



This seminar is tailored to students from Saga University / Japan, but we invite also local TU Wien students to join this course from August 28th until September 4th, 2023.

During the workshop, we will analyse the current situation and create architectural concepts to give these massive monuments a new purpose. The six remaining towers remind us of the darkest times of WW II, therefore this task has to be treated with a high amount of sensitivity.

Introduction

The flak towers in Vienna are a series of massive concrete towers built during World War II by the Nazi regime as part of their air defence strategy. The towers were designed to serve as anti-aircraft gun platforms, providing protection for the city of Vienna and other strategic targets from enemy bombing raids.

Construction on the towers began in 1942, and by 1944, six towers had been completed in and around Vienna. Each tower was built to withstand heavy bombing and was equipped with a variety of anti-aircraft guns, searchlights, and radar equipment. The towers were also designed to serve as bomb shelters for civilians in the event of an attack.

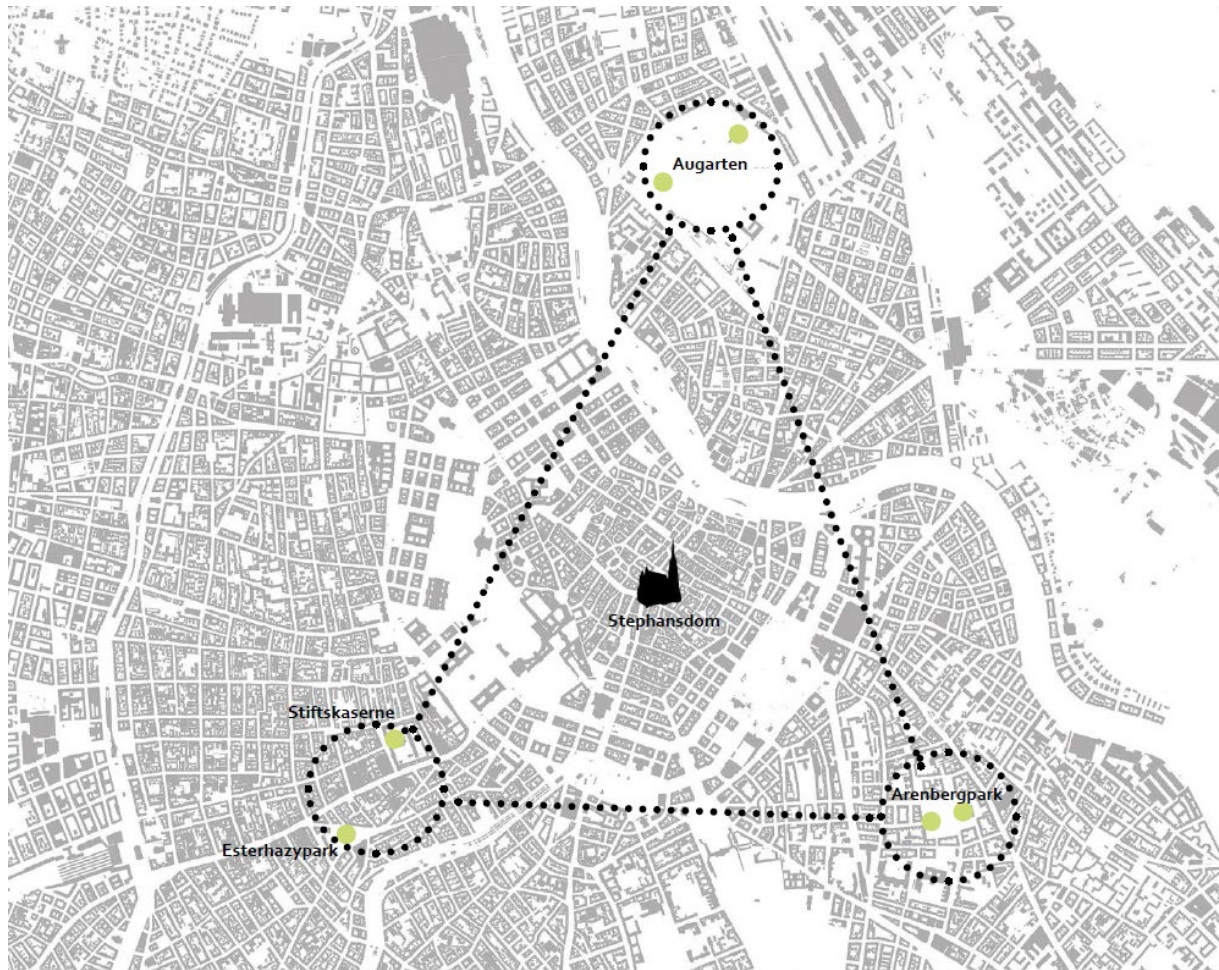


Figure 1: Position of the towers / Source: Master's Thesis by Silviya Hristova

The image above shows the position of the towers with the St. Stephens cathedral in the center. Each pair of towers consisted of a G-Tower (Geschützturm) with heavy and light canons and an L-Tower (Leitturm) which served as a command tower containing radar equipment, search lights and only smaller guns.

As the towers were only completed shortly before the war ended, there isn't really much of a record how effective the air defence would have been. Also, due to the static nature of the towers, it was fairly easy for enemy planes to stay out of the firing range.

After the war ended, the Allied forces occupying Austria attempted to demolish the towers, but their thick concrete walls proved difficult to destroy. Unfortunately, these failed attempts only led to substantial damage of the interior which made a reuse difficult.

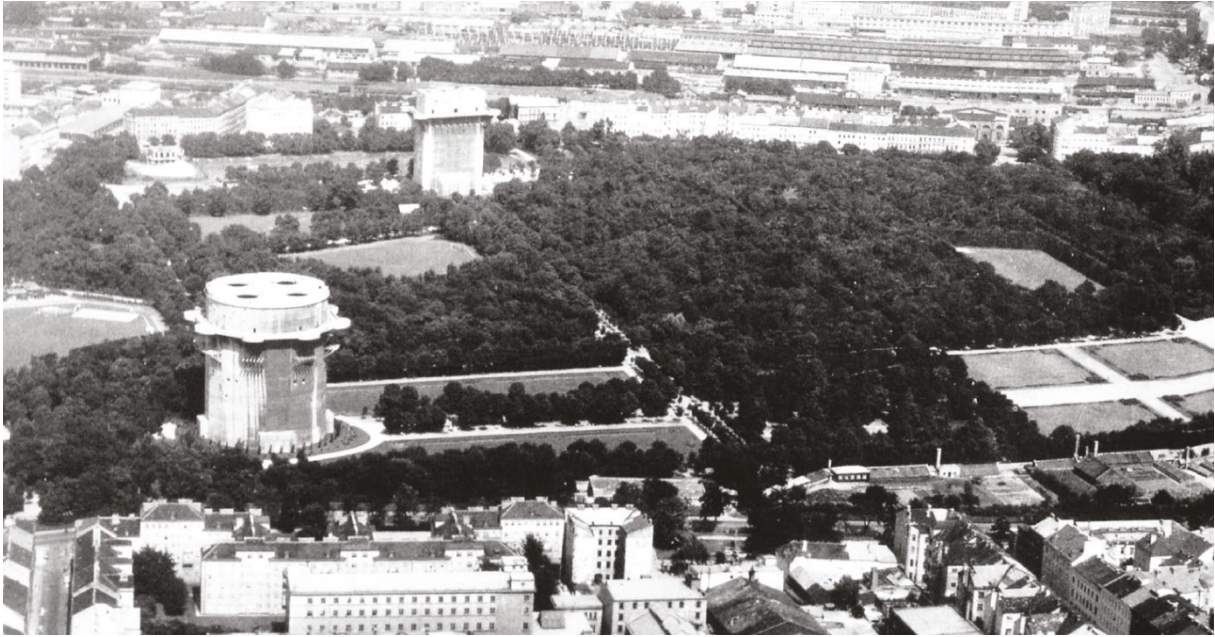


Figure 2: Pair of towers at Augarten | Source: Födrowitz, Michael: Die Flaktürme: Berlin Hamburg Wien



Figure 3: Interior of the Augarten G-Tower | Source: <https://www.vice.com/de/article/jmnwa3/fotos-flakturm-wien>

Today, all six of the flak towers remain standing and they serve as a reminder of the city's wartime history and the devastation caused by aerial bombardment during World War II.

Only a few of the towers have been repurposed but the towers at Augarten are currently unused due to the severe damage as the images above show.

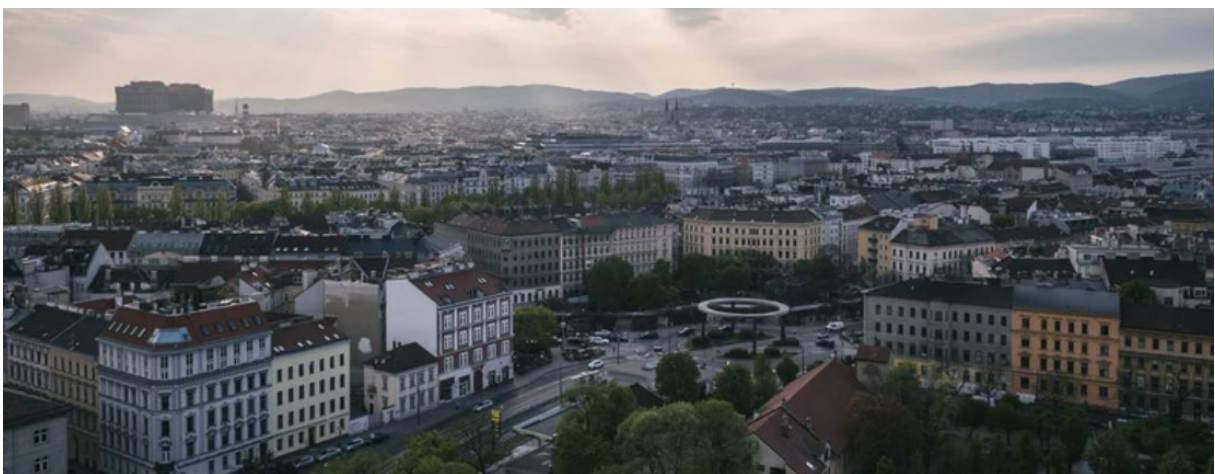


Figure 4: View from the top of the Augarten G-Tower | Source: <https://www.vice.com/de/article/jmnwa3/fotos-flakturm-wien>

Characteristics of the structures

Flak towers were massive, fortified structures built to protect civilians and military personnel from air raids. Some of the characteristics of a flak tower include:

- Size: Flak towers were massive structures that could reach up to 140 meters (460 feet) in height.
- Thick walls: The walls of a flak tower were typically between 2.5 and 3.5 meters (8-11.5 feet) thick, made of reinforced concrete and steel.
- Armament: Flak towers were heavily armed with anti-aircraft guns, usually in a configuration of eight 12.8 cm Flak guns and numerous smaller caliber anti-aircraft guns.
- Multiple levels: The towers had multiple levels, including underground bunkers, machine gun emplacements, and observation decks.
- Civilian shelters: The towers were designed to provide shelter for civilians during air raids, with space for up to 10,000 people.
- Communication infrastructure: The towers were equipped with communication equipment to coordinate air defenses.

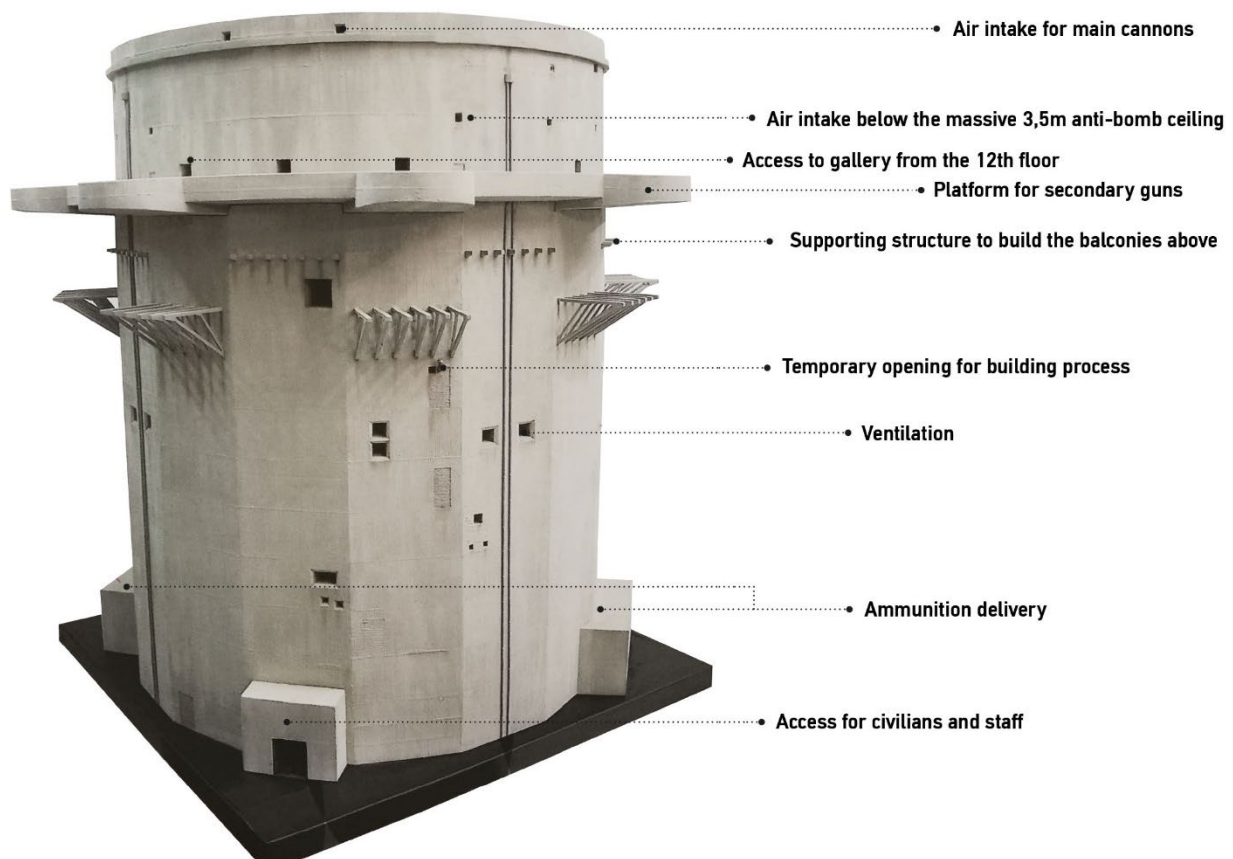


Figure 5: Modell of the G-Tower at Augarten at the Bezirksmuseum Leopoldstadt

The image above shows a model of the G-Tower at Augarten which is third generation of Flak-towers. The structure has a total diameter of 49 meters and 3m thick outer walls. Openings in the core were limited to a minimum to.



Figure 6: Modell of the G-Tower at Augarten at the Bezirksmuseum Leopoldstadt

Plans of the G-Tower at Augarten

There are only very basic plans available. However, the tower's layout is not very complicated and most of the inner structure is not usable anymore. For a new design the overall dimensions should be sufficient.

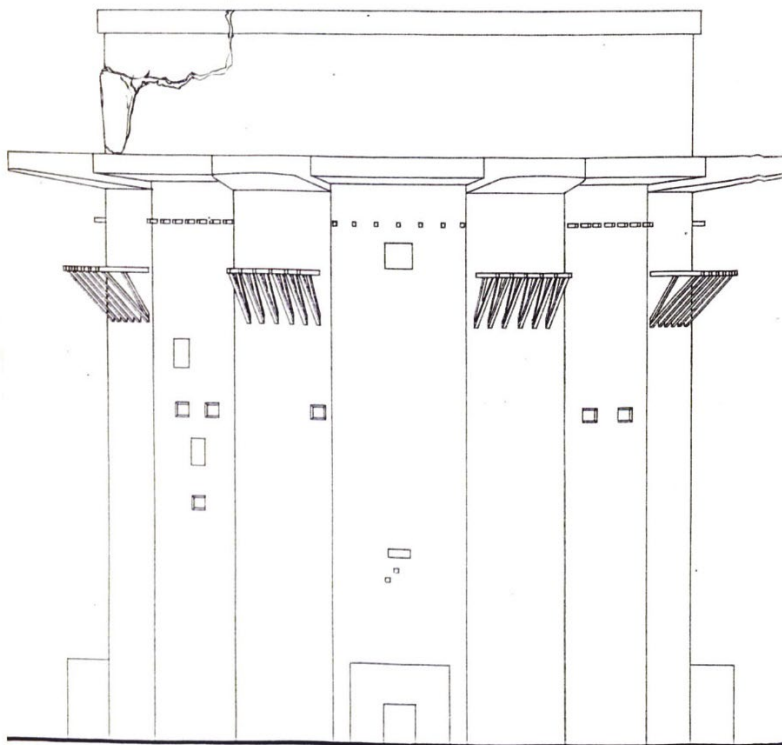


Figure 7: View from Wasnergasse | Source: Erschen, Dietlind: Nutzung der Flaktürme für Bedürfnisse der Wiener Bevölkerung

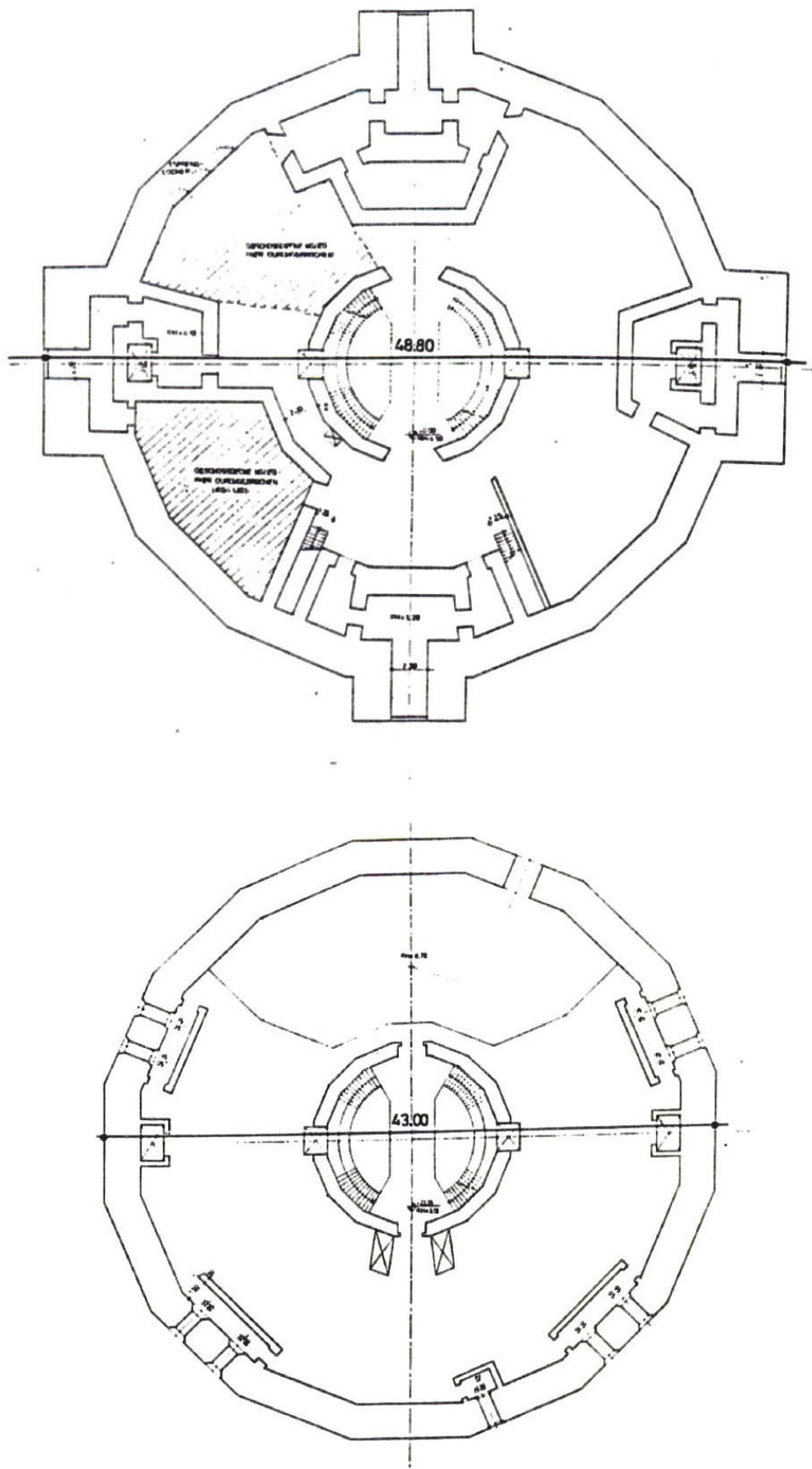


Figure 8: 1st floor and 7th floor | Source: Erschen, Dietlind: Nutzung der Flaktürme für Bedürfnisse der Wiener Bevölkerung

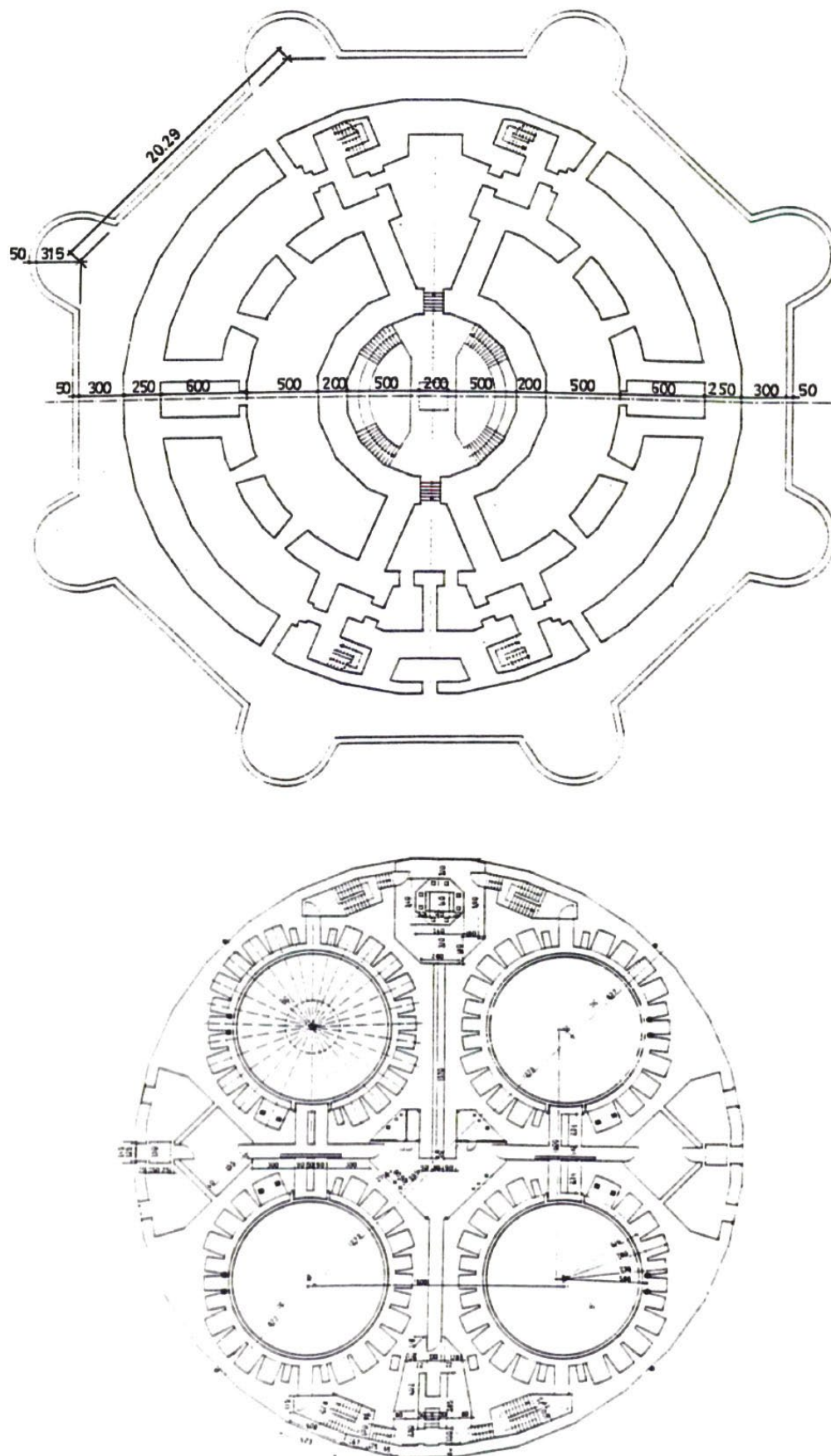


Figure 9: 12th floor and top view | Source: Erschen, Dietlind: Nutzung der Flaktürme für Bedürfnisse der Wiener Bevölkerung

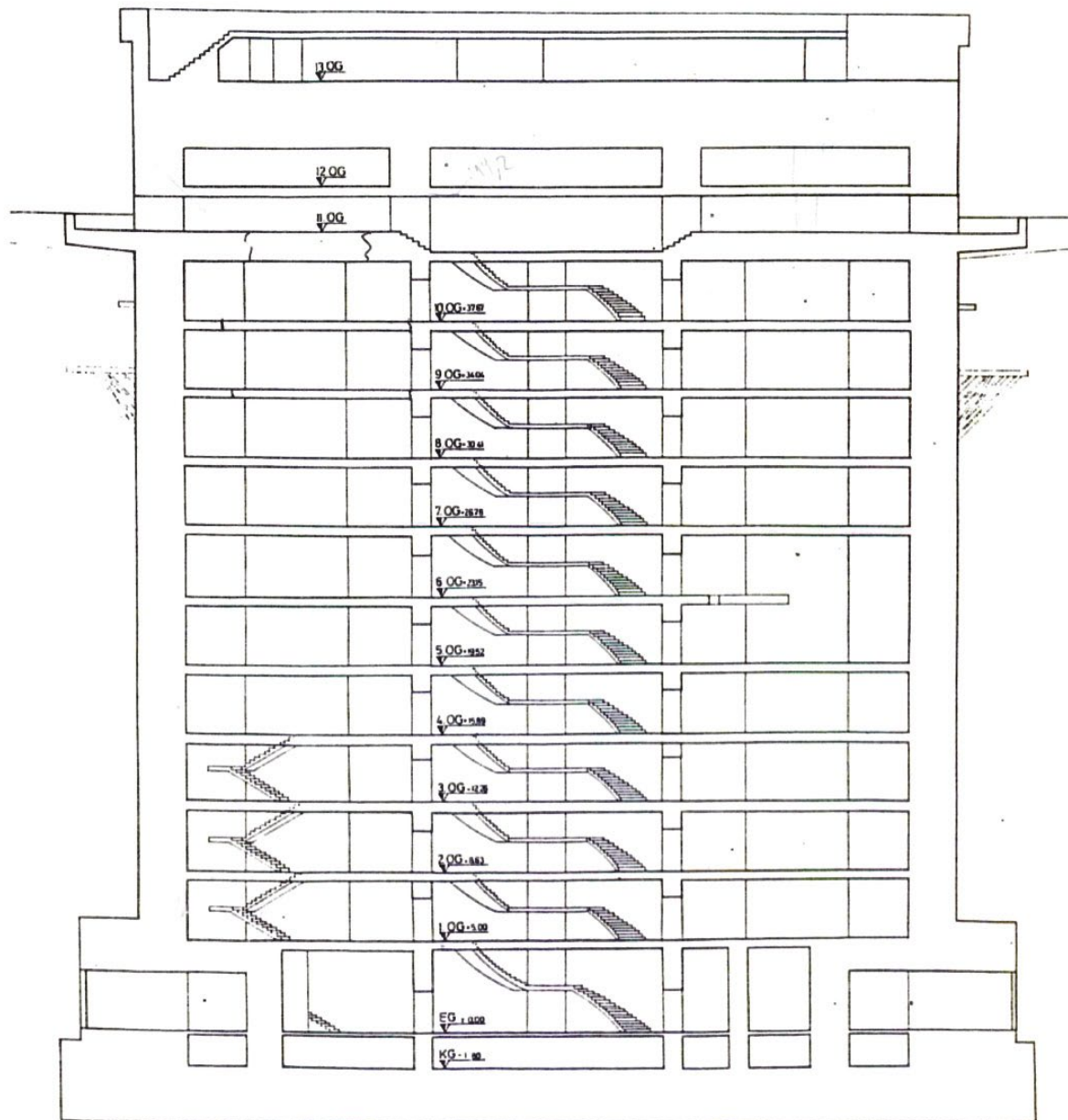


Figure 10: Section | Source: Erschen, Dietlind: Nutzung der Flaktürme für Bedürfnisse der Wiener Bevölkerung

Total height of the tower is 55 m

Usable area is 11.000 m²

Examples of repurposing

Aqua Terra Zoo (Haus des Meeres)

The Haus des Meeres (HdM, English: House of the Sea) is a public aquarium. It is located in Esterhazy Park in downtown Mariahilf district, one block south of the busy Mariahilfer Straße. The Haus des Meeres houses over ten thousand aquatic beings on an area of around 4,000 m² inside a tall concrete flak tower built during World War II. In 2012 the Haus des Meeres attracted a record high of 650,000 visitors.

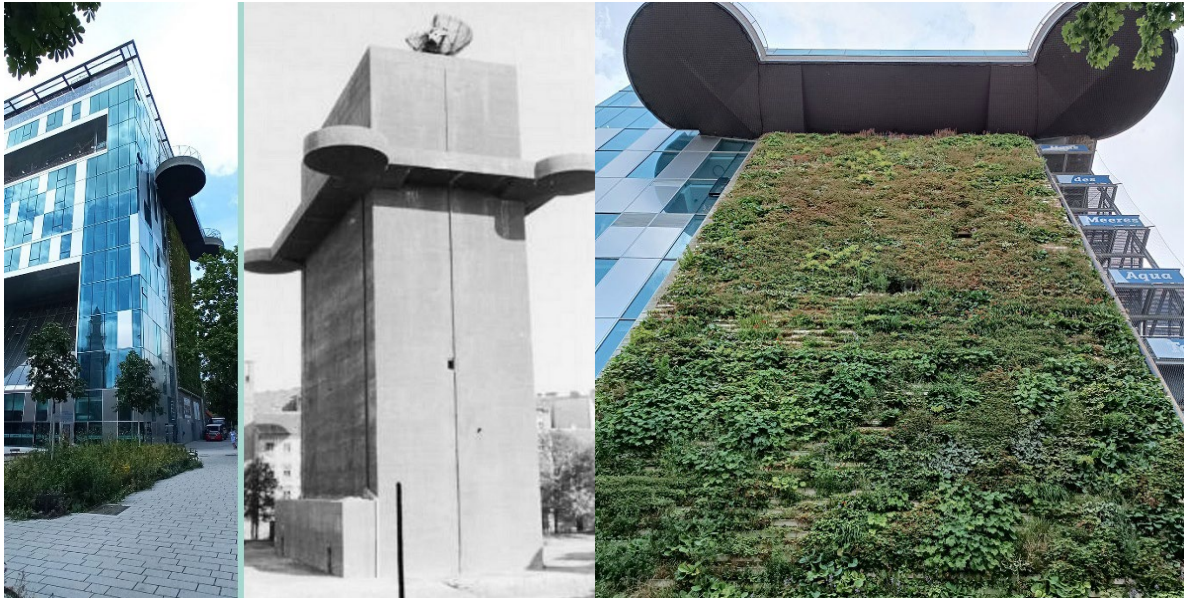


Figure 11: Aqua Terra Zoo | Source: <https://deu.archinform.net/projekte/18866.htm>

The concrete tower housing the present-day aquarium is 47 meters tall, with a footprint of 31 by 15 meters. In 1944 it was crowned with a Würzburg radar dome (see image above). In case of imminent air raid threat, the radar could be lowered into a concrete shaft with 3.5-meter thick concrete walls. The subordinate gun battery tower is located inside a city block north of Mariahilfer Straße. The two towers operated as a single combat unit, in cooperation with two other pairs of flak towers built in Augarten (north) and in Arenberg Park (south-east). After the war the tower in Esterhazy Park was temporarily used as a hotel with 38 rooms in a bunker, and then converted to a fire station. In the 1960s the underground part of the bunker was used as a youth hostel, named Stadtherberge Esterhazypark.

The ground floor and the bunkers were then occupied by the firefighters, which left only one and half habitable floors for the exhibition. The rest of the tower was filled with debris and open to the elements. Step by step, the aquarium expanded over the empty floors. Eventually, when the aquarium expanded to six floors, the firefighters left the buildings, and the aquarium staff was at last allowed to clear the basement of war relics.

The glass wings which house the reptiles and tropical birds, were added in 2000 and 2007. As of 2010, the tower houses ten habitable above-ground floors plus an open sightseeing roof deck. The tenth floor, which recreates a flak turn control vault, houses World War Two exhibits and is open only on weekends, with advance registration of visitors. The expansion had a side effect: the City of Vienna struck the "defaced" tower off the list of protected landmarks.

Government Bunker (Stiftskaserne)

Not really an architectural conversion which needs to be specifically highlighted. But the former combat tower which belonged to the command tower which is today's Aqua Terra Zoo is still used for military purposes. It is situated in an army compound and is used as a government bunker in case of a national crisis. The exterior appearance hasn't changed but the interior space has obviously been modernized.



Figure 12: Government Bunker | Source: <https://twitter.com/Bundesheerbauer/status/1024659188193087488/photo/1>

Storage Space for the Museum of Applied Arts (MAK)

Also not an architectural intervention but a new purpose. The combat tower at Ahrenbergpark is used as a storage facility for large pieces of art for the Museum of Applied Arts.



Figure 13: Combat and Command Towers at Ahrenbergpark | Source: <https://commons.wikimedia.org>

Gasometer – Repurposing of a former gas storage facility

The Vienna Gasometers are four cylindrical structures used from 1899 to 1984 to house gas holders, also known as gasometers, each of 90,000 m³ storage capacity. The Gasometers were retired in 1984 due to new technologies in gasometer construction, as well as the city's conversion from town gas and coal gas to natural gas. In 1978, they were designated as protected historic landmarks. Due to similar dimension, this project may serve as a reference.

Vienna undertook a remodelling and revitalization of the protected monuments and in 1995 called for ideas for the new use of the structures. The chosen designs by the architects Jean Nouvel (Gasometer A), Coop Himmelblau (Gasometer B), Manfred Wehdorn (Gasometer C) and Wilhelm Holzbauer (Gasometer D) were completed between 1999 and 2001. Each gasometer was divided into several zones for living (apartments in the top), working (offices in the middle floors) and entertainment and shopping (shopping malls in the ground floors). The shopping mall levels in each gasometer are connected to the others by skybridges. The historic exterior wall was conserved. One of the ideas rejected for the project was the plan by architect Manfred Wehdorn to use the Gasometers for hotels and facilities for the planned World Expo in Vienna and Budapest.



Figure 14: Gasometers | Source: Wikimedia Commons

Task

The goal of the short design workshop is the architectural conversion of the (Flak Turm) combat tower at Augarten. Due to the limited time, the suggested solutions should be presented as utilization and design concepts. We don't expect detailed plans.

A conversion of a historical building demands a critical reflection of the sensitive past – especially in this case as the object is not just an anti-war monument but also a reminder of the darkest times in Austria's history. Therefore, the new function as well as the architectural interventions have to be considered with a high amount of sensitivity and understanding.

Find the right way of presentation as if you would take part in an architecture competition. Make the most of your limited time, find good arguments for the suggested reuse and choose the best method of visualizing your ideas.

Creating an architectural reuse concept for historical structures, especially those with a dark past like associations with National Socialism, requires a thoughtful and sensitive approach. Here are some important considerations:

1. **Historical Context:** Understand the historical context and significance of the structure. Conduct thorough research on its original purpose, design, and any events or individuals associated with it during the National Socialist era. This will help inform your approach to reuse and ensure you are respectful of its history.
2. **Preservation of Heritage:** Respect and preserve the historical significance of the structure while integrating new functions. Aim to maintain its authenticity and integrity, so future generations can learn from and understand the past.
3. **Ethical and Moral Considerations:** Acknowledge the dark past and the impact of the structure's history on affected communities. Be mindful of the potential sensitivities and traumas associated with the site and its associations.
4. **Educational Opportunities:** Incorporate educational elements into the reuse concept. Use the structure as an opportunity to educate visitors and the public about the historical period, its lessons, and the importance of preventing similar events from occurring in the future.
5. **Adaptive Reuse:** Consider adaptive reuse to breathe new life into the structure while preserving its historical value. Adaptation should be carefully planned to ensure the new use does not overshadow or erase the historical significance.
6. **Memorialization:** Consider the incorporation of a memorial or commemorative element to honor the victims and events of the past. This can serve as a reminder of historical atrocities and promote empathy and understanding.
7. **Contextual Design:** Integrate the structure into its surrounding environment in a sensitive manner. Avoid creating a stark contrast that might cause discomfort or disharmony.
8. **Cultural Sensitivity:** Ensure the reuse concept respects the diverse cultures and values of the local community and nation as a whole. Avoid promoting ideologies that may be offensive or harmful.

By carefully considering these aspects, you can create an architectural reuse concept that honors the past, educates the present, and inspires a responsible future.

Online Resources

Wikipedia: https://en.wikipedia.org/wiki/Flak_tower

Dark Tourism: <https://www.dark-tourism.com/index.php/austria5/15-countries/individual-chapters/113-augarten-flaktowers>

Youtube videos: <https://youtu.be/UrvEmC9bsc> | <https://youtu.be/TICt6f0hX4o> | <https://youtu.be/5SbiUOuZMLQ> | <https://youtu.be/6jgvkzD8d3k> | <https://youtu.be/ak0PtUEIPvY> | <https://youtu.be/OVdVHEb4Nmg> | https://youtu.be/J_ofPUh1dtU

Schedule

Mo, 28.8. Meeting Point: Gefechtsturm (Flak Tower) Augarten at 10:00AM

We will start the first day with an excursion to the designated tower at Augarten and talk about the task on site. Instead of a time-consuming introduction lecture in a class-room, we want to start right into the topic and meet in the Augarten park. After the introduction and analysis of the tower we will visit the project “Gasometer” which may serve as a reference. In the afternoon we will go back to the city and visit the Aqua-Terra-Zoo which was built in another Flak Tower. We finish the day in the 7th district where you can find many restaurants, pubs and bars.

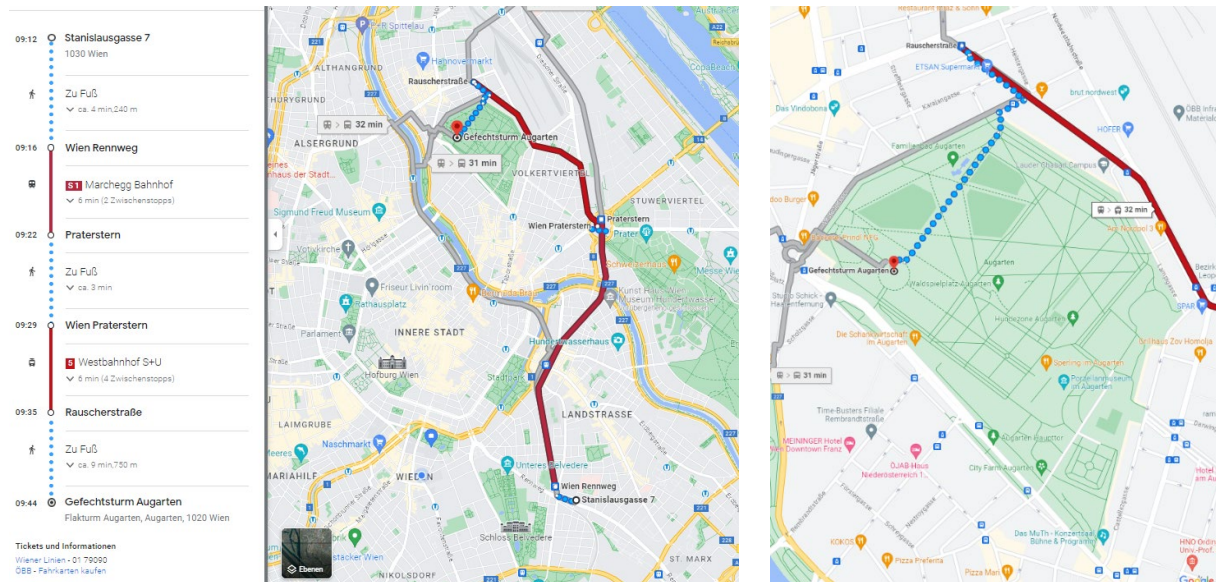


Figure 15: Map from Accommodation to Augarten

Tue, 29.8. Meeting Point: Seminar room Argentinierstrasse 8 at 10:00AM

On the second day you will establish a use-concept with your group. You can create rough sketches to depict your ideas regarding future use and the necessary architectural intervention.

Wed, 30.8. & Thu, 31.8. Meeting Point: Seminar room Argentinierstrasse 8 at 10:00AM

On Wednesday we will meet in the morning and discuss your concept before you work out your concept in a presentable state. On one of these days we will take you to a sightseeing tour in Vienna's city center.

Fri, 1.9. Meeting Point: Seminar room Argentinierstrasse 8 at 10:00AM

In the morning finalizing the presentation. At 16:00PM Final Presentation

Sat, 2.9. Meeting Point for dinner: will be announced during the workshop

This is a free day for you. But we will have a dinner together with new arriving students from Toyo University at a “Heurigen” in Vienna in the evening.

Directions from the airport VIE (Vienna)

When you arrive at the airport you will be able to connect to the free WiFi internet. After passing through customs/immigration, pick up your luggage from the conveyor belts. After claiming your baggage you exit into the arrival hall.

In the arrival hall you will find an ATM (accepting international bank cards). Please make sure (before your departure!) that your bank cards and credit cards are unlocked to work in Europe. Some banks have a standard geo-lock to avoid fraud and you may have to unlock your cards to be working at European ATMs.

Similar to Japan, especially smaller shops and restaurants do not accept credit cards. Make sure you always carry some cash with you. We recommend that you withdraw around EUR 200 at the airport.

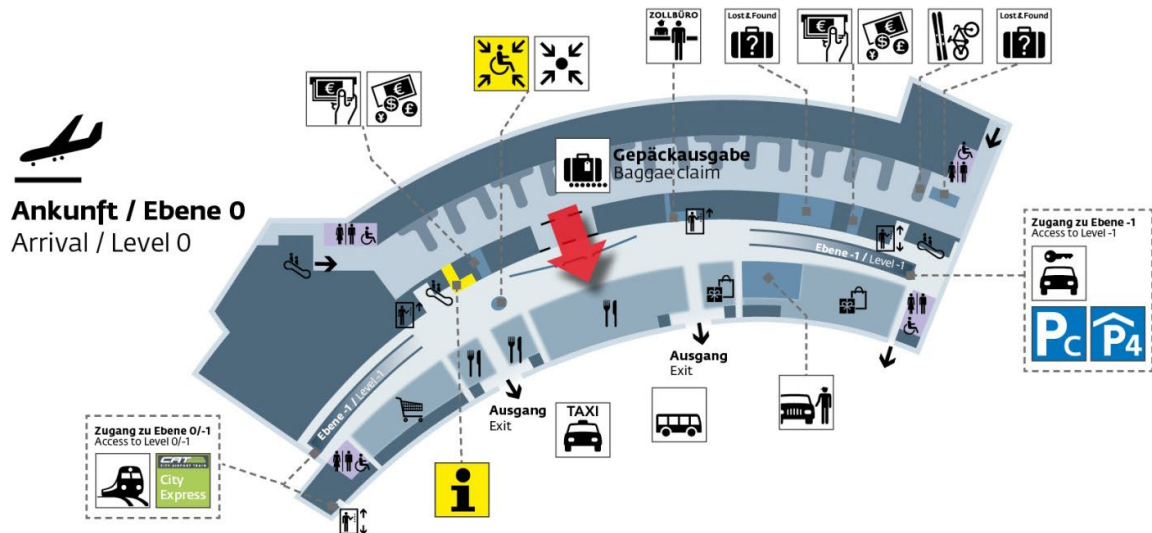



Figure 16: Arrival hall at the airport (Vienna Airport)

To the right of the exit from the baggage claim you find a red counter (ÖBB) which is the federal train company (next to the CAT counter). The staff at the train ticket counter speak English and you can buy tickets for the train from the airport and also for the Vienna public transport system.



Please already purchase tickets for the whole period of your stay until Sept 6 (11 days). Credit cards will be accepted. After buying your tickets, proceed to the train platforms in the lower level.

Look for the train S7  which leaves every 30 minutes. Take this train with the direction "Laa" to the station "Wien Rennweg" and walk 250m/3minutes to your accommodation at Stainslaugasse 7.

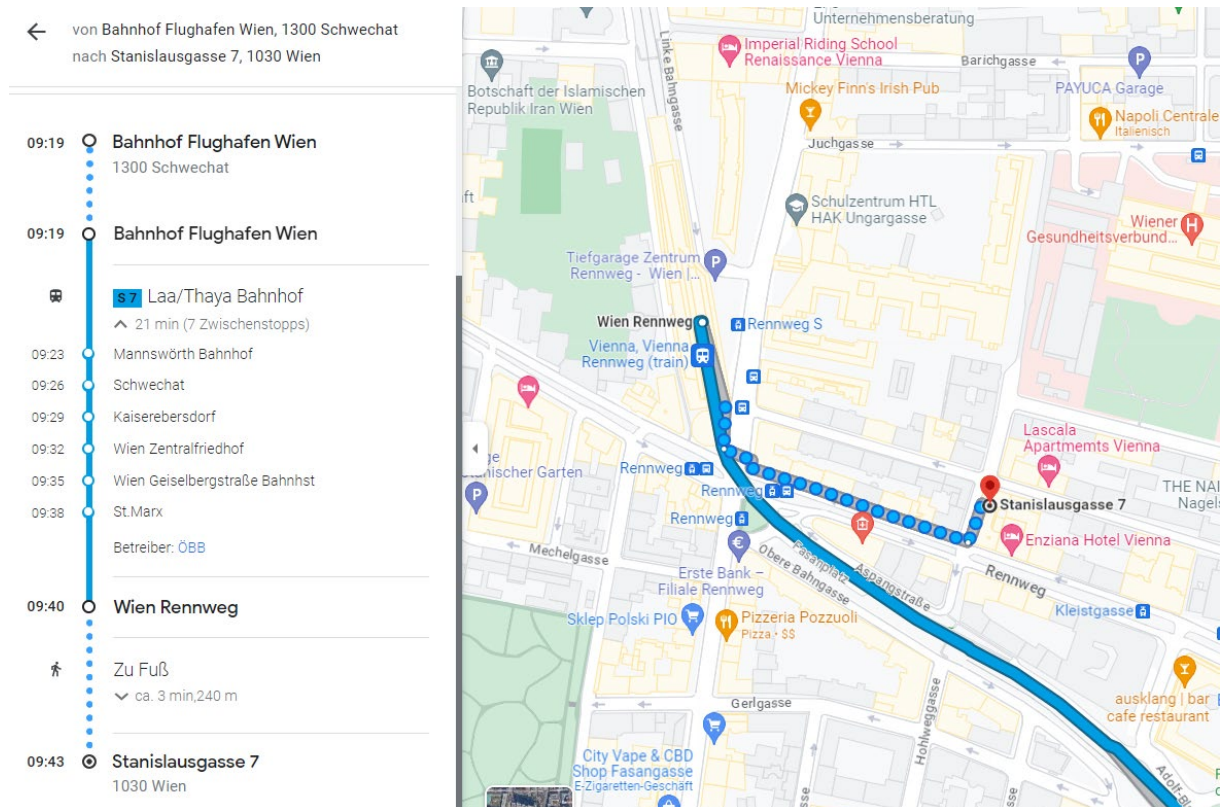


Figure 17: Map from station Wien-Rennweg to your accommodation (Google Maps)

Attention: On your flight or after landing the express train CAT (City Airport Train) will also be promoted. But this train doesn't make sense for you. It is more expensive and the station is further away from your accommodation.

Location of the workshop

During your stay you will be able to use the seminar room "Argentinierstrasse" which is located at the address Argentinierstrasse 8, 1040 Vienna on the ground floor.

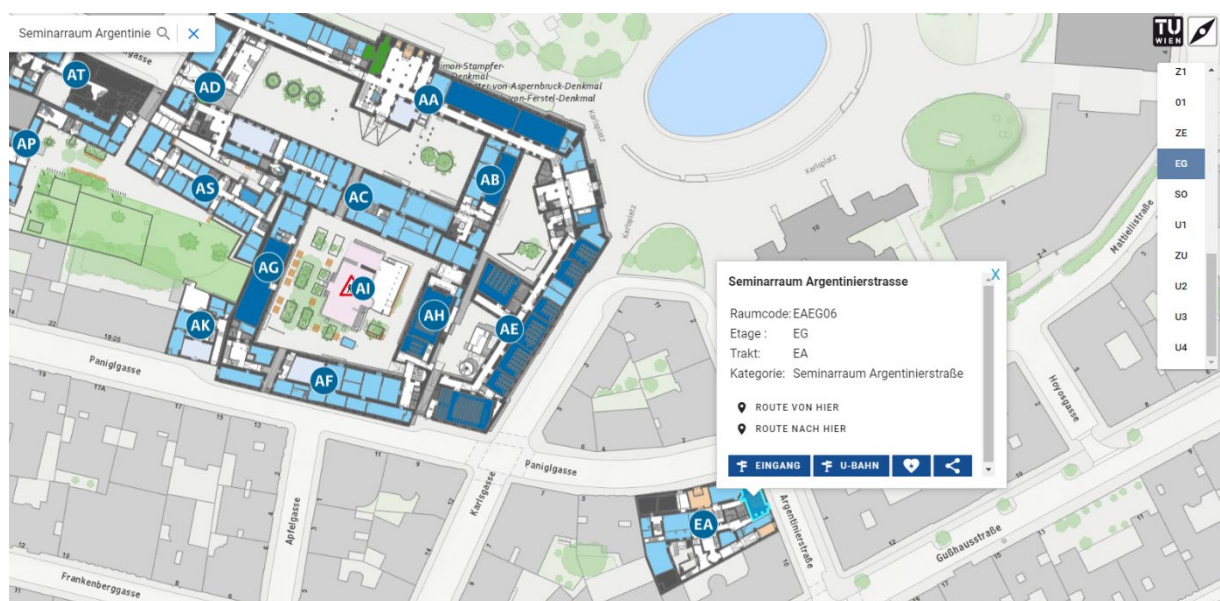


Figure 15: Seminar Room Argentinierstrasse (TUW Maps)

From your accommodation at Stanislausgasse 7 you can walk to the seminar room which takes around 20 minutes.

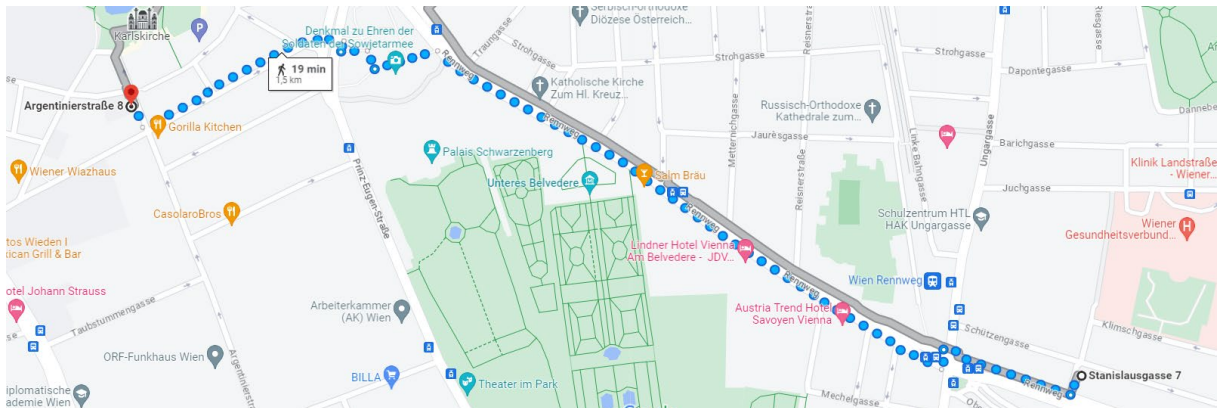


Figure 18: Walk from AirBnB to our seminar room (Google Maps)

Grabbing lunch

To get some quick and affordable lunch you can walk to the supermarket "Billa" which is located at the street Wiedner Hauptstraße (see map). You can get sandwiches, salads or other quick food there. Also there are quite a few take away places and a bakery close to Billa on that street (Hot Dogs and other warm food). In the subway station "Karlsplatz" there is also a McDonalds.

Feel free to take your lunch to the seminar room or find a nice spot outdoors. Many students sit around the pond in front of the church if the weather is nice. Take-away food will range from 5-10 EUR.

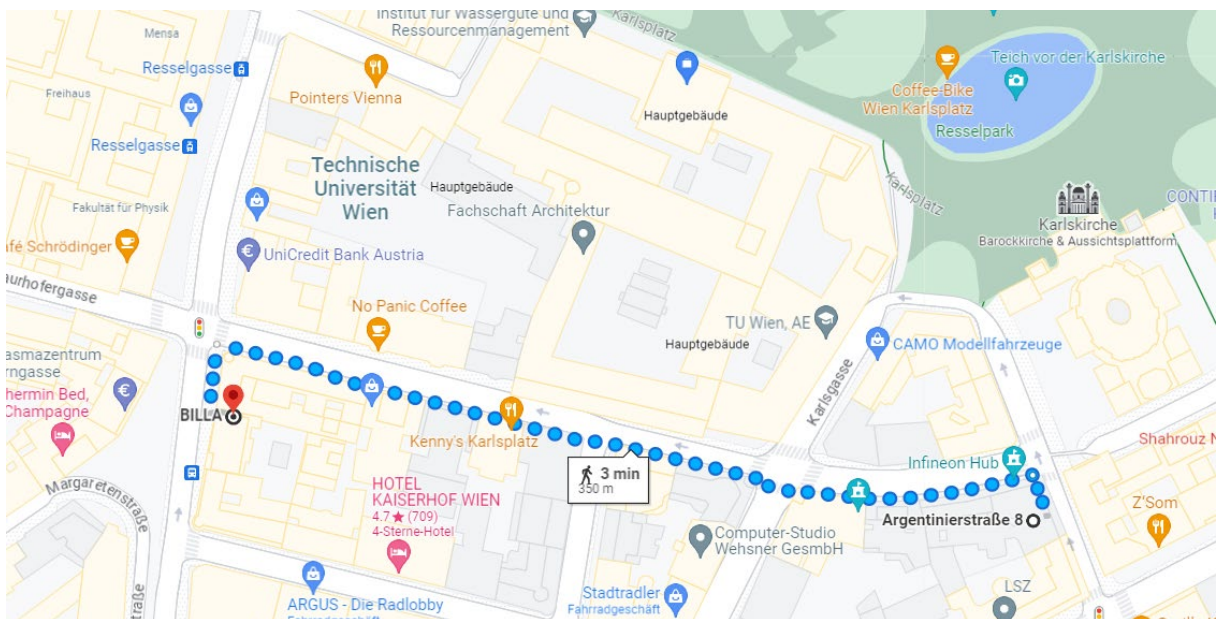


Figure 196: route from seminar room to supermarket (Google Maps)

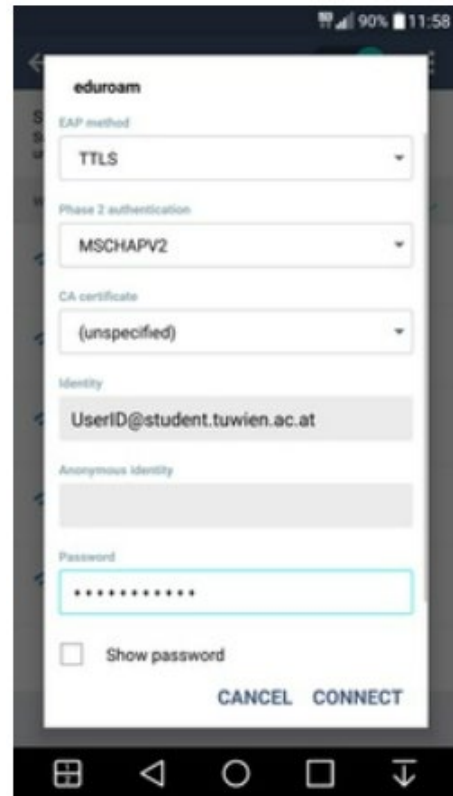
WiFi on campus and in Vienna

Below are the login credentials for TU Wien's WiFi system. There is also free WiFi on many public spaces in Vienna. If you have an Eduroam Account, this will work also at TU Wien and many public places in Vienna.

On campus you can choose between the wireless network "tunet" (encrypted) and "tunetguest" (unencrypted). When using tunet, you may have to check the certificates and security settings.

Username and Password:

JASEC1@conference.tuwien.ac.at,so95hego
JASEC2@conference.tuwien.ac.at,wipa02ti
JASEC3@conference.tuwien.ac.at,gsz11osh
JASEC4@conference.tuwien.ac.at,zekspo29
JASEC5@conference.tuwien.ac.at,uacuqa79
JASEC6@conference.tuwien.ac.at,56kujobu
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JASEC10@conference.tuwien.ac.at,bo41rltn
JASEC11@conference.tuwien.ac.at,do34baqi
JASEC12@conference.tuwien.ac.at,35fuofed
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JASEC24@conference.tuwien.ac.at,stae58mr
JASEC25@conference.tuwien.ac.at,bib72yhe



You can connect multiple devices with any of the above accounts.

Additionally please see [this website](#) for public WiFi in Vienna