

Fundamentals of Urban Digital Design - Essentials

Jan 13 2026

GSAPP – Columbia University Spring 2026

Mondays, 5:00 -7:00 PM EST

Class https://miro.com/app/board/uXjVGb8p7Lo=/?share_link_id=128732688302

Password for Miro Link: *springfudd2026*

Computer Lab 202, Fayerweather ***CLASSES ARE IN PERSON***, however, we will connect to Zoom each class for sharing links, comments, assets and accessibility. The Zoom details are below and also accessible by Courseworks.

<https://columbiauniversity.zoom.us/j/99892283604?pwd=j5c8bM0x3UujF5Lajlk81jyEmYqRFy.1>

ZOOM Meeting ID: 998 9228 3604

Passcode: *springfudd*

Instructor: Sybil Wa (sybil.wa@columbia.edu)

Teaching Assistant: **TBD** (tbd@columbia.edu)

Key Dates: 7 Sessions, Weekly (No Class on Jan 16, Holiday for Martin Luther King Day)

First Class Monday Jan 26 2026

Last Class Monday March 9 2026

Overview

Using software popular amongst the professional community, students will learn to develop their basic visual literacy in support of urban planning. This is a hands-on course introducing Adobe's Photoshop, Illustrator and InDesign as tools for enhancing conceptual, spatial and visual communication. Students will be introduced to precedents demonstrating the effectiveness of images as a form of language and classes will teach the concepts and methods of realizing such work to form a visual argument. This course offers the opportunity to practice and explore the software, using them to enhance and compose photos, maps, plans, infographics, charts, diagrams, published layouts and reports.

Learning Objectives

Students will improve their literacy in a variety of visual techniques that convey planning ideas and issues. Students will learn to apply tools and non-destructive workflows to create original imagery using Photoshop, Illustrator, and InDesign. The broad range of image assets created over the semester will be assembled into a comprehensive visual narrative (and potential portfolio content) at the conclusion of the course. Classes and assignments will provide:

- understanding of pre-digital precedents and their connection to applicable digital effects and methodologies
- overview of historic and contemporary strategies used to enhance imagery in 2D as applicable for the visualization of urban planning ideas

- experience in the Adobe Creative Suite and Miro software environments
- experience in creating self-authored visual representations of planning ideas
- familiarity with synthesizing multi-image and text content into a comprehensive composition and presentation

Grading Criteria	Proficiency in Design Softwares Used for Planning Applications Effectiveness of Visual Communication Professional Presentation of Deliverables Completion and Quality of Assignments
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Assignments and Grading Distribution	Each assignment is due at 3PM on the Wednesday following class.
Assignment Number	Grading Weight
Assignment 1: Photoshop Title Page	5%
Assignment 2: Photoshop Enhanced Map	10%
Assignment 3: Photoshop Collage	20%
Assignment 4: Illustrator Aerial Photo Diagram	10%
Assignment 5: Illustrator Site Plan Diagram	20%
Assignment 6: InDesign Poster Synthesis and Layout	10%
Assignment 7: InDesign Report Synthesis and Layout	20%
Class Attendance and Peer Support	5%

Pre-class preparation

This is an introductory class and you will not need any previous experience with the softwares. However, there will be assignments following class instruction which are intended to reinforce and build on the skills introduced in the classroom. Base files required for the class exercises will be posted on Canvas.

If you are planning to complete assignments on a personal computer, you may want to set up your access to the Adobe Creative Suite here: (Access is free for Columbia GSAPP students.)

<https://www.arch.columbia.edu/hybrid-pedagogy/students>

Additional resources for learning planning skills and software are recommended here in the UP Digital Library:

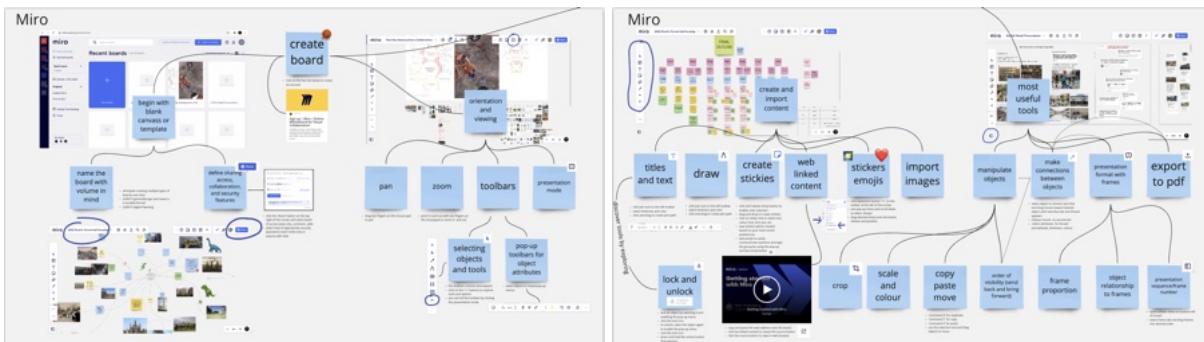
<https://courseworks2.columbia.edu/courses/129926/pages/digital-library>

SECTION 1: Immersive Imagery (Photoshop Applications) and Miro pin-up space

Class 1: Monday Jan 26, 2026, Miro Collaboration and Photoshop Title Page

- Course Overview
- Introducing Miro as the course pin-up (sharing) platform. <https://miro.com/signup/>
- Class board link is on front page of the syllabus

sample Miro exercise



workflow and content sharing example

- Begin introduction of graphic techniques used to communicate urban planning subjects
- Discussion of fine art techniques for graphic effects: abstraction, detail, depth of field, juxtaposition
- Hands-on Photoshop instruction and exercise
 - orientation to Photoshop environment
 - setting up a canvas
 - toolbars and tabs
 - layers
 - selection tools
 - quick select calibration
 - select and mask
 - introduction and application of image manipulation
 - photo/map image placement
 - orientation to layers, layer masks and adjustment layers
 - contrast/brightness
 - vibrance
 - black and white

sample practice exercise



select and mask, clipping masks, adjustment layers

- **Assignment 1, Title Page:** Select any city that you have visited or lived in to highlight for the duration of the course's graphic exploration (This city will be the subject of all your assignments). Introduce your selected city to our class by creating a title page. Choose two images of the city and create an 8.5 x 11" canvas file that punctuates 1-3 key characteristics, issues or elements. Use Photoshop tools and graphic techniques (contrast, detail, juxtaposition, abstraction) discussed in class to communicate the city's name (in any language) and amplify the visibility of its distinct features. Experiment with the effectiveness of layer masks, juxtaposition and adjustment layers in conveying the city's character.
- Export a .jpg file and save your .psd file. Name files with this convention. 'YYMMDD City Title Name' For example: '260126 Tokyo Title Sybil W'
- Upload both files to Courseworks and add your title page image to a new frame on the class Miro board

Class 2: Monday February 2, Photoshop Enhanced Map

Review of conceptual graphic precedents and discussion and decoding of their techniques

- Discussion of techniques in map and fine art examples: hierarchy and order, edges, frames, vignette, contrast, silhouette



Olga Almukhametova



Central Park Conservancy



- Hands-on Photoshop instruction and exercise
 - manipulate base imagery to highlight planning issues
 - Splicing map images
 - layer transparency and control
 - rasterizing for edits
 - merge layers
 - clone stamp tool
 - dodge and burn

sample practice exercise



splicing, modifying and enhancing google maps view

- review of adjustment layers and their application
 - edit contrast and brightness
 - edit color spectrum and saturation
- building on layer mask tools and techniques
 - gradient fill and masking
 - paint brush for focussed mask edits
- text and supportive background for text

- **Assignment 2, Enhanced Map: Use a satellite map view of your selected city to create an enhanced mapping image that illustrates a subject related to your planning interests. (For example, transportation, housing, public realm, cultural districts, sustainability, open space, etc.)**
- **Using Photoshop 11x17" canvass, splice at least two base images, use the clone stamp tool to remove labels/pins, select and mask as needed to frame your subject(s)(with layer masks), use adjustment layer(s) to manipulate the visual character of the images.**
- **Highlight and isolate additional elements using a gradient layer and the layer mask tool**
- **Add text to provide a title and labels in a composed manner**
- **Be aware of how visual elements of hierarchy, order, shape vs form, frame vs vignette will participate in the way your map is communicating**
- **Export a .jpg file and upload it along with your photoshop (.psd) file. (TWO FILES) Name the files YYMMDD Enhanced Map Place Name. For example, "260202 Enhanced Map New York Sybil".**
- **Upload both files to Courseworks and add your title page image to a new frame on the class Miro board**

Class 3: Monday February 9, Photoshop Collage

Introduction to precedents of collage imagery starting with pre-digital techniques

- Review of graphic precedents to enhance and inspire visual literacy: collage, juxtaposition, perspective, light source and shadow
- Discussion on equity and representation in rendering and practice (for entourage)

sample practice exercise



base file

collage, adding new subjects

- Hands-On Photoshop exercise
 - content aware scale
 - sky replacement
 - additional approaches to selection and isolating objects
 - review of selection tools (select and mask)
 - lasso selection

- quick selection (edges)
 - magic wand (color/colour)
 - object selection and sky selection
 - edge refinement
 - saving and loading selections
 - image warping to create perspective
 - puppet warping
 - copyright, privacy and <http://www.nonscandinavia.com/educational-gateway>
 - drawing simple shapes and outlines
 - burning and dodging
 - review of gradient, clone stamp, adjustment layers w/clip mask
- **Assignment 3, Collage: Select a high-res photo image of a place in your city as your primary background. Optimize the background, applying editing tools like burn and dodge, clone stamp tool, and adjustment layer techniques in Photoshop**
- **Use select subject and select sky to explore the visual effects of juxtaposition. (ie, try replacing the sky or subject with a different image)**
- **Apply collage techniques to integrate curated subjects (they don't have to only be photos) into your prepared background to convey a projected condition. For example, future development, below ground streams, transportation routes, etc. The goal is to use collage and adjustments to convey an idea about your place and/or highlight a characteristic about the place.**
- **Include a text title within the artboard boundaries to accompany your image.**
- **Experiment with transparency, gradient, puppet warp, perspective warp, object select, and the non-destructive layer mask options.**
- **You may add subjects from this website: <http://www.nonscandinavia.com/educational-gateway>. But you must also include subjects that you have also clipped yourself with layer masks similar to what we practiced in class. Be sure to think about diversity, equity and inclusion in your representations.**
- **Apply the rules of perspective.**
- **Use burn and dodge and the brush tool to follow the conventions of perspective and light source/shadow to create a more realistic image.**
- **Export a .jpg file and upload it along with your photoshop (.psd) file. (TWO FILES) Name the files YYMMDD Collage City Name. For example, "260209 Collage Map New York Sybil W".**

SECTION 2: Creating 2-D Visualizations (Illustrator Applications)

Class 4: Monday February 16, Illustrator Aerial Mark-up

- Discussion on pre-digital design precedents: line, drawing conventions and the projection of meaning using lines (freehand, orthogonal examples, and symbolic lines)
- Focus on graphic representation techniques: lines, lineweights, dashes, arrows, brushes
- Intro to capture of aerial view from globe view on Google Maps
- Hands-on Illustrator instruction and exercise
 - orientation to Illustrator environment, toolbars, workspace set up and windows
 - select and direct selection
 - place image as template (for tracing), constraining proportions and resizing
 - introduction to creating vector objects through lines
 - line profiles, and brush strokes
 - draw with pen tool
 - controlling lines, line caps, arrow heads, dash and gaps (dotted lines)
 - draw with curvature tool
 - editing anchor points, adding anchor points, removing points
 - strategies for titles and labels
 - text options and manipulation
 - adding and controlling text along a path

sample exercise



aerial view diagram



width tool

- **Assignment 4, Aerial Diagram:**
- **Using Google Maps or available photo library sources, select an aerial view as a base image.**
- **Fill the artboard/page with the aerial image.**
- **Use tools and techniques from class to turn the aerial view into a diagram illustrating key elements and characteristics of your city/location.**
- **Use only one colour for all text, shapes and line mark-ups. (Similar to our all yellow exercise in class.)**
- **Use lines, arrows, dashes to convey distinct features. (Control proportions, line weight, width and character of these lines!) Manipulate opacity of the objects as you see fit.**
- **Use the curvature tool or pen tool to draw and enclose a polygon. (ie, Trace an element on your aerial as shown in class.) Adjust the opacity, fill and outline of the object(s) to fulfill a graphic order.**
- **Use text along a path to label features as compositionally appropriate.**
- **Include a title that explains your image and identifies your city/place.**
- **Submit the map on an 11x17" artboard file. Upload both the .ai file and a .jpg file. Use file name YYMMDD aerial city name. For example, "260216 aerial central park Sybil W".**
- **Upload your files to Courseworks and the class Miro board**

Class 5: Monday February 23, Illustrator Site Plan Diagram

- Review of pre-digital precedents of visual and thematic synthesis: master plan visualizations, diagrams, applications and precedents
- Hands-on Illustrator instruction and exercise
 - Creating layered map information
 - prepare and place the underlay
 - use transparency tool to apply masks/vignette control
 - create shapes to highlight sites/lots using shape builder tool and other drawing tools
 - annotate with lines and arrows (practice creating dashed lines and controlling arrow head proportions)
 - add diagrammatic symbols or icons
 - create vignette views
 - place selected images
 - image trace
 - clipping mask with shapes
 - text application options

sample Illustrator exercises



practice gradient, transparency



site plan diagram

- **Assignment 5, Site Plan Diagram: Use a satellite map or detailed map as a base image to create a site plan diagram for your selected place/city/theme.**
- **Select at least 4 additional images that represent potential improvements to the place. (Examples may be photographs and/or drawings). Use clipping masks, and type along a path to frame and caption these proposed interventions or issues. Compose these on top of your underlay image. You do not need to follow the layout of the demo in class, but do use gradient transparency and clip masks.**
- **Use leaders or labels to relate the clip masks to the site.**
- **Use transparency and the gradient tools, shapes, linework and text to illustrate your intentions.**
- **Enhance your site plan using various drawing and graphic techniques discussed and demonstrated in class. Practice precision in your shapes and linework by tracing lots, roads, buildings, etc.**
- **Experiment with color, brushes, patterns, and typography to serve the clarity and expression of your content.**
- **Upload your .ai (illustrator) file and a .jpeg file. Use 11x17" as your artboard format. Use file name YYMMDD site plan city name. For example, "260223 site plan central park sybil".**

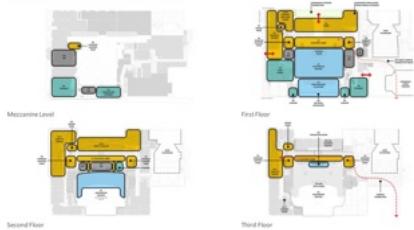
SECTION 3: Synthesis and Presentation, Layouts and Reports (InDesign)

Class 6: Monday March 2, InDesign Panel Layouts

- Discussion and introduction to typography and panel layouts
- Orientation to InDesign environment
- Introduction to applications for InDesign for panels, slides and reports
- Explore the use of layouts as means to synthesize linked images and text into a crafted narrative
- Hands-on InDesign instruction and exercise
 - custom set up layouts/artboard (for full bleed printing)
 - creating guides
 - placing images and relinking images
 - placing text and placeholder text
 - text wrap
 - transparent backgrounds
 - transparency gradient
 - color themes
 - 'W' quick key for preview
 - rapid photo layouts demo and practice
 - packaging the file

sample InDesign exercise

Project Adjacency Diagrams



page/slide layout with multiple images

panel example



rapid photo layout and grid control

- ***Assignment 6, Synthesis in 2 Layout Panels***

PART 1:

- ***Create a single 24"x18" panel poster in an InDesign file (choose landscape or portrait orientation). Layer and organize visual assets from past assignments. Include at least 4 images from the following list of past assignments:***
 - *Collage*
 - *Site plan diagram*
 - *Aerial Mark-up*
 - *Org Chart*
 - *Infographics*
 - *Sketch-Up Shadow Study Stills*
- ***Insert titles and placeholder text blocks, and drop caps as appropriate to simulate a conference, public engagement, or competition layout. (These might be inspired by the examples from class, but make it your own and customize it for your city.)***

- Use the eyedropper, color theme tool and HSB sliders to harmonize the color palettes, line work, text and imagery as needed. Update past graphics if appropriate to unify your color choices.
- Be mindful of your typeface and font applications. Exercise restraint and be judicious about your creative choices.
- Practice the relink functions to refine your image layout. (You are practicing and leveraging the ability of InDesign to update post-production work after the layout has been composed.)
- Consider using the transparency tool and frame corner shaping options.
- Upload your InDesign package file which will include a .pdf file and linked files. Use file name YYMMDD panel city name. For example, "260302 panel central park sybil".

PART 2:

- Create an 24" x 18" rapid grid layout following the techniques demonstrated in class. Use 9 photos or other image assets to show your place to the viewer. Include a title to identify your place. (Practice using the gap and text tracking tools.) Upload the file. Use file name YYMMDD grid city name. For example, "260302 grid central park sybil".
- Upload both panels to MIRO using 2 separate frames for our class slideshow.

Class 7: Monday March 9, InDesign Report (last class)

Review professional examples of reports and book publications and discuss techniques, approaches and effects

- Hands-on InDesign instruction and exercise
 - set up pages for report
 - create and apply templates
 - set up facing pages and page numbering
 - experiment with page design and layout options
 - paragraph styles: body copy, chapter headings, drop caps, titles
 - manipulating text boxes
 - create table of contents using paragraph styles
 - explore image/text interface
 - insert text to allow continuous flow of content
 - exporting and packaging files for printing (pages vs spreads)

sample InDesign exercise



sample report layouts linking to images previously created in our course

- **Assignment 7, Synthesis and Report: Using the visual assets that you have developed in the previous assignments, create an InDesign report that integrates at least 8 images of your choice: title page, collage, aerial diagram, mental map, site plan diagram, custom graphics, massing and shadow studies**
- **Create your own unique report while applying the tools demonstrated in class. Please do not submit the same report as our class demo.**
- **Create a title page, table of contents on (facing pages), 4 facing pages, and a back cover page. (8 pages minimum)**
- **Use templates to apply formatting and automatic page numbers.**
- **Create text boxes with columns and link them so that the text may freely flow through multiple text boxes. Fill boxes with placeholder text or other body copy.**
- **Wrap text around an image object.**
- **Create drop caps using paragraph style and character styles demonstrated in the video.**
- **Create paragraph types to create body copy, drop caps, and chapter headings.**
- **Be mindful of the craft of laying out your text to create proportion and avoid rags, widows, rivers.**
- **Create a table of contents using paragraph styles**
- **Export pdf as spread layouts.**
- **Upload your PDF and Indesign package (if possible). Use file name YYMMDD report city name. For example, "260309 report central park sybil".**
- **Share a screenshots of your report on Miro. Provide an overview of your page layouts and your main spread (with body copy)**