META-META Club

WORKBOOK · MODULE 1 OF 3

Large scenes, filmed well

Large Scenes and Cinematic Fly-throughs. XR spec module 3, on a generic masterplan.

Pro studios | 6 lessons | ~4.3 h | 5-question practice quiz | Notes pages

IN THIS MODULE

Large scenes, filmed well

XR spec module 3, on a generic masterplan.

#	LESSON	TYPE	TIME	DONE
1.1	The real brief	READ	20 min	☐
1.2	Build walkthrough: procedural and AI-assisted 3D	VIDEO	45 min	☐
1.3	Build walkthrough: cinematography	VIDEO	40 min	☐
1.4	Build walkthrough: large-scene optimisation	VIDEO	40 min	☐
1.5	The AI prompts used	READ	20 min	☐
1.6	Extension task: a new area and a camera move	PROJECT	90 min	☐

How to use this workbook

- Work through each lesson on metametaclub.com/learn, or listen to its narration, then use the page here to take notes.
- Tick the steps as you go, and write your answers under **Check yourself** before you look anything up.
- Do the practice quiz at the end, then mark it with the answer key on the last pages.
- Keep every **Ship it** piece. Together they become what you show.

Before you start

What do you already know about this, and what do you want to be able to make by the end?

LESSON 1.1 · READ · 20 MIN

The real brief

Read the brief this module is built on and decide what "done" looks like. The brief is a generic masterplan, written to match the kind of job studios get, not a client project. You'll use it for the whole course.

Key points

The brief

> A developer is planning a mixed-use neighbourhood: housing blocks, a market street, offices, a school, a central park and a transit stop. Nothing is built yet. They need a guided 3–4 minute fly-through for investors and future residents, and a 15–30 second vertical teaser for social. The film must show how people move through the place, not just how it looks from the sky.

Read it like a producer

A brief has four parts. Pull each one out before you open Blender.

- **Audience.** Investors want scale, access and phasing. Residents want daily life: shade, walking routes, the school run.
- **Deliverables.** A 16:9 fly-through of 3–4 minutes. A 9:16 teaser of 15–30 seconds.
- **Constraints.** The site is large, so the scene must stay fast enough to work in. Nothing is final, so you must be able to swap blocks without rebuilding.
- **Done.** Someone who has never seen the plans can describe the neighbourhood after one viewing.

What a person decides

AI and procedural tools will fill the scene with buildings, trees and cars. They won't decide the story.

Steps checklist

- [ ] Read the brief twice. Underline every noun that must appear on screen.
- [ ] Write the audience, deliverables, constraints and "done" as four short lines.
- [ ] Sketch the site on paper: a rough plan with the park, the market street and the transit stop.
- [ ] Write three questions you would ask the developer. For example: "Which phase is built first?"
- [ ] List the assets you'll need and mark each one: model, generate, or reuse.

SHIP IT

A one-page brief summary: the four lines, your sketch, your three questions and your asset list. Keep it next to you for the rest of the course.

- [ ] Shipped. Link or file: _____

Check yourself

1. Can you say who the film is for in one sentence?

2. Do you know both deliverable lengths and aspect ratios?

3. Can you name one thing a person must decide that a tool can't?

LESSON 1.2 · VIDEO · 45 MIN

Build walkthrough: procedural and AI-assisted 3D

Watch the masterplan scene get built with procedural tools and AI-assisted assets, then rebuild one block of it yourself. You'll learn why large scenes are built from rules and reusable parts, not modelled one object at a time.

Key points

Build with rules, not by hand

A neighbourhood has thousands of objects: trees, lamps, cars, benches, windows. Placing them by hand takes days and breaks the moment the plan changes.

Collections and instances

Put each family of parts in its own **Collection**: `Trees`, `Blocks`, `StreetFurniture`. Geometry Nodes can pick from a collection and place **instances**: many copies that share one mesh in memory.

The core node chain

1. **Distribute Points on Faces** on the ground mesh. Use **Poisson Disk** with a minimum distance so things don't overlap.
2. **Collection Info** pointing at your `Trees` collection, with **Separate Children** and **Reset Children** ticked.
3. **Instance on Points**, with **Pick Instance** on, so each point gets a random tree from the collection.
4. **Random Value** into **Rotation** and **Scale** so no two look the same.
5. Leave out **Realize Instances** unless you truly need real geometry. Realizing throws the memory saving away.

Where AI helps

AI tools are good at variety. Use image generators for facade and ground textures, text-to-3D tools for props like kiosks and bins, and an assistant to write small scripts.

Steps checklist

- [ ] Open the starter masterplan. Find the `Park` mesh.
- [ ] Add a Geometry Nodes modifier and build the chain above with your `Trees` collection.
- [ ] Set a minimum distance and a density that looks real, not like a forest.
- [ ] Add a second scatter for benches along the paths.
- [ ] Generate one texture with an AI image tool and apply it to a building facade.

SHIP IT

A screenshot of your park with scattered, varied trees, plus the node tree, posted in the course thread.

- [ ] Shipped. Link or file: _____

Check yourself

1. Why are instances cheaper than copies?

2. What does Poisson Disk distribution prevent?

3. Which assets in your scene came from an AI tool, and are they noted for credits?

LESSON 1.3 · VIDEO · 40 MIN

Build walkthrough: cinematography

Watch the camera work for the masterplan film get planned, built and paced. Then plan your own film as a shot list before you animate anything.

Key points

Plan on paper first

A shot list is a table of every shot: what the viewer sees, the camera move, the lens and the length. It takes twenty minutes and saves a day of re-rendering.

- **Shot 1.** Whole site at golden hour · slow orbit · 24 mm · 10 s
- **Shot 2.** Transit stop to market street · track along the street · 35 mm · 8 s
- **Shot 3.** Shade trees over a bench · slow push in · 50 mm · 6 s

The language of camera moves

- **Orbit.** Circles a subject. Shows form and scale.
- **Push in / pull out.** Moves toward or away. Builds focus, or reveals context.
- **Track.** Moves alongside. Shows a route, like a walk to school.
- **Rise / crane.** Lifts up. Turns a street-level moment into the big picture.

Match the move to the idea in the brief. Investors need the orbit.

Lenses

Wide lenses (18–28 mm) show context but stretch the edges. Normal lenses (35–50 mm) feel human.

The rig and the easing

Each shot uses a Bezier curve for the path, a camera with **Follow Path**, and **Track To** aimed at an empty. Keyframe the path offset at the start and end.

Pacing

Hold every shot long enough to read it: about 5–10 seconds for wide shots. Cut on movement, not on a stop.

Steps checklist

- [ ] Turn your brief summary into a shot list of at least 12 shots.
- [ ] Mark the three shots that matter most. Build those first.
- [ ] Build one shot with the rig. Play it back at full speed, not scrubbing.
- [ ] Adjust timing until you can read everything on screen.

SHIP IT

Your shot list plus one finished shot as a draft render, posted in the course thread.

- [ ] Shipped. Link or file: _____

Check yourself

1. Which move would you use to show a walking route?

2. Why move the camera instead of zooming the lens?

3. When would you set keyframes to Linear instead of eased?

LESSON 1.4 · VIDEO · 40 MIN

Build walkthrough: large-scene optimisation

See what was cut, merged and baked to keep the masterplan scene fast. Then profile your own scene and make it lighter without making it look worse.

Key points

Why it matters

A slow scene kills your work in two ways. You can't iterate, because every viewport move stutters.

Where the weight comes from

Open **Statistics** in the viewport overlays. Watch the triangle count, object count and memory.

The fixes

- **Instancing.** Repeated objects should be instances, from Geometry Nodes or collection instances. One mesh in memory, drawn many times.
- **Decimate distant things.** A building 500 m away needs a fraction of its triangles. The **Decimate** modifier cuts them. Check silhouettes before you apply it.
- **Levels of detail (LOD).** Keep a high, medium and low version of key assets. Swap by distance from the camera. In Unity, the **LOD Group** component does this for you.
- **Texture sizes.** A bin doesn't need a 4K texture. Use 512 or 1K for props, 2K for hero surfaces. Pack small textures into an **atlas** so many objects share one material.
- **Baking.** Bake lighting and ambient occlusion into textures for static objects. The scene then looks lit without paying for it every frame.
- **Culling.** Hide what the camera never sees. Split the site into collections per area and disable the ones off screen for each shot.

Eevee or Cycles

Eevee renders in real time. It's right for drafts, previews and most fly-throughs.

Steps checklist

- [ ] Turn on Statistics. Write down the triangle and object counts.
- [ ] Find the three heaviest objects with the Outliner and Statistics.
- [ ] Replace any repeated real copies with instances.
- [ ] Add Decimate to far-away buildings and check them from the camera.
- [ ] Reduce oversized textures. Re-check memory.
- [ ] Time one draft frame in Eevee before and after.

SHIP IT

A before-and-after note: triangle count, memory and frame render time, with one screenshot from the same camera to prove it still looks right.

☐ Shipped. Link or file: _____

Check yourself

1. Why does an instance save memory?

2. When would you choose Cycles over Eevee?

3. Which object in your scene was the heaviest, and what did you do about it?

LESSON 1.5 · READ · 20 MIN

The AI prompts used

See the kinds of prompts used to build the masterplan scene, and where a person still made the call. Then write and test three prompts of your own.

Key points

How AI was used

AI tools sped up three jobs: textures, props and scripts. They didn't plan the site, choose shots or judge the final film.

Texture prompts

Good texture prompts name the material, the scale, the lighting and the format.

"Flat lighting, no shadows" matters. Baked-in shadows look wrong once Blender adds its own light.

Prop prompts

For text-to-3D or image-to-3D tools, ask for one object, a simple style and a real size.

Then check scale in Blender, fix the pivot, and decimate if the mesh is too heavy.

Script prompts

Assistants can write small Blender Python scripts. Give them the version and the exact result you want.

Read the script before you run it. Run it on a saved copy of your file.

Where a person made the call

- Which block types fit the plan.
- The art direction: palette, time of day, mood.
- Every shot, every cut, and the music.
- Rejecting generated assets that looked off, stereotyped or out of scale.

Steps checklist

- [ ] Write one texture prompt, one prop prompt and one script prompt for your scene.
- [ ] Run each one. Save the output and the exact prompt.
- [ ] Grade each result: used as is, used after fixing, or rejected. Say why.
- [ ] Add every used asset to your credits list with the tool type and its terms.

This lesson has code samples. They are in the lesson on metametaclub.com/learn.

SHIP IT

A prompt log: three prompts, three results, three grades, posted in the course thread.

- [ ] Shipped. Link or file: _____

Check yourself

1. Why ask for flat lighting in a texture prompt?

2. What do you check on a generated 3D prop before using it?

3. Name two decisions in a fly-through that stay with a person.

LESSON 1.6 · PROJECT · 90 MIN

Extension task: a new area and a camera move

Add one new area to the masterplan and film a short camera move through it. You'll use everything from this module: procedural placement, a planned shot, a lighter scene and a prompt log.

Key points

Pick the area

Choose one: a market square, a school playground, a rooftop garden, or a transit plaza. Pick the one that tells the viewer most about daily life in the neighbourhood.

The camera rig script

This builds a circular path, a camera that rides it, and an empty it aims at, then keyframes a quarter orbit over ten seconds.

Run it with `blender -b masterplan.blend -P camera_rig.py`, or paste it into Blender's Text Editor and press **Run Script**.

Steps checklist

- [ ] Model or block out the area on a free part of the site. Keep it simple: ground, a few buildings, paths.
- [ ] Scatter detail with Geometry Nodes: trees, benches, lamps or stalls, as instances.
- [ ] Add at least one AI-assisted asset or texture. Log the prompt and credit it.
- [ ] Write a three-line shot plan: what the viewer sees, the move, the length.
- [ ] Run the script below to build a camera rig, then move the `Focus` empty and reshape `FlyPath` to fit your area.
- [ ] Check Statistics. Make sure the new area didn't double the scene's weight.
- [ ] Render a draft in Eevee at half resolution. Fix timing. Then render at full size.

```
This lesson has code samples. They are in the lesson on metametaclub.com/learn.
```

SHIP IT

A 10–15 second clip of the new area, a screenshot of its node tree, and your prompt log with credits, posted in the course thread.

- [ ] Shipped. Link or file: _____

Check yourself

1. Does the new area show something about daily life, not just more buildings?

2. Is the camera move one clear move that eases in and out?

3. Did the scene stay fast enough to work in?

PRACTICE QUIZ

Check your module

Circle one answer for each question. The answer key is on the next page.

1. Why scatter trees with Geometry Nodes instead of placing them by hand?

(A) Hand-placed trees can't be rendered
(B) The rule updates when the plan changes, and instances keep memory low
(C) Geometry Nodes trees are always higher quality
(D) It's the only way to add trees in Blender

2. Which lens choice suits a detail shot of a bench under shade trees?

(A) 18 mm
(B) 24 mm
(C) 50 mm or longer

3. Your scene stutters in the viewport. What is usually the first fix to look for?

(A) Switch to Cycles
(B) Repeated real copies that should be instances
(C) Raise texture resolution
(D) Add more lights

4. Why ask for 'flat lighting, no shadows' in a texture prompt?

(A) Baked-in shadows clash with the scene's own lighting
(B) It makes the file smaller
(C) AI tools can't draw shadows

5. In this module, which of these stays a person's decision?

(A) Generating a facade texture
(B) Writing a small decimate script
(C) Choosing the shots and the story of the film
(D) Scattering benches along a path

ANSWER KEY

Answers and why

1 · B The rule updates when the plan changes, and instances keep memory low

Procedural rules follow changes to the site, and instancing shares one mesh across many copies.

2 · C 50 mm or longer

Longer lenses isolate detail and feel natural. Wide lenses suit context shots.

3 · B Repeated real copies that should be instances

Duplicated meshes are a common cause of heavy scenes. Instancing them often gives the biggest win.

4 · A Baked-in shadows clash with the scene's own lighting

Blender lights the scene itself. Shadows painted into a texture point the wrong way.

5 · C Choosing the shots and the story of the film

Tools help with assets and scripts. The story, shots and art direction are the job.

NOTES

Build log and notes

SESSION	WHAT I MADE OR LEARNED	NEXT STEP