

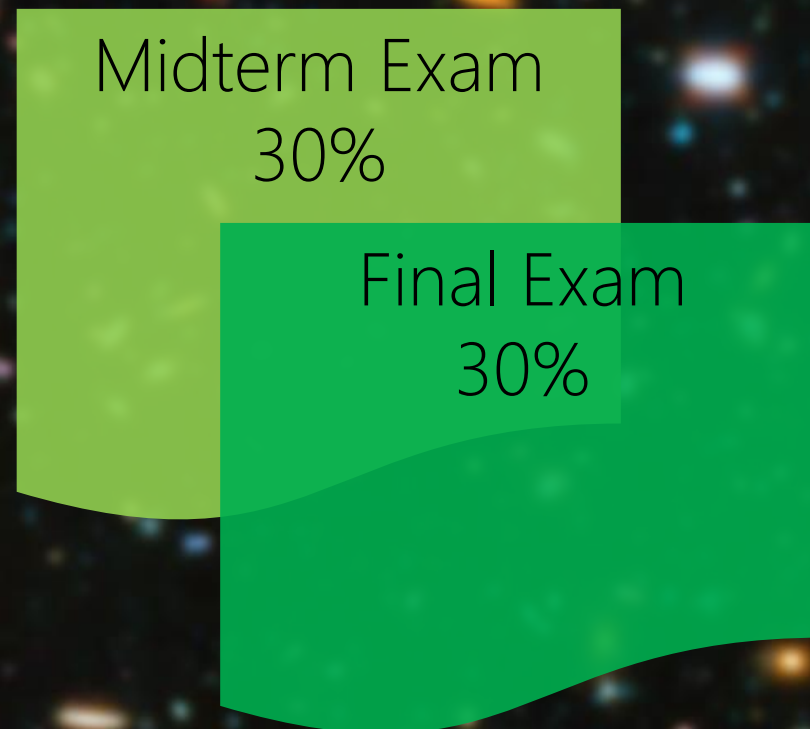
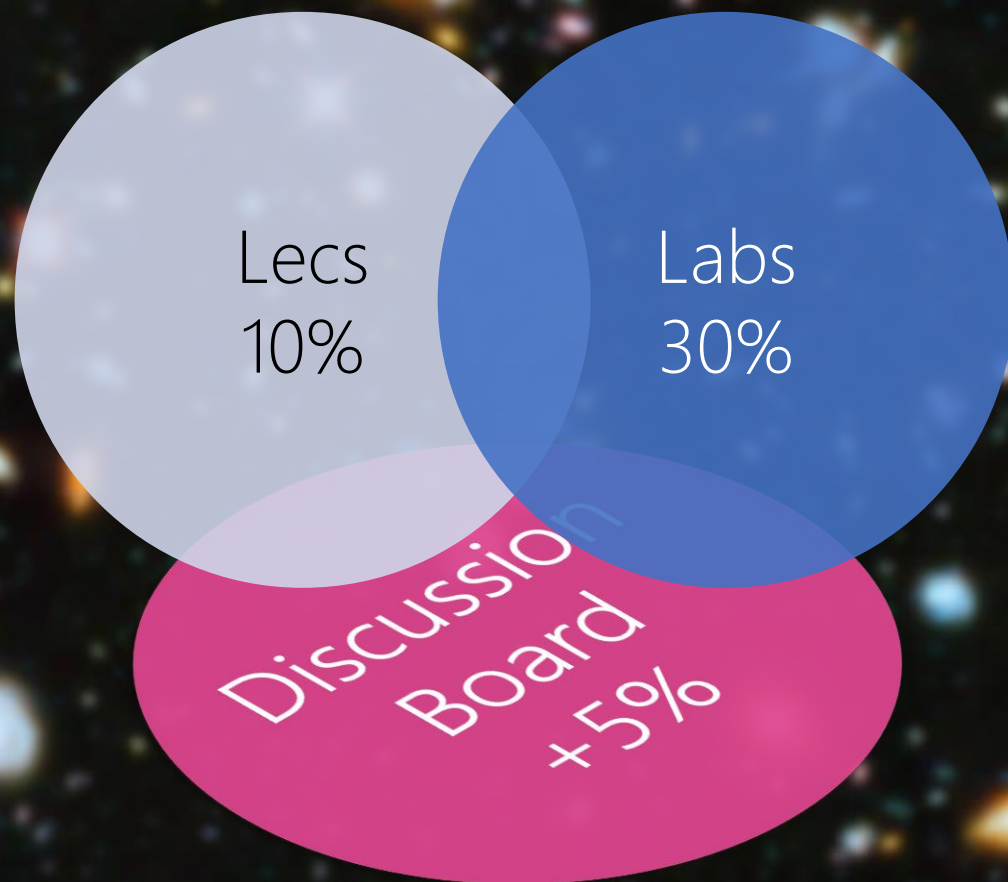


Follow the White Rabbit
- The Matrix (1999), Lana & Lilly Wachowski



wake up, Neo...

Follow the White Rabbit
- The Matrix (1999), Lana & Lilly Wachowski



The background of the slide is a deep space image filled with numerous galaxies of various colors (blue, orange, white) and shapes, set against a black void. A thin, solid red horizontal line runs across the middle of the image, positioned just above the title text.

BLACKBOARD TOUR

A cosmic background image featuring a dense field of galaxies in various colors (yellow, orange, blue, white) against a black space. Two horizontal red lines are positioned above and below the text.

LEARNING OUTCOME

aka. Learning Objectives

A cosmic background image featuring a dense field of galaxies and stars against a black sky. The galaxies are in various colors, including blue, orange, and white, and are scattered across the frame. Two horizontal red lines are positioned above and below the text.

COURSE OUTLINE

aka. Course Syllabus

The background of the entire slide is a deep space image filled with numerous galaxies and stars. The galaxies are in various stages of evolution, some appearing as bright, dense clusters and others as more diffuse, elongated structures. The colors range from bright yellow and orange to deep blues and purples, set against a black void. Two thin, horizontal red lines are positioned above and below the main title text.

LABORATORY GUIDE

aka. Lab Manual

The background of the entire image is a deep space photograph showing a vast field of galaxies and stars. The galaxies are in various stages of evolution, some appearing as bright, fuzzy clouds of light, while others are more distant and appear as smaller, fainter points of light. The colors range from bright yellow and orange to deep blues and purples, set against a black background.

LABROOM

aka. Laboratory

The background of the entire slide is a deep space image showing a vast field of galaxies and stars. The galaxies are in various stages of evolution, some appearing as bright, dense clusters and others as more diffuse, elongated structures. The colors range from bright yellow and orange to deep blue and purple, set against a black background.

DISCUSSION BOARD

+ Bonus 5%

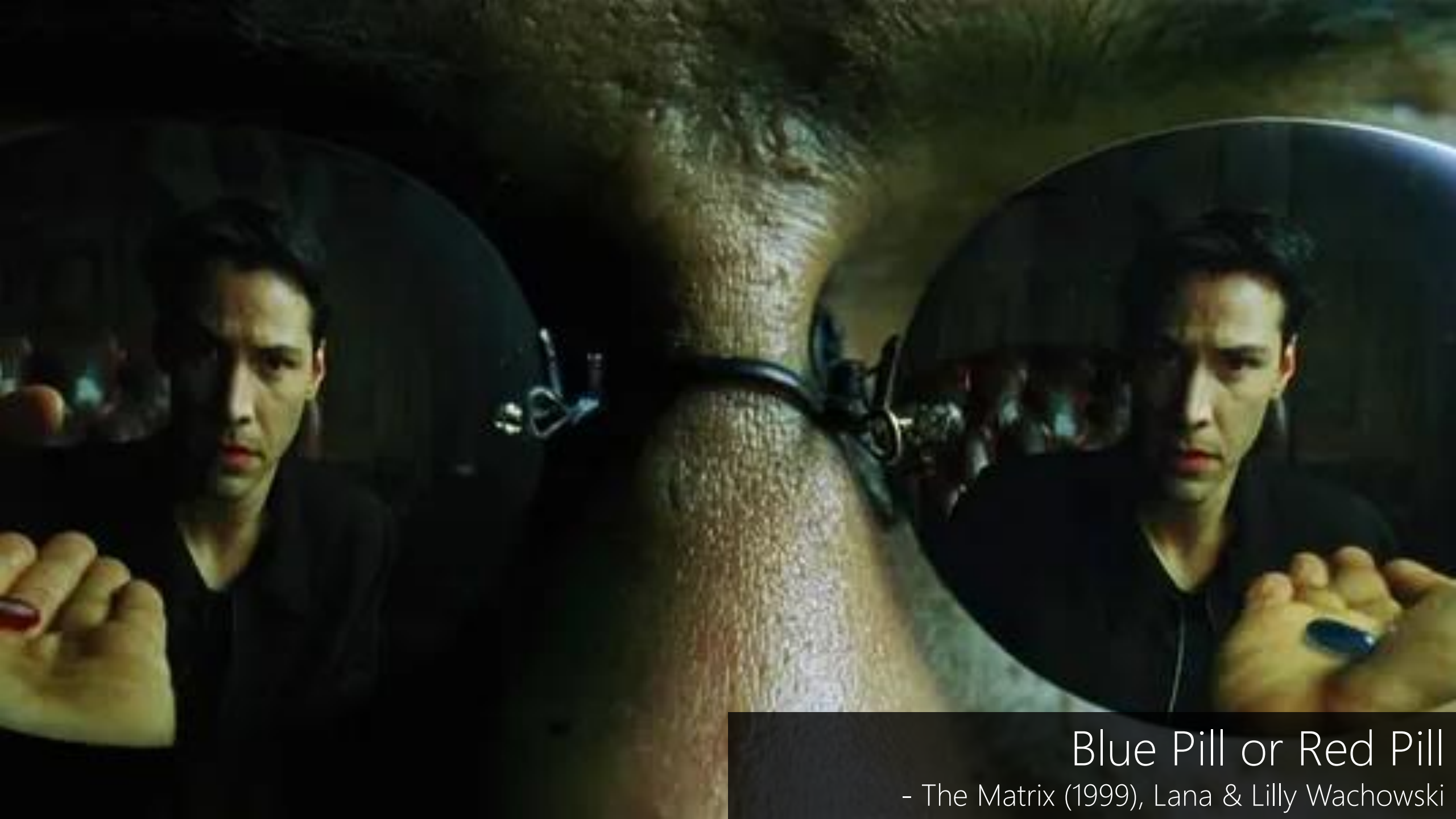
The background of the slide is a deep space image showing a vast field of galaxies. These galaxies appear as bright, colorful spots (yellow, orange, blue, and white) against a dark, black background. They are scattered across the entire frame, with some appearing more prominent than others. A thin red horizontal line runs across the middle of the slide, separating the top image from the text area.

OFFICE

Right After the Lectures on Blackboard
Monday – Wednesday 11:30 AM – 12:30 PM



Hossein Fani, PhD
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Blue Pill or Red Pill

- The Matrix (1999), Lana & Lilly Wachowski

A deep space photograph showing a vast field of galaxies, including spiral, elliptical, and irregular shapes, scattered across a black background. The galaxies exhibit various colors, primarily blue and orange/yellow, indicating different temperatures or compositions. A prominent bright star with a four-pointed diffraction pattern is visible in the upper left. In the center of the image, there is a solid black circle with a thin white outline. Inside this circle, the words "UNIX" and "Kernel" are written in a white, sans-serif font, stacked vertically.

UNIX
Kernel

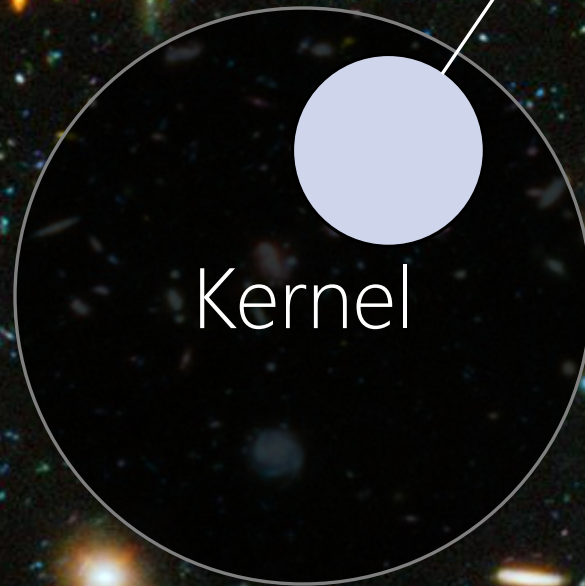


<https://youtu.be/zE7PKRjrid4?t=57>



Grand Défi , Bronze, 175x145x130cm, Nicolas LAVARENNE

<https://www.artseiller.com/en/nicolas-lavarenne-en>



Kernel

File Manager

Interaction with I/O Devices

All I/O Devices are Files

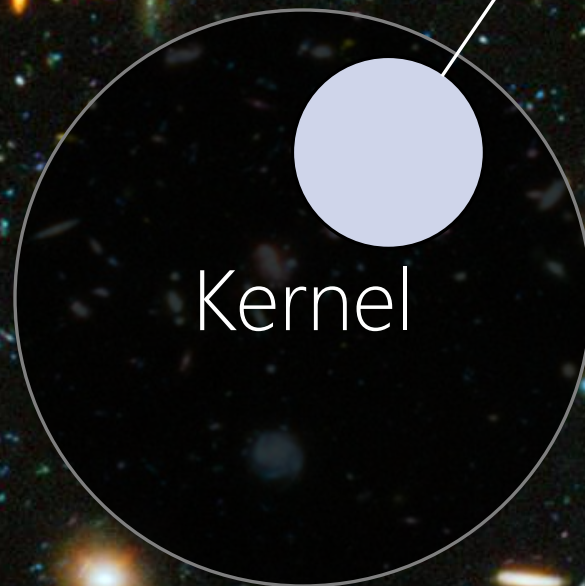
Files are streams of 0s and 1s
aka. File System



The background of the slide is a deep space photograph filled with numerous galaxies of various shapes and colors, including blue, orange, and white, set against a black void. In the center, there is a large black circle with a thin white outline. Inside this circle, the word "Kernel" is written in white. A smaller, solid light blue circle is positioned at the top edge of the large black circle. A white line extends from the right side of this light blue circle, passing through the boundary of the large black circle and ending at a dark grey rectangular box on the right side of the slide. This box contains the text "Memory Manager", "Virtual Memory", and "Paging" stacked vertically.

Kernel

Memory Manager
Virtual Memory
Paging



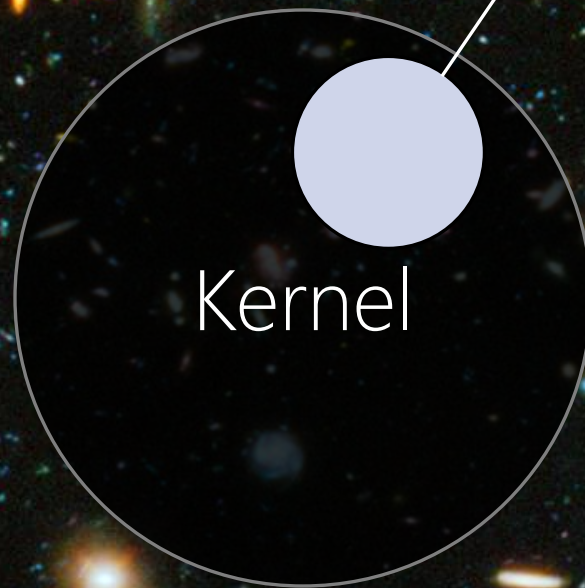
Kernel

Process Manager
Program → Process
Multi-Process Execution



Kernel

Network Manager
Quality of Communication
Sockets



Device Manager

Processor

I/O Devices (Keyboard, Storage, ...)

Kernel