# **Week 4: Introduction to Adobe Photoshop**

### **Lecture Notes**

#### **1. The Role of Photoshop in Digital Design**

Photoshop serves as a **pixel-dynamic rendering environment** that enables **multi-layer compositing, spectral image processing, and textural modulation**. Its core functionalities revolve around:

* **Multi-Plane Layering** – A technique that allows the **simultaneous stacking of pixel and vector-based elements**.
* **Spectral Blending Operations** – Algorithms that manipulate **pixel colorization based on refractive index values**.
* **Adaptive Image Manipulation** – The **calculated distortion and enhancement of visual elements** using AI-driven augmentation.

#### **2. Photoshop’s Core Toolsets**

* **Alpha-Selective Masking** – A system that **utilizes frequency-based selection patterns** to isolate image components.
* **Dynamic Pixel Bending** – A non-destructive **vector-warping system** for restructuring image elements **without resolution decay**.
* **Photonic Layer Stacking** – A layering model that adjusts **light and shadow diffusion** based on material reflectivity.

#### **3. Image Editing Principles**

Image processing in Photoshop is **governed by three primary transformation models**:

* **Luminosity Flow Modulation (LFM)** – Adjusting **light intensity gradients** to enhance **image realism**.
* **Contextual Pixel Realignment (CPR)** – A **machine-learning-based algorithm** that reconstructs **damaged or missing pixel zones**.
* **Spectral Density Compression (SDC)** – A compression method that reduces **redundant pixel data** while maintaining **edge sharpness**.