



ASSOCIACIÃO DE PESSOAS DE ALTAIR (UNIVERSIDADE)  
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# Adobe Photoshop Course - Introduction

- Comprehensive training from beginner to advanced levels
- Combines two successful courses: fundamentals + advanced
- Ideal for new users and those seeking to refine their skills
- Emphasis on structured learning and hands-on practice
- Course includes exercises, homework, and final projects
- Covers foundational tools, techniques, and workflows
- Building real-world Photoshop competence



# Course Structure & Learning Outcomes

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## **Beginner to Intermediate Module**

- Interface navigation and workspace customization
- Layers, shapes, text, and smart object usage
- Image color correction, cropping, and exporting
- Layer styles, masks, filters, and brushes
- Practical project reinforcing learned tools and methods

## **Intermediate to Advanced Module**

- Workflow tips, Creative Cloud integration
- Advanced retouching and color correction (Camera Raw)
- Typography, perspective manipulation, 3D design
- Video editing, motion graphics, and AI tools
- Final project demonstrating advanced creative mastery



# Introduction to Image Processing

- Image processing refers to the manipulation of digital images using computational methods
- Involves converting images into digital form and performing operations to enhance or extract information
- Input is an image; output can be an improved image or data extracted from it
- Central to fields like computer vision, AI, and graphics
- Used for tasks like noise reduction, sharpening, contrast adjustment, and color correction
- Enhances both visual appeal and analytical utility of images



# Key Stages in Digital Image Processing

- **Image Acquisition:** Capturing digital images using cameras or scanners
- **Preprocessing:** Removing noise, correcting distortions, normalizing brightness
- **Enhancement:** Improving image quality through sharpening, filtering, or adjusting contrast
- **Restoration:** Reconstructing or recovering degraded images using models
- **Segmentation:** Dividing an image into meaningful regions or objects
- **Feature Extraction:** Identifying important patterns, edges, textures, or shapes
- **Image Recognition & Interpretation:** Assigning labels or meaning using algorithms or AI
- **Compression & Storage:** Reducing image size for efficient storage and transmission



# Types of Images

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- **Binary Images:** Contain only two colors (black & white)
- **Grayscale Images:** Shades of gray ranging from black to white
- **Color Images (RGB):** Made of red, green, and blue channels
- **Indexed Images:** Use a color palette with limited colors
- **CMYK Images:** Cyan, Magenta, Yellow, Black
- **Multispectral & Hyperspectral Images:** Capture data across multiple wavelengths
- **Vector Images:** Use mathematical paths (not pixels)
- **3D Images:** Represent three-dimensional objects



# Understanding Digital Images

- Digital images are numerical representations of visual information
- Composed of discrete units (pixels or paths) interpretable by computers
- Used widely in photography, graphic design, printing, and multimedia
- Enable image storage, editing, analysis, and transmission
- Divided into two primary categories: **Raster** and **Vector**
- Choice of image type affects quality, scalability, and file size
- Each category serves distinct purposes in design and production
- Knowing their differences is essential for proper application



# Raster & Vector Images

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## Raster Images:

- Made up of individual pixels in a grid
- Resolution-dependent (blurs when scaled)
- Ideal for detailed images like photos (JPG, PNG, BMP)
- Commonly used in web graphics, photography, and digital painting

## Vector Images:

- Composed of paths defined by mathematical formulas
- Resolution-independent (scalable without loss of quality)
- Ideal for logos, icons, and illustrations (SVG, AI)
- Preferred for print graphics and design requiring precise scaling





# Image File Formats

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- **JPEG (JPG):** Compressed format ideal for photos; small size but lossy quality
- **PNG:** Supports transparency; lossless compression; used for web graphics and UI elements
- **GIF:** Limited to 256 colors; supports animation; best for simple web graphics
- **TIFF:** High-quality, uncompressed or lossless format; used in printing and archiving
- **BMP:** Raw bitmap format; large file size; rarely used today
- **SVG:** Vector-based format; resolution-independent; ideal for logos and scalable graphics
- **WEBP:** Modern format by Google; combines small size with quality; used in web optimization
- **PSD:** Adobe Photoshop's native format; retains layers and editing capabilities for ongoing design work

# Adobe Photoshop – Early Development

- Created in 1987 by Thomas and John Knoll as a tool to display grayscale images
- Initially named **Display** before being renamed to **Photoshop**
- Licensed to **Adobe Systems** in 1988; first commercial release in 1990
- Early versions focused on fundamental image editing: cropping, retouching, and color adjustments
- Introduced layers in Photoshop 3.0 (1994), revolutionizing image editing workflows
- Rapid adoption by professionals due to user-friendly interface and powerful tools
- Early versions ran primarily on Macintosh platforms



# Adobe Photoshop – Evolution

- Feature expansion: introduction of filters, masks, and adjustment layers
- Integration with **Adobe Creative Suite** (later **Adobe Creative Cloud**) enhanced interoperability
- Addition of advanced tools like Camera Raw, 3D editing, and video capabilities
- Introduction of AI-powered features: content-aware fill, neural filters, and automatic selections
- Shift from perpetual licenses to subscription-based Adobe Creative Cloud model
- Cross-platform support expanded to **Windows** and mobile devices (Photoshop Express, Photoshop on iPad)
- Today, Photoshop remains the industry-standard for digital image editing and graphic design



# Uses of Adobe Photoshop

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- Photo editing and retouching for enhanced image quality
- Graphic design for creating digital artwork and layouts
- Web design elements and user interface (UI) mockups
- Digital painting and illustration with customizable brushes
- Creating and manipulating complex composites and collages
- Preparing images for print media and advertising
- Editing videos and creating motion graphics
- Developing textures and assets for 3D modeling and game design



# Adobe Creative Cloud (CC)

- Subscription-based service launched by Adobe in 2013
- Provides access to a comprehensive suite of creative applications, including **Photoshop, Illustrator, Premiere Pro**, and more
- Enables seamless integration and file sharing across apps and devices
- Includes cloud storage for easy backup and collaboration
- Regular updates and new feature releases delivered automatically
- Offers collaborative tools such as **Adobe Creative Cloud Libraries** and **Adobe Stock** integration
- Supports cross-platform workflows (desktop, web, mobile)
- Facilitates creative professionals with flexible licensing and scalability



# Getting Started with Photoshop

- Available on multiple platforms: Windows, macOS, and iPad
- Desktop version offers full feature set and advanced tools
- Photoshop on iPad supports cloud documents and basic editing
- Available via Adobe Creative Cloud subscription model
- Subscription plans include **Single App**, **All Apps**, **Photography** bundles and more
- Cloud subscription ensures automatic updates and access to latest features
- Offers free trial periods for new users to evaluate the software



# Installation & Setup

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- Installation through Adobe Creative Cloud desktop application
- Requires **Adobe ID** and internet connection for download and activation
- Minimum system requirements vary by platform; recommended hardware improves performance
- Initial setup includes interface customization and workspace preferences
- Option to sync settings and presets across devices via Creative Cloud
- Tutorials and starter guides available within the app and Adobe website
- Supports plug-ins and extensions for enhanced functionality



# Welcome to Photoshop – Overview

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- Starting a new project in Adobe Photoshop
- Navigating the Photoshop interface efficiently
- Understanding layers and their functionality
- Exploring artboards and their applications
- Modifying images and adjusting resolution settings
- Customizing the Photoshop workspace for optimal workflow
- Hands-on practice





# Starting a New Project in Photoshop

- Overview of the Photoshop interface and workspace
- Accessing recent files and using the search/filter function
- Initiating a new project via the ***New File*** option
- Available project templates categorized by purpose:
  - Photography (saved photo sizes)
  - Print (legal, tabloid, A4, A5 sizes)
  - Art and Illustration
  - Web design
  - Mobile and Film (Full HD, 4K resolutions)
- Template sizes customizable according to project requirements



# Configuring Project Settings

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- Naming the project and setting dimensions (width, height)
- Selecting measurement units: inches, pixels, centimeters, millimeters, points
- Adjusting resolution: impacts detail and file size (300 pixels/inch)
- Choosing color modes:
  - RGB (Red, Green, Blue) for digital media - default choice
  - CMYK (Cyan, Magenta, Yellow, Black) - for print media
  - Grayscale for monochrome designs - generally avoided
- Setting background options: white, black, transparent, or custom colors
- Creating the project and beginning work on the canvas



# Workspace Setup & Interface Overview

- Creating a new file: selecting size and clicking **Create**
- Setting workspace to *Essentials* via *Window > Workspace > Essentials*
- Resetting workspace if needed: *Window > Workspace > Reset Essentials*
- Overview of Photoshop interface:
  - Menu bar (File, Edit, Image, etc.)
  - Toolbar (a collection of tools)
  - Options/Properties bar - contextual options; changes based on selected tool
  - Canvas & Tabs
  - Panels - access to various features
- Adjusting panel sizes and layout for ease of use
- Using rulers and guides (using **Ctrl + R**, **Command + R** on Mac)



# Tools, Panels & Navigation Controls

- **Toolbar** on left: contains all Photoshop tools (Move, Selection, Artboard, etc.)
- **Panels** provide specialized functions (Color, Swatches, Layers, Channels, Paths, etc.)
- Activating/deactivating panels via **Window** menu
- Basic navigation shortcuts:
  - Panning workspace with *Spacebar* + drag
  - Zooming in/out with *Alt* + mouse wheel (*Option* + mouse wheel on Mac)
  - Fitting project to screen with **Ctrl/Cmd + 0**
  - Scrolling vertically with mouse wheel; horizontally with **Ctrl/Cmd + mouse wheel**
- Resetting workspace to Essentials if workspace layout changes



# Layers in Photoshop

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- **Layers** – fundamental components of Photoshop's workspace
- Functioning like transparent sheets stacked vertically
- New projects start with one locked background layer
- Unlocking layers enables editing and reveals transparency (checkerboard pattern)
- Transparent layers contain no visible pixels
- Importing images creates new layers above existing ones
- Layer order determines visibility and stacking priority
- Understanding layers is essential for effective Photoshop use



# Basic Operations & Features of Layers

- Layers can be reordered vertically to change visibility priority
- New transparent layers can be added for painting and edits
- Opacity controls layer transparency and visibility
- The eye icon toggles layer visibility without deleting it
- Layers can be locked to prevent changes or movement
- Layers can be grouped to manage multiple layers as a unit
- *Move Tool* allows repositioning of selected layers or groups
- Auto Select allows selecting layers/groups by clicking on the canvas
- Layers can be merged to combine multiple elements into one layer



# Artboards Overview in Photoshop

- **Artboards** represent multiple workspaces within a single Photoshop document
- Activation occurs by selecting the *Artboard* option when creating a new file
- The *Artboard Tool* is accessible via the *Move Tool* menu
- New artboards can be added by clicking the plus (+) icons adjacent to existing ones
- Designed to facilitate management of related designs sharing common attributes
- Common applications include website interfaces and multi-format marketing materials
- Artboards function similarly to groups within the Layers panel
- Each artboard contains its own nested layers



# Functional Uses & Manipulation of Artboards

- Enabling organization of multiple pages or design variants within one file
- Supporting uniform design elements such as color schemes, fonts, and logos across artboards
- Facilitating creation of consistent branding across various media formats (posters, banners, etc.)
- Precisely repositioning artboards using shift-drag for alignment
- Copying and pasting elements between artboards to maintain design consistency
- Duplicating or deleting artboards to suit project needs
- Allowing simultaneous export of all artboards for efficient workflow





# Image Size & Resolution in Photoshop

- **Image Size** adjusts the dimensions and resolution of Photoshop files or images
- Maintaining aspect ratio ensures proportional resizing for various print sizes
- Increasing size without adjusting resolution may cause **pixelation** and **loss of quality**
- **Resolution** (pixels per inch) directly affects print quality and file size
- Example: Changing resolution from 72 PPI to 300 PPI increases file size significantly
- Dimensions and resolution can be adjusted interactively via Image Size dialog
- Higher resolution images are suitable for large format prints (posters, banners)
- Lower resolution images are appropriate for smaller prints (A4 or A5 paper)

# Photoshop Workspaces

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## **Multiple workspaces exist for different tasks**

- Essentials (default)
- 3D Workspace (for 3D work)
- Graphic & Web (for design and web)
- Motion (for video and motion graphics)
- Painting (brushes and painting tools)
- Workspaces adjust panel layouts according to the task
- Switching workspaces changes visible panels and tools



# Customizing & Saving Workspace

- Panels and toolbars can be moved, docked, added, or removed
- Panels are dragged by their tabs and docked in desired locations
- Toolbar and properties bar can be repositioned or detached
- Quick-action bar offers context-sensitive options based on selected tools
- Custom workspaces can be saved via:  
*Window > Workspace > New Workspace*
- Workspaces can be reset to default layout anytime





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# Questions & Answers

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