

Pattern Design — Workbook

This workbook turns the Pattern Design course into real reps with your drawing app open. You will build and squint-test a seamless tile, drill half-drop, brick and diamond structures, pull a disciplined palette and spin colourways, then package a croquis and print-ready files. Work through it project by project so that by the end you hold a finished seamless tile, a presented croquis with three to five colourways, and correctly prepared files, not just notes.

How Seamless Repeats Actually Work

Build one tile with the offset method and prove it tiles invisibly before moving on.

Exercise: Offset and Bridge Your First Tile

Start a square canvas at 3000 by 3000 pixels at 300 DPI. Scatter five to eight motifs across the centre, well clear of the edges. Flatten, then offset by exactly half the width and half the height with wrap around so the edges meet as a cross in the middle. Draw new motifs across that cross, offset back, then define the tile as a pattern and fill a three by three field.

- Record your exact canvas pixel size and the half values you offset by.

- Describe the cross seam after the first offset: where are the biggest gaps that need bridging?

- Which new motifs did you add across the seam, and did you resist moving the original motifs?

- After tiling a three by three field and squinting, list any seam lines, tram-lines or hotspots you still see.

Worksheet: Tile Specification Sheet

Fill this in for the tile you just built so you can rebuild or resize it later and hand correct details to a printer.
Tile pixel dimensions (width x height)

Resolution (DPI)

Intended physical repeat size (cm x cm)

Offset values used (horizontal / vertical)

Repeat structure (block / brick / half-drop / diamond)

Density target (ditsy / medium / open) and motif scale range

Number of hero, supporting and filler motifs used

Checklist: Seamless Gate

- Canvas created at a deliberate size and DPI, not a default
- Offset used exactly half the width and half the height with wrap around on
- Only new motifs were added across the centre seam; originals were not moved
- Tile defined as a pattern and filled into at least a three by three field
- Squint or blur test shows no seam lines, tram-lines or hotspots

Repeat Structures: Half-Drop, Brick and Diamond

Drill the three core structures with the same motif and see how each one changes the field.

Exercise: Same Motif, Three Structures

Take one finished tile and output it three ways: a straight block, a brick with rows offset by half, and a half-drop with columns offset by half. Tile each into a three by three field and compare. In Illustrator use Pattern Options Tile Type; in Photoshop or Procreate build each offset manually.

- Which structure showed the worst tram-lines or grid lines, and in which direction did they run?

- Which structure made the motifs read as most naturally scattered, and why do you think that is?

- Did any structure create a hotspot that the others did not? Describe it.

- Which structure will you keep for this design, and what is your one-line reason?

Exercise: Build a Diamond Lattice Tile

On a locked guide layer, draw a diamond lattice across your tile. Place a hero motif at each diamond centre and connectors at the points and crossings. Offset to confirm the lattice lines marry across the tile edges before adding detail, then hide the guide and tile a field.

- Where did the lattice lines fail to meet across the tile edge on your first attempt?

- How did you adjust the framework so the diagonal lines exited and re-entered at matching positions?

- Does the field read as a continuous trellis, or can you still spot the tile boundary?

- What would you change to make the diamond rhythm feel less rigid?

Worksheet: Layout Decision Worksheet

Decide and record the layout choices for this design based on its intended product.
Intended product(s) for this pattern

Tossed (non-directional) or set, with reason

Directionality (non-directional / one-way / two-way) and why

Chosen repeat structure (block / brick / half-drop / diamond / ogee)

Offset fraction used (e.g. 1/2, 1/3)

Does the motif have an obvious top? If yes, how was that handled?

Checklist: Structure Gate

- [] Tested the motif in at least two repeat structures, not just one
- [] Chosen structure breaks up obvious horizontal and vertical grid lines
- [] If a lattice was used, its lines connect cleanly across every tile edge
- [] Directionality matches the intended product (non-directional unless a brief requires otherwise)
- [] Any directional file is labelled with an up arrow and a top marker

Motifs and Colour

Sharpen your motifs, pull a disciplined palette, and produce a coordinated colourway set.

Exercise: Thumbnail and Greyscale Motif Test

Shrink each motif to roughly its real print size, one to three centimetres, and view it small. Then desaturate the tile to greyscale. Simplify any motif that turns to mush and adjust contrast on any that vanishes or shouts.

- Which motifs lost their readability at small size, and how did you simplify their silhouette?

- In greyscale, can you clearly tell motifs from the ground? Where is contrast too low or too high?

- Which single motif risked becoming a hotspot, and how did you tame its contrast or size?

- List the fillers you added to even out density, and where the bright holes were before.

Worksheet: Palette and Colour Roles

Pull a palette from one reference image and assign every colour a role. Use the eyedropper and a tool like Adobe Color or Colors to refine harmony.

Reference image used

Colour 1 hex and role (dominant / secondary / accent)

Colour 2 hex and role

Colour 3 hex and role

Colour 4 hex and role

Colour 5 hex and role

Greyscale check: is there a clear light, mid and dark range? (yes / no + fix)

Exercise: Spin Three to Five Colourways

Finish one master colourway with roles assigned, then recolour by role into at least three more moods, for example bright, pastel, dark and neutral. Use Recolor Artwork in Illustrator or solid-fill layers in Photoshop, Affinity or Procreate so swaps are clean.

- Name each colourway and its intended mood or season.

- Did you swap by role (dominant for dominant, accent for accent) so contrast carried across?

- Which colourway failed the greyscale value check first, and how did you fix it?

- Laid side by side, do the colourways read as one family? What ties them together?
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Checklist: Motif and Colour Gate

- Every motif still reads clearly at real print size
- Greyscale version shows clear contrast between motifs and ground
- Palette is limited (around four to eight colours) with assigned dominant, secondary and accent roles
- At least three to five coordinated colourways produced from one tile
- All colourways pass the greyscale value range check

Presenting, Producing and Licensing

Package the pattern as a croquis, export correct production files, and plan how you will sell or license it.

Exercise: Build a Croquis and Mockup Sheet

Create a clean croquis by tiling the repeat a few times into a tidy rectangle, line up the colourway set at the same scale beside it, and drop the pattern into one or two product mockups using smart-object templates, Placeit or Adobe Express. Keep typography minimal.

- Which products did you choose for the mockups, and do they suit the pattern's scale?
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- Is the repeat shown large enough to read the motifs without harsh tile edges?
-
- What collection name and details (designer, repeat size) did you put on the sheet?
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- Looking at the finished sheet, what would a buyer understand about this design in five seconds?
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Worksheet: Print-Ready Export Spec

Fill this in per target product before exporting, using the manufacturer's spec sheet for the exact numbers. Target product and service (e.g. Spoonflower fabric, wallpaper roll, stationery)

Physical repeat size (cm x cm)

Matching pixel dimensions

Resolution required (DPI)

Colour mode (RGB / CMYK) and embedded profile

File format (PNG / JPEG / TIFF / vector)

Bleed added for cut products (e.g. 3 mm)? (yes / no)

Worksheet: Licensing Deal Tracker

Use this to think through any selling or licensing arrangement before you agree to it. Route to market (print on demand / file sale / licensing)

Deal type (royalty % / flat fee) and amount

Exclusive or non-exclusive

Product category covered

Territory and duration

Do you retain copyright? (yes / no)

Red-flag clauses to negotiate (perpetual / all-product / sub-license without pay)

Checklist: Ship-It Gate

- Croquis presents the repeat clearly with the colourway set at matching scale
- At least one realistic product mockup included
- Files exported at correct repeat size, DPI and colour mode for the target product
- Bleed added to any cut stationery file
- A test swatch or proof ordered and judged in daylight before any full run
- Records updated so no exclusive design is accidentally double-licensed

Your Action Plan

1. Pick one motif theme and draw a family of six to twelve motifs at a consistent style, each on its own layer or as a separate object.
2. Build a seamless tile using the offset method and bridge the centre seam, then tile a three by three field and squint-test it.
3. Test the tile in block, brick and half-drop, choose the structure that hides the grid best, and decide tossed versus directional.
4. Run the thumbnail and greyscale motif test, simplify weak silhouettes, tame any hotspot and add fillers into the bright holes.
5. Pull a disciplined palette of four to eight colours from one reference, assign dominant, secondary and accent roles, and pass the greyscale value check.
6. Recolour by role into three to five coordinated colourways and lay them side by side to confirm they read as a family.
7. Make one or two simple coordinates (a stripe, a spot, a ditsy) from your motif library so you have a small collection, not a single tile.
8. Build a croquis and one mockup sheet, then export print-ready files at correct repeat size, DPI and colour mode for your target product.
9. Order a test swatch or proof, judge colour and scale in daylight, and adjust before any full production run.
10. Choose a route to market, log the design and where it is sold or licensed, and only send full-resolution files once a deal is agreed.

