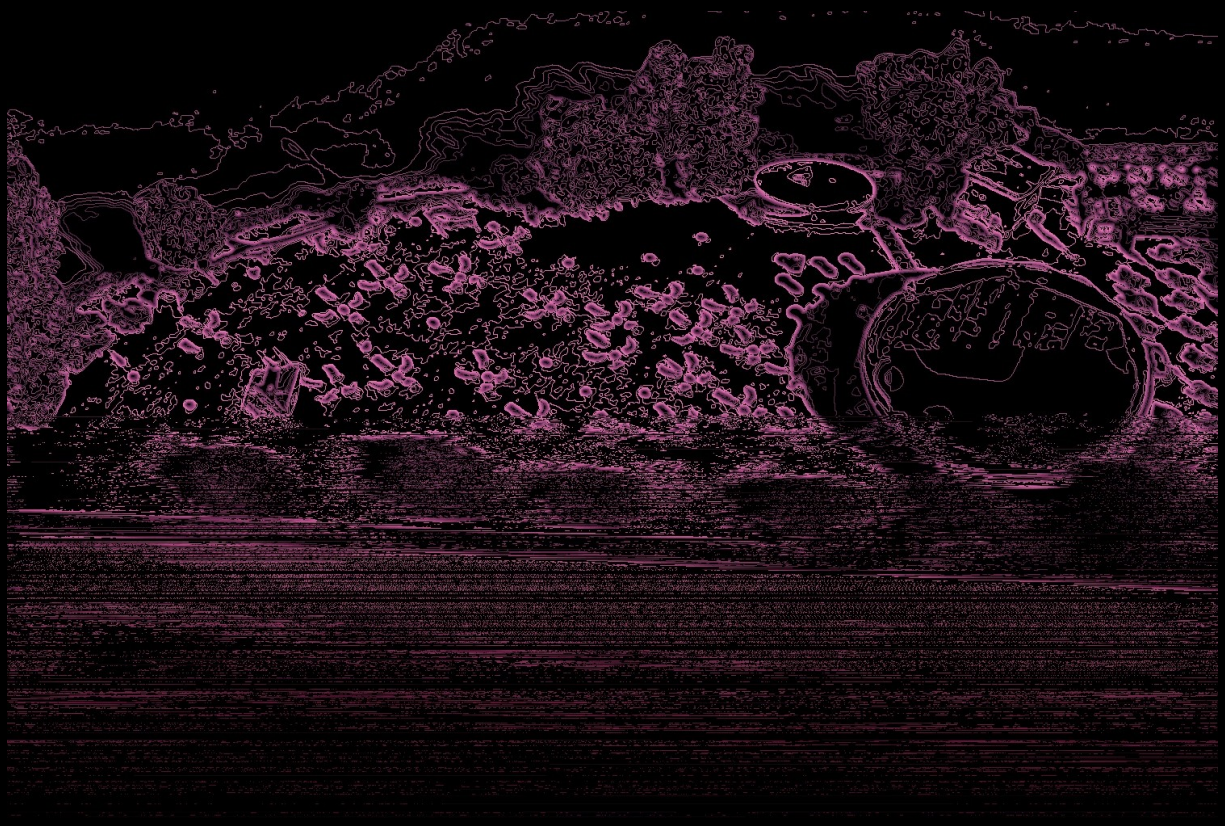
Amphibious Ground

A year-round architecture for a site that floods



Bachelor
Design Studio E2
WS 26/27

i.sd
STRUCTURE AND DESIGN
UNIVERSITY OF INNSBRUCK



Mohamed Abdelhady

Introduction Letter

Dear applicants,

We are excited to share with you the brief for this semester's E2 design studio. It will be taught by Mohamed Abdelhady Omar, architect and computational designer based in Vienna.

Mohamed studied at the Institute of Architecture — IOA (Studio Hani Rashid) at the University of Applied Arts Vienna, where he received his Master's degree. He has worked and collaborated internationally with leading architecture and design firms, including **Delugan Meissl Associated Architects (DMAA)** in Vienna, **Grimshaw Architects** in Dubai / London, and **LAVA** in Berlin, among others. His professional journey also includes three years of experience in China and collaborations with innovative design studios worldwide.

This semester's studio, **"Amphibious Ground,"** works on a narrow strip of made ground where the Wienfluss meets the Donaukanal — a site that is busy for half the year, dormant for the other half, and periodically submerged. Rather than defending against that condition, the studio asks how architecture can be organised *by* it.

We look forward to an intensive semester of research, experimentation, and design — and to learning from one another in the process.

Best regards,
Mohamed Abdelhady Omar

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1. Abstract

Public space carries much of a city's social life and much of its exposure to climate. Riverbanks, promenades and parks are where communities gather, and also where heat, drought and flooding arrive first. As extreme weather events become more frequent, the calendar of public life contracts: ground built for continuous use becomes usable only in certain months, and the conventional responses of defensive walls and seasonal closure shorten that calendar further rather than extending it.

Herrmannpark condenses this condition. At the confluence of the Wienfluss and the Donaukanal, it is public land with an intermittent civic life: commercially occupied for one half of the year, dormant for the other, periodically withdrawn altogether when the river rises. In September 2024 a thousand-year flood on the Wienfluss submerged the site completely.

The E2 studio situates these challenges within the volumetric design discourse: structures are conceived as differentiated systems in which water level, programme and material behaviour inform spatial and structural performance. Water is treated not as an external constraint but as an active design parameter, and the flood datum becomes a generative line rather than a limit.

2. The Site

Herrmannpark occupies a narrow wedge of land on the right bank of the Donaukanal in Vienna's 3rd district, where the Wienfluss discharges into the canal beside the Urania. The ground is artificial: raised in 1930 out of the river's own sediment, and named that October after **Emanuel Herrmann** (1839–1902), the economist whose 1869 proposal introduced the postcard.

Today the park is known almost entirely as **Strandbar Herrmann**, an urban beach running from roughly early April to mid-September. It is genuinely well-used and well-liked. It is also, for the other half of the year, an empty strip of sand behind a wall — and, at intervals, it is under water.



A tapering spit: soft sand edge to the water on one side, hard engineered embankment up to the Landstraße quay on the other.

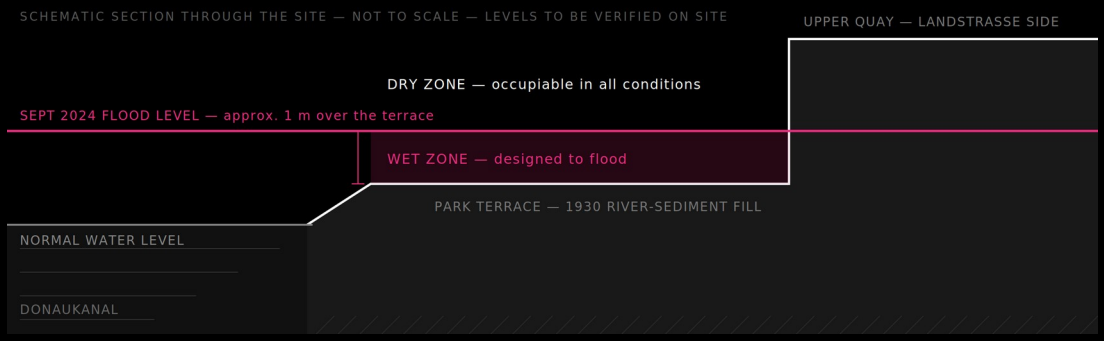
3. The Water Condition

The Wienfluss falls 34 km from the Vienna Woods to the Donaukanal, its final stretch running through nine Vienna districts before it empties here beside the Urania, just downstream of the Aspernbrücke. Its catchment lies in the Flysch zone — sandstone and marl, barely permeable — so the river swells from a trickle to a torrent within hours of heavy rain.

On the night of **15 September 2024**, during storm "Anett," a thousand-year event arrived. The gauge at Kennedybrücke peaked at 3.90 m, the highest since 1951. Herrmannpark was inundated: the beach and the bar stood under roughly a metre of water, furniture and stock were washed away, and mud had to be cleared from the cold stores before the site reopened days later.

200–500 l/s	**≈450,000** l/s	**≈ 1 m**	**3.90 m**
ORDINARY FLOW	PEAK, 15 SEPT 2024	DEPTH ON THE SITE	GAUGE PEAK

Since then the City has raised the Auhof weir walls by one metre and planned further defences upstream. **None of this work is at Herrmannpark.** The park has no dedicated flood-protection retrofit; it is still managed by clearing up afterwards. Vienna expects such events to become more frequent, not less.



Schematic section — the relationship every project must resolve: normal water level, park terrace, and the September 2024 flood datum. Levels are indicative and must be verified on site.



Annual occupancy — roughly six months of intense use, six months dormant. The September 2024 flood arrived at the very end of the season.

4. Design Proposal

Design a small public building for Herrmannpark that works across the full year, not just the summer season, and that treats seasonal flooding as a design condition rather than a problem to hide from.

The E2 studio will explore how small public structures can remain usable, open and legible across the full annual cycle of a site that floods. Students will develop proposals calibrated to three states of the same ground — occupied, dormant and submerged — treating inundation and vacancy as ordinary operating conditions rather than as failures.

Structures are conceived as differentiated volumetric systems organised around the recorded flood datum: porous and sacrificial below the line, dense and sheltering above it. Porosity is used here in its hydraulic as well as its spatial sense — a strategy that negotiates transitions between water and air, ground and platform, occupied and withdrawn. The design challenge is to synthesise hydraulic performance, programmatic flexibility and spatial character into a single structural logic.

What is fixed

- The site, and the flood datum as the organising line of the project
- The three states: occupied, dormant, submerged
- A single small public building of roughly 150–350 m², sited within the park

What is yours to argue for

- The programme — café, pavilion, exhibition space, shelter, viewing point, bathing facility, or a hybrid
- The structural system, and how it differentiates above and below the datum
- Form, material, and the character these produce

5. Design Methodology

The studio proceeds through five overlapping phases. Each is supported by a weekly tutorial and tested against the three states of the site.

- **Site & Water Analysis** — mapping the ground, the edges, the levels and the flood record; documenting the site in section before plan, and establishing the datum each project will work from.
- **Volumetric Exploration** — massing and structural studies tested against that datum, using porosity and density as the primary design variables rather than outline or façade.
- **Programmatic Integration** — arguing for a public use that earns its place across the full year, and defining how it changes between the occupied, dormant and submerged states.
- **Iterative Development** — moving from concept models to precise architectural definition through drawing, volumetric models and physical prototypes, with continuous critique.
- **Synthesis** — embedding the intervention in the longer narrative of the Donaukanal as public space under changing water conditions, so that structure, programme and character are inseparable.

6. Deliverables

- Site analysis — mapping, sections, photographs, level and flood data, precedents
- Concept diagrams explaining the core idea
- Site plan 1:200 · floor plans 1:100 · two elevations 1:100
- Two sections 1:100, including the flood-datum section
- One architectural detail 1:20, resolving the transition across the datum
- State diagrams — occupied, dormant, submerged
- Physical or digital volumetric model
- Written statement, max. 300 words

7. Assessment

CRITERION	WEIGHT	LOOKING FOR
Site	25%	Quality of site reading; response to the confluence, the edges, and the flood record
Design	25%	Clarity of the core idea; credibility of the three states and of the differentiation across the datum
Spatial & formal quality	25%	Architectural quality of plan, section and spatial sequence; character derived from structure
Presentation	25%	Drawing quality, model craft, clarity of argument

8. Schedule

Studio meets every Wednesday from 11:00. Each session runs in two parts: Part 1, project work and desk critiques; Part 2, methods. First session 7 October 2026 · final review 27 January 2027.

WK	DATE	PART 1 — PROJECT	PART 2 — METHODS
01	Wed 07 Oct	**Studio launch · brief issued · site introduction**	Grasshopper introduction
02	Wed 14 Oct	**Site & water analysis**	Grasshopper introduction
03	Wed 21 Oct	**Site documentation reviewed**	Volumetric design methodology
04	Wed 28 Oct	**Programme & concept**	Volumetric design methodology
05	Wed 04 Nov	**PIN-UP 01**	—
06	Wed 11 Nov	**Concept development**	Volumetric design methodology
07	Wed 18 Nov	**MIDTERM REVIEW**	—
08	Wed 25 Nov	**Design development**	Optimisation techniques
09	Wed 02 Dec	**Design development**	Optimisation techniques
10	Wed 09 Dec	**Design development**	Drawings and presentation
11	Wed 16 Dec	**PIN-UP 02**	—
—	—	**CHRISTMAS BREAK**	—
12	Thu 07 Jan ‹THU›	**Technical resolution**	Physical model & presentation
13	Wed 13 Jan	**Technical resolution**	Physical model & presentation
14	Wed 20 Jan	**Production**	Physical model & presentation
15	Wed 27 Jan	**FINAL REVIEW**	—

DATES TO BE CONFIRMED AGAINST THE INNSBRUCK SEMESTER CALENDAR.

9. From the Studio

Selected work from previous semesters. These projects answered different briefs on different sites — they are here to show the level of resolution, the range of media, and the kind of argument the studio expects, not to prescribe a language.







