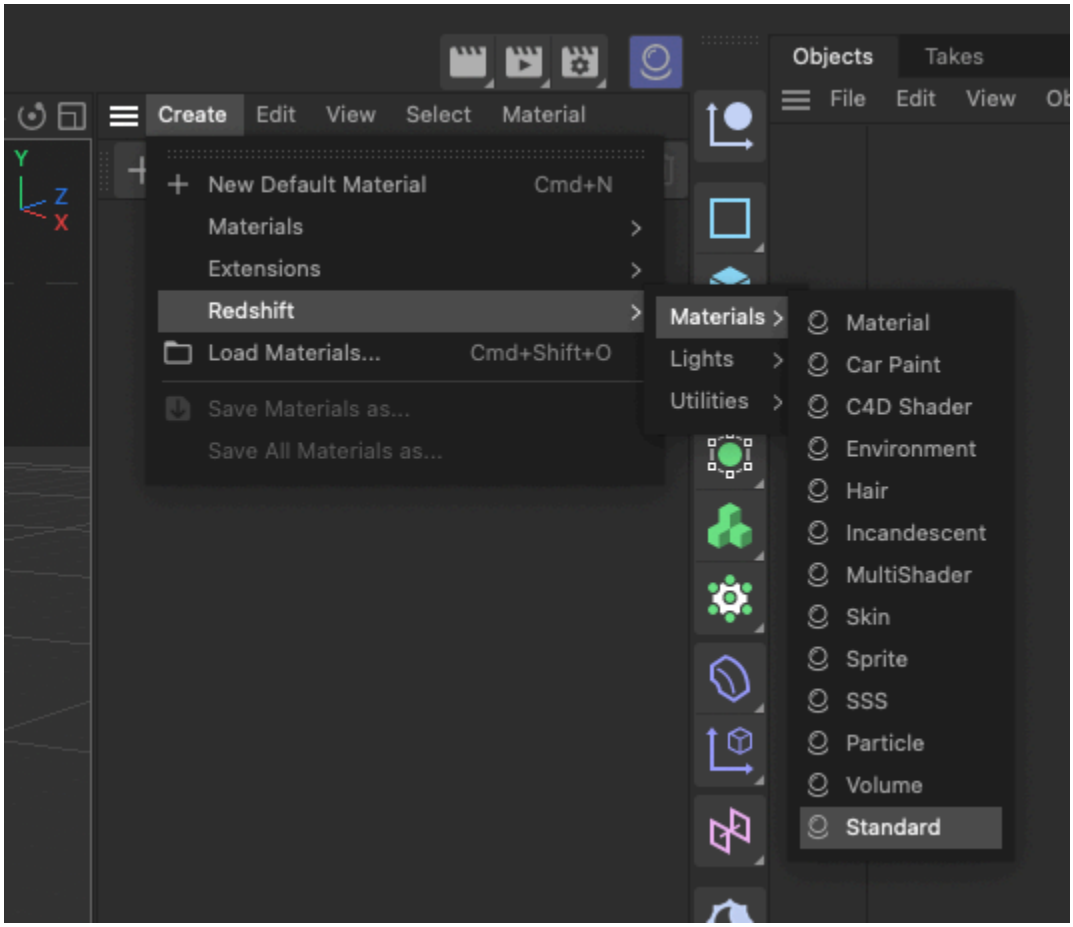


4. Close the Render Settings dialog.

5. Open the **Window > Material Manager…** or click on this icon…



6. In the **Material Manager** select **Create > Redshift > Materials > Standard**



7. Create a test object to apply it to like a **Sphere**.
8. Drag the **RS Standard** material onto your **Sphere** object.

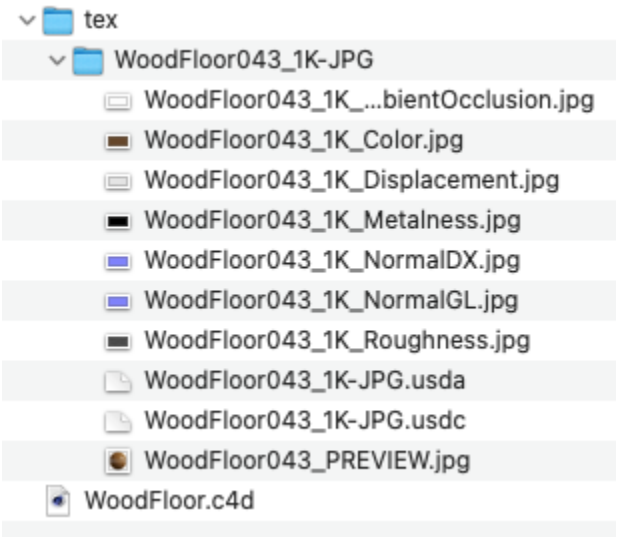
9. Add an **RS Sun & Sky Rig** to quickly create a simple environment.

10. In your Perspective Viewport choose **Redshift > Start IPR**, if you don't see the Redshift menu, it might be hidden behind a `>` button.
    IPR stands for Interactive Preview Render

Creating a Material Using Downloaded Textures

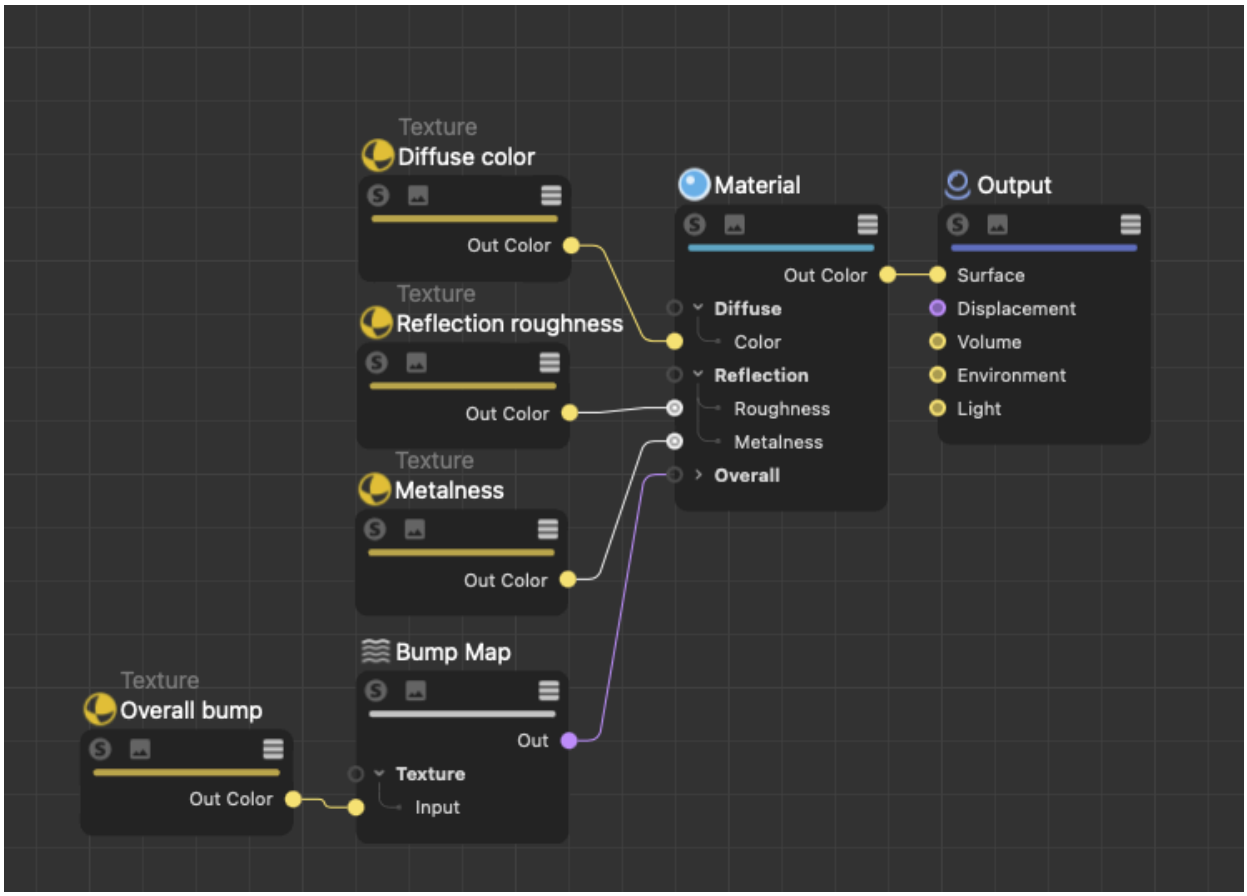
1. Ensure your Cinema 4D project file is saved somewhere on your harddrive, if it is your first save, choose **File > Save Project with Assets…** and call it **WoodFloor.c4d** which will put your project in a folder of the same name, with a folder named **tex/**. If you don't see a **tex/** folder, create your own.tex
2. Download the 2K-JPG.zip of WoodFloor043 from AmbientCG.com

3. Unzip it into your project's **tex** folder.



Creating a "Good Enough" Material ASAP

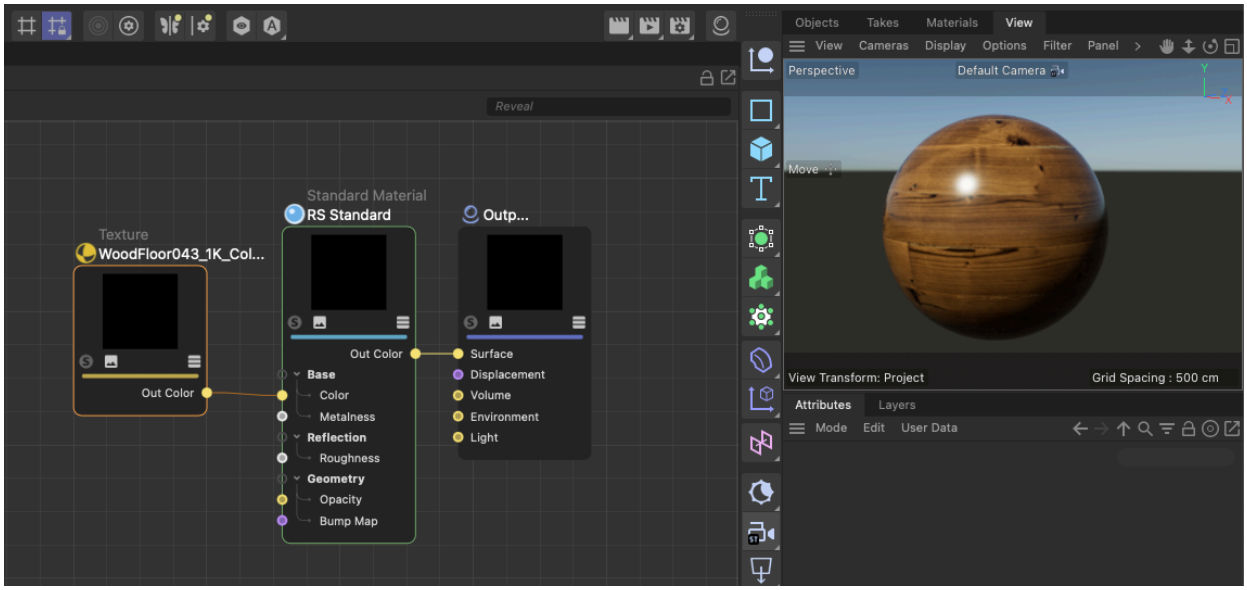
If you want a “good enough” solution, just drag the `.usda` file into Cinema 4D and set Redshift as the Target. This will create a material graph that looks something like this:



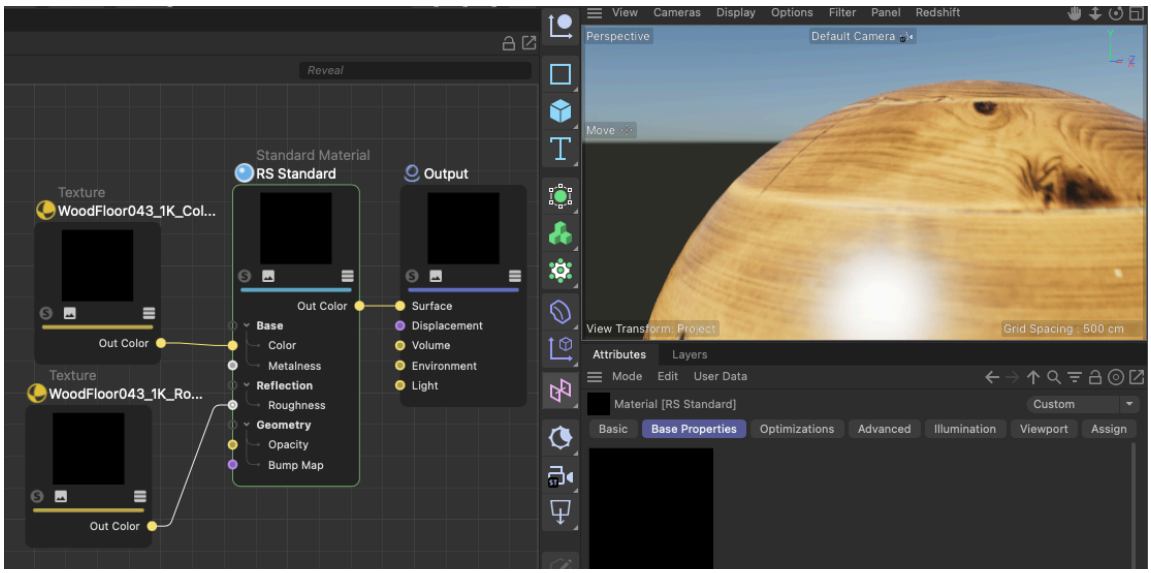
a. Benefits: Quick and Easy
b. Downside: Materials won’t automatically get Displacement, and you’ll be using a slightly older shader which isn’t quite as realistic.

Hand-Building a Standard Material

1. Follow all of the instructions in [Creating a Redshift Material]
2. Double-click on the Material to open it in the Node Editor
3. Open your Finder/Explorer to reveal the downloaded textures
4. Locate the texture with the **_Color** suffix.
   You’ll sometimes see variations like “BaseColor” “Base” “Diffuse” “Diff” or “Albedo”, these are all more-or-less usable in the color channel.
5. Drag **WoodFloor043_2K_Color.jpg** into the Node Editor.
   You can use the same 1, 2, 3 or Alt + MMB navigation to move around the node editor you’re used to. `H` and `S` to Frame All and Frame Selected both still work as well.
6. Click on the Yellow **Out Color** port on the Texture node and drag it to the Yellow **Base.Color** input port.

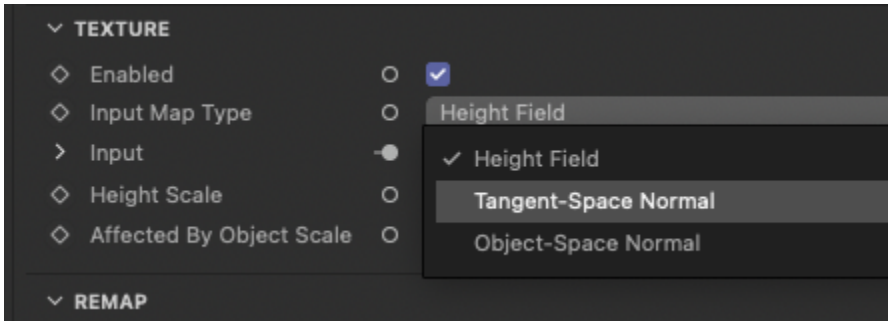


7. Drag in your **_Roughness.jpg** texture and link it to the **Roughness** port.

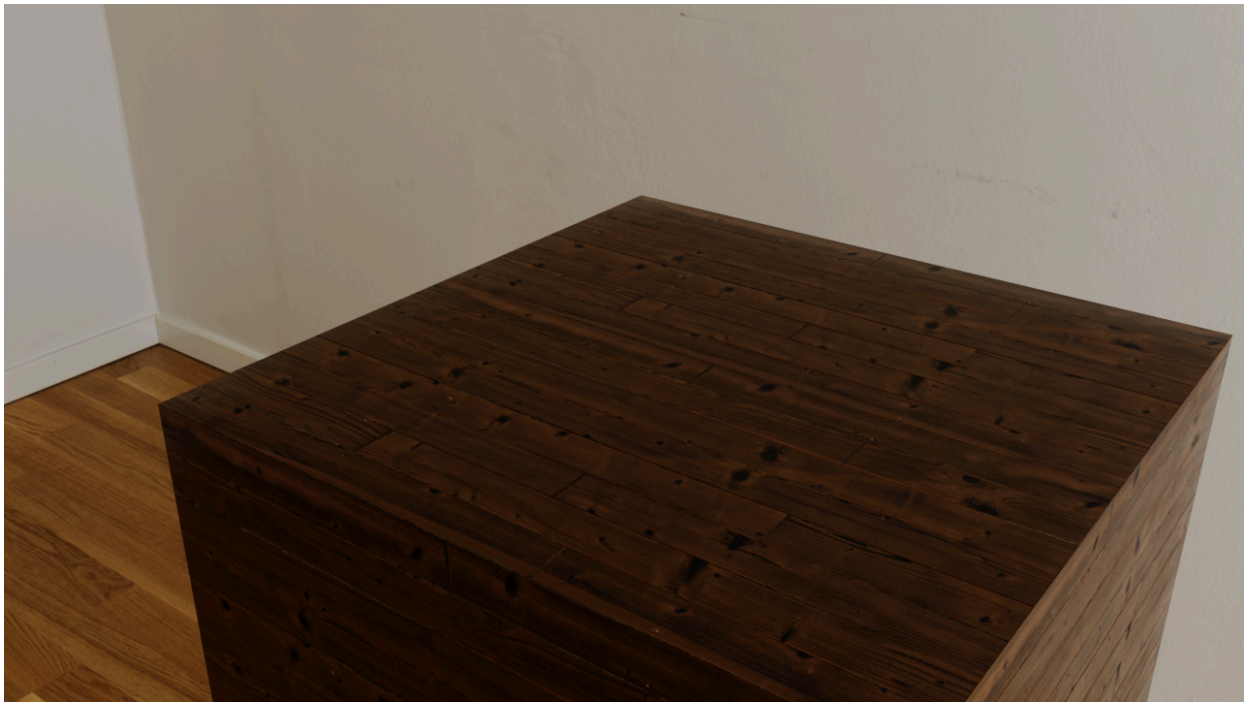


8. Drag in your **_NormalGL.jpg** texture (Redshift uses OpenGL encoded Normal maps, if you only have DirectX as an option look for a Flip Y checkmark in the Normal Node.)
9. Double Click in the Node Editor to bring up the **Nodes Commander**
10. Search for **Bump Map** and select **Bump Map** (you should probably search for Bump Map, but it's easier for me to remember normal as that's the type of map we have).
11. Ctrl/Cmd + Click on the Node Dot to the right of **Texture.Input** in the attributes manager to expose the port on the node.
12. Wire your Normal texture into the Bump Map node, and then wire the Bump Map node into the Bump Map port on RS Standard.

13. Switch the Input Map Type to Tangent-Space Normal



14. Import and connect your _Metalness map to the Metalness input.
15. Add a Displacement Node and expose the TexMap input port by Ctr-Clicking on it in the AM.
16. Wire your _Displacement texture to your Displacement Node to the Displacement input port on the Output node.



Questions from Homework

1.) Explaining environment light and how to use it.
2.) Can you go over lighting or lit object materials again? Specifically related to redshift ones
    a.) How do I add a lightsource?
3.) Why does the viewport turn red when I start IPR?
4.) How to flip the patterns on the material
5.) How to adjust shadows such as softness, darkness or color?
6.) How to create a transparent plastic?
7.) Mesh Checking & viewport solo

8.)

Week 04: Hierarchy

Questions from Homework

- Can you remind us how to set a basic pose that we can return to ?
    - Select all objects whose transforms you want to record
    - Attributes Manager > Coordinates > Freeze Transformation > Freeze All Button
- What would be the workflow for theoretically implementing MoCap data to a rigged characters ?
    - https://www.cineversity.com/vidplaylist/cinema_4d_quick_tips/how_to_transfer_mocap_data_from_the_content_browser_over_to_a_character

Week 05: Lighting

Questions from Homework

- How to deal with a rectangle edge of area light when using texture of area light?
- How can you tell if your shadows are gonna appear? How to make them appear if they don’t appear?
-

Week 06: Camera Animation + Earthquake Drill

! Start recording when you get to the technical lecture

- How do I get better at this?
- Why a Camera vs a Viewport?
- How can I animate a camera without recording keyframes?
- Can you keyframe the visibility of Objects?
-

Week 07: Animation Basics

Questions from Homework

- [x] How to move/animate two objects in the same keyframe?
- [x] Why is it over writing/jumping back to prior keyframes when I try to add new ones?
- [x] How to render out an animation?
- [x] How to animate the color of an object?
- [x] How to zoom in on the timeline?

! Start recording when you get to the technical lecture

Week 08: Spline Modeling

! Record the class session for students who are out

- How do I subtract a volume from a volume; Splines are limiting me!
- How to save / not lose work?
- How do I get a helix?

Week 09: Procedural Modeling

- Can you review how to use the different planes and shapes to remove/change part of cloners

Week 10: Polygon Modeling

https://sites.google.com/site/c4dtutorialwiki/foundations-of-3d-animation/wk-11-polygonal-modeling-organic-sculpting