

Image processing (T1M)

Class 01

Basics of bitmap images (pixel grid)

- The screen and pixels
- RGB vs CMYK
- The resolution
- Photoshop's interface
- Main menu
- Tool-bar and top settings
- Panels

Creating a new document (explain settings)

- Presets
- Dimensions
- Resolution
- Canvas background color
- Color modes (basic explanation RGB and CMYK)

Tools

- Selecting foreground and background color from the tool-bar
- Using brush tool (size and hardness, opacity)
- Using pen tool (size and hardness, opacity) – no anti-alias
- Using Paint-bucket
- Using Gradients
- Using Eraser
- Using Form tools (+ Property panel + render layer)
- Using Zoom and Hand tools
- Using History panel (basics)

Layers

- Layers panel
- Creating a new layer
- Layers moving tool
- Duplicating and deleting layers
- Reordering layers
- Layers' opacity

Drawing exercise

Simple multilayers drawing (South Park type).

Must include : Background, middleground and foreground All elements created on independant layers

Basic selection tools

Rectangle tool (M) / Oval tool (M)

- To draw a perfect square
- Add to selection
- Subtract from selection
- Selection size (Normal, fixed properties, fix size)

Lasso (L)

- Freehand selection tool
- Must come back to starting point
- Closes automatically if mouse released

Poly. Lasso (L)

- Selection by anchor point
- Must come back to starting point
- Double-click to close automatically

Drawing using selection tools

- Make selection
- Fill using paint bucket
OR ALT+BACKSPACE
OR CMD+BACKSPACE

Feathered selection

- Use a select tool + specify a feather in the parameters bar
OR Make selection + right-click + feather (specify feather in the option window)

Painting into a selection

- Impossible to draw or paint out of a selection
- If you can't paint = use Deselect (CMD+D) and try again
- Paint directly in the selection
- Paint using a feather brush next to the selection (feather effect)

Fill and stroke

- On a selection = right-click
Select fill OR stroke
- Fill:
 - Select foreground/background color
 - Select color
 - Select black/white/50% grey

Layers panel (revision), plus :

- Creating and using folders
- Linking layers
- Show and hide layers
- Layers' locks

Saving a file

PSD

- Source format
- No compression
- Keep layers
- Add color mode

JPEG

- Compression (explain)
- Perfect for photographic image type

GIF

- Compression (explain)
- Perfect for illustration type image (flat or minimal gradients)
- Allows a minimal form of transparency
- Allows animation

PNG

- Compression (explain)
- Allow transparency (alpha channel)
- 8bits or more (8bits may show jaggy edges)
- Allows photographic type image

Assignment 1

Simple multi-layers drawing (South Park type).

Using tools and selections

Class 02

Presentation : Assignment 1

Managing files

Open a file :

- From Photoshop
- Using Photoshop (from finder/Windows' explorer)
- Using drag & drop

Copy/paste

- Mouse menu
- Edit menu (Copy/Paste/Cut)
- COPY = CMD+C
- PASTE = CMD+V
- CUT = CMD+X

- Pasting within/without a selection

- Copy from external source (e.g. Internet)
- Copy from layer
- Copy merged (from all layers visible in selection)

- Paste in place
- Paste into...
- Paste into with feathered selection

Image transformations

EDIT / TRANSFORM

- All options

Free transform (CTRL-T)

- Scaling x / y
- Scaling uniformly (shift)
- Skewing
- Distorting
- Perspective...

Text tool

Free text

- With text tool selected = click on canvas and type
- Parameters bar :
 - Font
 - Size
 - Color

Text-box

- With text tool selected = draw a shape (text box) and type
- Parameters bar :
 - Font
 - Size
 - Alignment
 - Color...

Character panel

- Font
- Size
- Kerning / leading
- Dictionary, etc.

Paragraph panel

- Alignment
- Indents
- First line indent...
- Space between paragraphs...

Deform text

- Free transform, etc.

Render text

- Right-click on text layer = rasterize (render)
Becomes an image

Assignment 2

Reproduce a magazine's cover page (e.g. Time)

Class 03

Presentation : Assignment 2

Selection tool (suite)

Magic Wand

- Using this tool, click on an area of the image
- A selection will be made according to similarity in color and lightness
- Tolerance :
 - Default = 32
 - Higher = selects more
 - Lower = selects less

Easy selection tool

- Works like a paintbrush
- Go over what you want to select
- Use alt to subtract what you want to exclude (that was selected)

Extracting an object from its background (removing background)

- Using eraser
- Using selection tools
- Refine edges manually :
 - With eraser
 - With feathered selection + delete

Assignment 3

Create a photo montage using elements from different sources into one composition.

Path tool

- Pseudo vectors
- What are paths (fill + border)
- Options : form / path / pixels
- Anchor points
- Beziers curves
- Anchor points creation / selection
- Moving single and multiple anchor points

Using path tool for selection

- Path mode
- Path panel and options
- Beziers curves manipulation
- Refine edges

Assignment 4

Create a composition with elements from different sources using different selection techniques and refine edges function.

Class 04

Presentation : Assignment 3 and 4

Photographic images adjustment

Crop tool (+ alignment)

- Alignment tool :
 - Aligning with horizontal line
 - Aligning with vertical lines
- Crop tool :
 - Cropping tool manipulation
 - Free cropping
 - Cropping with predefined and customized ratios
 - Using crop to enlarge canvas

Levels

- Histogram
- Automatic adjustment
- Highlights
- Darkens
- Mid-tones
- Tones eyedroppers
- Black/white density
- Adjusting independent channels (color correction)

Curves

- Histogram
- Play with contrast

Exposure

- Great tool for lightness

Dark/lighten tints

- Adjusts dark/light « colors » (not lightness)

Automatic adjustments (from menu)

- Not a very good idea
- Can be a good starting point in bad situations

Vibrance

- Concentrates the color into pixels up to 100%
- Doesn't create noise or Artifacts
- Can decrease color concentration, but not to 0%
- Saturation slider can be used for more intense effect
Can decrease color concentration to 0%

Tint/Saturation

- Hue = shift tones
- Saturation = increases color concentration (over 100% on fully saturated pixels)
May create noise and artifacts
- Lightness = lightens or darkens
- Adjustments within channels
- Colourize = removes color informations
+ replaces it with selected color

Color balance

- Push and pull correction (using complementary colors)
- Adjustments made within : Highlights / mid-tones / darkens
- Keep lightness

Color replacement

- Replaces a color with another one
- Select destination color
- Tolerance adjustment

Black and white

- Hides color informations
- Allow adjustment of the tones generated by hidden colors

Assignment 5

Photo-montage

Create a film poster (8 x 12, RGB, 72dpi)

Class 05 :

Presentation : Assignment 5

Camera raw image adjustment

- What is RAW format

Camera Raw interface

- Previsualisation
- Production flow
- Histogram and alerts
- Adjustment panels
- Basic tool
- Zoom + hand
- White balance eyedropper
- Targeted adjustments
- Crop and alignment
- Spot correction
- Red eye tool
- Retouch brush
- Gradient filters
- Preferences
- 90 degrees rotations
- Production flow
- Color space (spectrum)
- Pixel depth (8/16/32 bits)
- Image size
- Sharpness (screen/print...)
- Basic adjustments panel :
 - White balance (eyedropper, light temperature, tint correction)
 - Lighting (Default, auto, exposure, contrast, darkens/lightens, black & white)
 - Colors (sharpness, vibrance, saturation)
 - Details : Sharpness, Noise reduction
 - TSL/Grayscale
 - HDR turn
 - Lens correction
 - FX

Homework 6

Photo images adjustment of RAW files.

Then final adjustments in Photoshop.

Student will have to present the before and after version of the selected image.

Class 06

Intra exam (20%)

Class 07

Presentation : Assignment 5

Image retouching

- Spot corrector + Corrector
- Patch tool + Content aware moving
- Stamp tool + Pattern stamp tool
- Sharpen tool + Blur tool
- Smudge tool + Sponge tool
- Dodge tool + Burn tool (on lightens/darkens/mid-tones)

Saving for the web

- Saving as regular JPEG/GIF/PNG
- Using Save for web exportation module (to export independent images):
 - Preview panes
 - Predefined compression levels
 - Gif adjustments
 - JPEG adjustments
 - PNG versions

Exercise

Photo retouching (bad skin)

Image retouching (suite)

- Content aware fill
- Content aware scale
- Puppet transform

Transform filters

- Adaptive wide angle
- Camera raw filters
- Lens correction
- Distort/Transform (various)
- Pixelate
- Sketch
- Stylize
- Texture

Filter gallery

- Review of all filters

Color range selection

- Eyedropper
- Color selector
- Tone selector
- Skin tone selector

Assignment 6

Repairing, retouching and adjust a damaged photography.

Class 08

Presentation : Assignment 6

Blending modes

- Blending layers
- Contrasts blending modes
- Luminosity blending modes
- Multiplication blending modes
- Colors/effects blending modes

Colorization using blending modes

- Demonstration :
 - Over a color image :
 - Changing hair color
 - Changing eye color
 - Adding lipstick
 - Adding eyeshadow
 - Adding blush (cheek)
 - Painting over a black and white :
 - Starting with approximate color
 - Choosing a blending mode
 - Adjusting color
 - Reselect corrected color
 - Apply color where needed

Assignment 7

Color a black & white picture so it look as realistic as possible.

Class 09

Presentation : Assignment 7

Compositing

- What is compositing :
Create photo-realistic compositions using elements from different sources
- Explaining final project (Living-room)
- Demonstration :
 - Creating the room walls
 - Selecting a floor
 - Integrating the floor (using free transform tool)
 - Selecting furniture
 - Integrating furniture (sofa, frames for the wall, carpet...)
(using selection techniques and free transform tool)
 - Selecting and integrating a lamp
 - Creating lamp bulb specular and halo
 - Creating lighting effect from the lamp
 - Creating cast shadows
 - Creating highlights and specular
 - Creating light ambiance (lightness and tint)

Final assignment: Compositing a living room

The final project must be as photo-realistic as possible.

Class 10

Complete revision

Workshop:

- Continue final project

Class 11

Presentation : Final assignment

Final exam