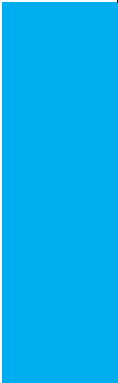


Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information		
Name	Kalina Kamenova Matova	
Student number	5673593	
Studio		
Name / Theme	Complex Projects / Bodies and Building Berlin	
Main mentor	Jelmer van Zalingen	Architecture
Second mentor	Rico Heykant	Building Technology
Third mentor	Edyta Milczarek	Research
Argumentation of choice of the studio	<p>Complex projects is a studio that allows for collaborative and interdisciplinary methodologies in design and research. Having an overlap of lens, typology and city selection contributes to the specificity and relevance of each project. The broad thematic explorations combined with office-like work structure enhance the depth of the research field.</p> <p>Moreover, the studio is open to adaptive reuse projects. This feature was a significant factor in my choice of the studio, as it aligns with my aspirations to further develop my skills in the field of renovation and refurbishment. My intention is to continue my architectural profession in that direction after graduation.</p>	
Graduation project		
Title of the graduation project	Material Vault Research Library of Materials and Construction Methods	
Goal		
Location:	EUREF campus, Berlin, Germany	
The posed problem,	The traditional library typology faces a critical challenge in the digital era, where the prevalence of online resources poses a threat to its relevance and existence. The shift towards digital platforms for access to information raises concerns about the diminishing importance of physical libraries. To counteract this decline, there is a pressing need to redefine the purpose of libraries, with a particular	

	<p>focus on transforming them into curated repositories of physical materials.</p> <p>Moreover, the reimagination of the typology symbolizes a departure from the conventional notion of libraries as static archives towards collaborative spaces where knowledge is not only collected but actively generated. The proposed library model envisions a space where the public engages in the development and testing of new materials. This transformation aims not only to revive the library typology that primarily houses materials but also to position it as a catalyst for the continual generation of knowledge and advancements in material sciences.</p>
<p>research questions and</p>	<p>Can libraries become future-proof promoters of sharing and creating knowledge through the curation of materials and adaptive reuse strategies?</p> <p>Sub-question: How does curatorial design look like for exhibiting materials and construction methods?</p>
<p>design assignment in which these result.</p>	<p>The problem statement results in a design proposal for the new Material Library and Research Center housed in the Schöneberg gasometer in the hub of energy transition - EUREF campus in Berlin. The adaptive reuse project will incorporate a public workshop for material testing – the ‘backbone’ of the library, together with a material archive, aiming to redefine the meaning of libraries in a digitalizing society and raise the topic of resource scarcity.</p>

Process

Method description

The methodology of the research is divided into two main approaches – the design brief and case studies of adaptive reuse projects, both of which will serve as the framework for the design process in MSc4.

The design brief encompasses three key categories: client, program, and site. In the program category, the objective is to and establish an informative benchmark capturing crucial aspects and parameters of the space based on several relevant projects such as the Oodi Helsinki Central Library, The Royal Library of Copenhagen, Institute for Sound and Vision, and the Staatsbibliothek Unter den Linden. Assessing these precedents will determine the functional requirements of rooms, priority of flows and distribution of public vs private.

The site selection will be determined based on a value assessment matrix inspired by Marieke Kuipers and Wessel de Jonge's work, and this approach combines Brand's y-axis and Riegl's x-axis models. This ensures a nuanced interpretation of three buildings’ layers, examining historical and cultural values in a concise yet

comprehensive manner. Once the matrix yielded a choice for the Schöneberg gasometer on the premises of the EUREF campus in Berlin, the site research encompasses a comprehensive examination across many scales and themes – accessibility and public transport, historical development, density and public spaces, sightlines, height and contextual architecture.

The clients (Staatliche Museen zu Berlin [State Museums of Berlin]; Die Bundesanstalt für Materialforschung und -prüfung (BAM) [The Federal Institute for Materials Research and Testing]; and EUREF campus Berlin), their power and their influence analysis ensures that the architectural design aligns with the overarching goals and objectives of the three clients.

Furthermore, a literature case study on adaptive reuse, curatorial design, and urban workshop projects was carried out to synthesize and critically evaluate existing knowledge and approaches.

Literature and general practical references

Case studies

Curatorial design:

- Depot Boijmans van Beuningen, Rotterdam, NL
- Bouwcentrum, Rotterdam, NL
- Material ConneXion library, Bilbao, ES

Library as a workshop:

- Oodi Helsinki library, FI
- Dokk1, Aarhus, DK
- Tūranga Central Library, Christchurch, NZ
- The Edge, State Library of Queensland, AU
- Halifax Central Library, Halifax, CA
- Urban Workshop, Costa Mesa, CA

Adaptive reuse:

- Bunker 599, RAAAF + Atelier Lyon, NL
- Kolumba Museum, Peter Zumthor, Cologne, DE
- Palais de Tokyo Expansion, Lacaton & Vassal, Paris, FR
- Gashouder Amsterdam, NL

Literature

Brian Graham, "Heritage as Knowledge: Capital or Culture?," *Urban Studies* 39, no. 5-6 (May 2002): 1004.

Concrete Utopia: Everyday Life and Socialism in Berlin-Marzahn, Eli Rubin

Degen, Monica Montserrat and Rose, Gillian (2012). The sensory experiencing of urban design: the role of walking and perceptual memory. *Urban Studies*, 3269–3285.

Designing from Heritage: Strategies for Conservation and Conversion, Marieke Kuipers and Wessel de Jonge

Eugène-Emmanuel Viollet-le-Duc, "Restoration," from the *Dictionnaire raisonné de l'architecture française du XIe au XVIe siècle (1854-1868)*. English edition *On Restoration* (London, 1875), 9-17.

Katharina Schramm, "Heritage, Power and Ideology," in *The Palgrave Handbook of Contemporary Heritage Research*, ed. Emma Waterton and Steve Watson (Houndmills: Palgrave Macmillan, 2015), 445.

Marieke Kuipers and Wessel de Jonge, *Designing from Heritage: Strategies for Conservation and Conversion* (Delft: TU Delft - Heritage & Architecture, 2017), 87.

Nicholas Stanley Price, M. Kirby Talley Jr. and Alessandra Melucco Vaccaro, ed., Historical and Philosophical Issues on the Conservation of Cultural Heritage (Los Angeles: The Getty Conservation Institute, 1996), 308-321.

Nine Points on Monumentality, J. L. Sert, F. Léger, S. Giedion, 1943

Present Pasts: Urban Palimpsests and the Politics of Memory: Cultural Memory in the Present, Andreas Huyssen

Robert Twombly: Louis Kahn: Essential Texts. Paul Zucker's New Architecture and City Planning.' A Symposium.

Walker J. (2022). Berlin contemporary : architecture and politics after 1990. Bloomsbury Visual Arts Bloomsbury Publishing.

Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

Being part of the Material studio group and the Library and Space seminar group, the Library of Materials is closely related to these themes. Still, the resulting project is a one-off typology in the context of 45 other buildings in the Bodies and Buildings Berlin studio. The problem statement calls for the imagination and application of a program and analysis of the site and client, which are crucial steps in every design project in the architecture field.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

On a societal level, addressing the challenges posed by the saturation of existing building stock through adaptive reuse and refurbishment strategies aligns with the growing emphasis on responsible resource management. The professional field of adaptive reuse design is gaining more and more prominence and I might argue that dealing what is already there is harder than designing from scratch. The challenges posed by dealing with existing structures can result in unique projects that seamlessly merge old and new.

By rethinking the role of libraries in a digitalizing society not as uniform archives to dynamic hubs of production of new knowledge, the typology has a new chance at life. Closely engaging the general public with issues like resource scarcity, building stock and sustainability, change in societal mentality can occur. The process of producing new materials is brought from a closed-off research center to a publicly accessible workshop. The conclusion of this research and design will result in a scientific framework that is applicable for future reference.