





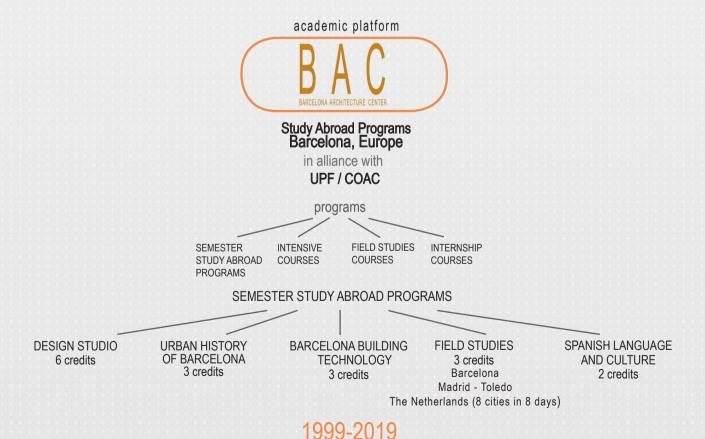
BAC Barcelona Architecture Center

BARCELONA ARCHITECTURE CENTER is an educational organization founded in 1998 and chaired by Miguel Roldán. The BAC was created with the aim of developing academic and research collaborations with other universities and higher education institutions across the globe.

## BCN Urban project Sagrada Familia public spaces after 2026

Edited by Barcelona Architecture Center in colaboration with Clemson University, Texas A&M University and Roger Williams University

Gaudi Museum, Fall 2018 **1**BAC, Barcelona Architecture Center



Over **2,400** American, Asian and Australian students.

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BAC Barcelona Architecture Center Alumni

# Fall 2018 BCN Urban project Sagrada Familia public spaces after 2026 #1

#### **INDEX**

BAC PROGRAM. Introduction letter by Miguel Roldán

1. Barcelona Design Studio | CU - ARCH 3540, ARCH 8520, LARC 3550/3551 | TAMU- CARC 301 |

Program

Participating students

Student projects

. Final study Master of Architecture project

Design studio lecture series

- 2. Barcelona History Research | CU ARCH 4120, ARCH 6140, LARC 3210 | TAMU- CARC 331 |
- 3. Barcelona Building Technology | CU ARCH 4000, ARCH 6000 | TAMU- CARC 311 |
- 4. Field Studies | CU ARCH 4160, ARCH 6160, LARC 3190 | TAMU- CARC 311 |

Seminar

Travel Spain - Madrid

Travel Europe - The Netherlands

5. Semester highlights

#### **BAC PROGRAM**

DIRECTOR

EXECUTIVE

MIGUEL ROLDAN

Introduction letter by Miguel Roldán, Executive Director of BAC program.

The Barcelona Architecture Center, BAC is an educational organization that was founded in 1999 and is currently chaired by Miguel Roldán. The center offers custom designed architecture and urban design programs in Barcelona to international architecture students and schools.

The BAC was created with the aim of developing academic and research collaborations with other universities and higher education institutions across the globe. We are continually building and international network between universities to develop common architectural research projects.

This network includes new partners every year from a variety of geographical areas, as we are especially interested in focusing on local and global points of view. We are optimistic in our pursuits as we design the future of a professional environment in a global context, creating mechanisms to share tasks and to work in a worldwide team.

Having reached over 2,500 students since its foundation, the BAC currently collaborates with our local partners UPF, COAC, Catalan Association of Architects and La Capell. Our international partners include **Texas A&M University, Clemson University, Roger Williams University, Penn State University** and a number of Japanese universities and the CEDIM of Monterrey.

The **BAC** has been participating in a variety of educational exchanges since 1999. Over the last 20 years, our directors have had many different experiences in organizing innovative programs and workshops designed to train architects in the frame of European architecture, urban and landscape design tendencies, as well as participation in teaching exchanges around the world. Over the past decade, the BAC has established a mission and designed its programs and research to this end.

For more information on this program visit our webpage http://barcelonaarchitecturecenter.wordpress.com/ Sagrada Familia and most of Gaudi's works in Barcelona, such as Casa Milà, Casa Batlló, Parc Güell, are an inevitable attraction pole for tourists, for visitors and/or Barcelona citizens as well. These places are indispensable and have to be seen, photographed, experienced...when you are visiting or staying in the city. The attraction generated by the Buildings and its Architect is constantly increasing, as the number of visitors is. This very important movement of people (buses, coaches, private cars, cruisers), and activities are happening in a very limited urban space and have to deal with Barcelona's and the architectural attractor's neighbors' daily living and working habits, especially when they are placed in very central spots of Barcelona, such as Sagrada Familia.

Spain's (4.5 Millions of visitors) in 2017, make the areas and streets around it difficult to live in, to work in, even to pass by

Paradoxically two very big public spaces next to the Temple (Plaça Gaudí and Plaça Sagrada Familia) do not soften the situation but do concentrate people in the street rather than the Plazas themselves. The design of both Plazas cannot cope with the new urban program that the city is demanding for the area next to Sagrada Familia.

This urban public space has to be seen as an opportunity, rather than an issue for the city. The opportunity to use all these urban urges us to generate a new public space that can mediate between the City and the Temple, the neighbors and the visitors. The possibility of backing up the magnetism that generates the Sagrada Familia, by bringing closer the information and material about Gaudí, which is currently spread out in the city, and to concentrate the knowledge on his work and his achievements in a new building. The chance of solving the current chaotic urban flows around the temple, through the rethought public space and the new building.

Rethinking Plaça de Gaudí will allow us to house the needs of visitors and citizens, who are not constantly, neither in time, nor in intensity, the same through the year and can therefore, be alternated and / or combined. The new building will house a new attraction pole on the site, the Gaudi Museum. This new volume should not congest the urban space around Sagrada Familia more, so it would have to be a non-visible volume, a platform to support the Placa Gaudí, an excavated space, a connector, a mediator.

#### PROFESSORS





MIGUEL ROLDAN

MIQUEL RODRIGUEZ

ASSISTANT PROFESSORS





ZANA BOSNIC

KATRIN BAUMGARTHEN

#### Site Description:

Plaça de Gaudí / Sagrada Familia / Plaça de la Sagrada Familia
The urbanization of the surroundings of the Sagrada Familia has been
historically controversial. When the construction of the temple began in
1883, it was located in an open field in the municipality of Sant Martí de
Provençals, which was soon engulfed by the growth of the neighbor city
of Barcelona. In the expansion plans, the "Eixample" by Ildefons Cerda,
the Temple was not included, because it was approved 23 years before
Sagrada Familia's breaking ground. Ildefons Cerdá had planned for
the construction of a large racecourse in that area, which occupied 14
Eixample blocks.

In 1903 after a public tender, the City Council of Barcelona commissioned to the urban planner Léon Jaussely with a project of expanding and widening the city again that connected the plan designed by Cerdá with the municipalities that were annexed in 1897, and among them was Sant Martí de Provençals, the neighborhood where Sagrada Familia was standing. In his preliminary draft, Jaussely had planned the construction of a Hygiene Museum in front of the future façade of the Passion of the Holy Family, with a small square separating both buildings.



To elaborate the definitive plan, in 1906 Jaussely requested that Antoni Gaudí define an urban environment for his work. By studying the geometry and visuals of the temple, Gaudí and his team decided to situate it within a plaza in the shape of an octagonal star, but due to the high cost, it ended up being reduced to a four-pointed star plan.

This proposal had the approval of Jaussely; However, his definitive plan, approved in 1907 after municipal review, placed the Sagrada Familia in a circular square 98 meters in diameter. Jaussely also included the creation of a diagonal track - now Avinguda Gaudi - to satisfy the desired perspectives by the Architect and new ways connecting Sagrada Familia with the main entrance to the Hospital de Sant Pau, another very important building of the "Modernisme" movement.

Our site is the recently renovated Plaça de Gaudi. It is located alongside of Sagrada Familia in front of the "Portal del Naixement de la Sagrada Familia" (southwest façade).

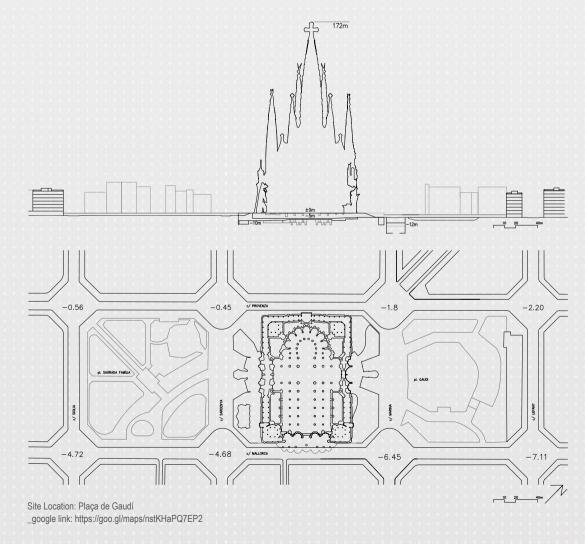
The square occupies most of the squared block generated by the streets Mallorca, Provença, Marina, and Lepanto. Its gardens are posthumous work done by the local landscape architect Nicolau Rubió i Tudurí, who is also responsible for the urbanization of the neighboring Plaça de la Sagrada Familia.

From the square you can see the entire Southwest Facade of the Temple and the confluence, which is to the North, with the Avinguda Gaudi, an important pedestrian axis on the neighborhood of Sagrada Familia currently. The Plaza itself is probably more than just a square, it is a park with playgrounds, a meeting place, a green area with a lot of vegetation, and also, a huge pond that occupies 3000 square meters. According to the designer, the water of the pond was intended to be a mirror to reflect the Sagrada Familia.

At the same time, the plaza is an "oasis" amidst a bustling city, roads, and crowds of people, that is why it is particularly used both by locals and visitors. On the contrary, the design can also serve as a source of urban conflicts due to the hidden corners and areas where people can gather far from the view of others.

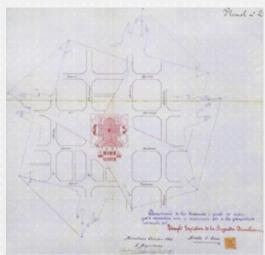
In conclusion, the square was initially conceived as a space specifically aimed for those who would like to gaze on the magnificent church.

Between the Temple and the Plaza, the Metro Station Sagrada Familia seats underground below Carrer de Marina. It is a considerably big interchanger, distributed in several underground levels that links metro Line 2 (blue) Station with metro Line 5 (purple) Station. This infrastructure offers the possibility to link any future activity on the Plaza with the Sagrada Familia, and it is also a fast link with other areas of the city of Barcelona.



12 BAC. BARCELONA PROGRAM. FALL 2018







#### 1. Building: Museu GAUDI (net surface) 2.600 m2

Main Entrance 200 m2 50 m2 Shop. Toilettes Permanent Exhibition 600 m2 Temporary Exhibition 400 m2 400 m2 Conference Room Seminar & Visitor Rooms 100 m2 Research Center 50 m2 Workshop / Studio 100 m2 200 m2 Library Archive and Storage 400 m2 Administration (Offices + Meeting rooms)

#### 2. Plaza 10.000 m2

A place that can gather urban activities: such as small concerts, neighborhood activities, markets, sports...

#### 3. Existing volume / Party Wall

The party wall facing the Sagrada Familia should be integrated in the overall design, possibly becoming the background of the activities of the Museum and the Plaza.

Keywords for the program:

. Urban public catalyst: the new building must act as a connector and/or as a meeting point for the different protagonists of the area: tourists, visitors, but also neighbors ... to sew and relate their activities through contemporary events inspired by Sagrada Familia, Gaudí, Barcelona, Eixample, etc...

. Dynamic public urban space: the main Plaza, with a rather huge scale for the city, and the Museum, a covered / protected public space, have to be linked, bound, related... with the Sagrada Familia, Avinguda Gaudí and generate a gathering space, an urban shelter for both the neighbors and the visitors.

The Plaza and the Museu Gaudí should become a new organism in the urban tissue, acting as an important urban organizer.

#### Code Limitations / City conditions:

Code:

Maximum Volume / Gross Area in total + + + + 10.000 m3 / 2.600 m2

. Underground volume

footprint footprint of Plaça Gaudi maximum height 2 floors up to 10 m maximum percentage of the volume (underground) from 70 to 100% maximum volume ≤ 10.000 m3

. Above ground volume

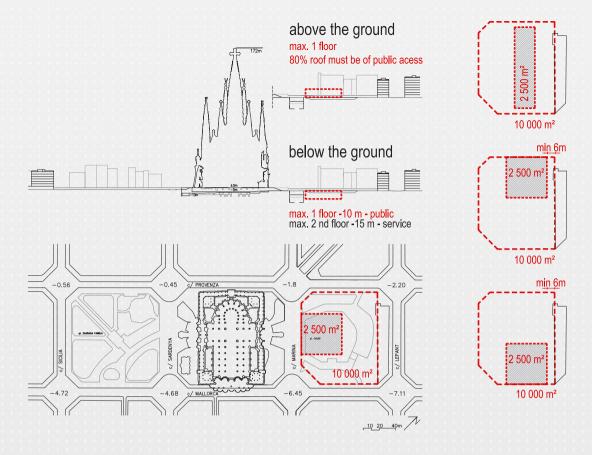
footprint existing footprint of Plaça de Gaudí maximum height  $\leq 6,00$ m (next to the party wall,  $\leq 24,00$ m) maximum percentage of the volume (above ground) from 0 to 30% maximum volume  $\leq 3.000$  m3

#### Conditions

. The Building has to be nZEB (nearly Zero-Energy Building), requiring very low needs of energy in its operation and production of renewable energy. Preeminent use of the natural light in all public spaces of the museum is suggested.

. The Building has to be built with low Gray-Energy expense, taking in account all the construction processes: the demolition of the existing elements the excavation, the construction of the new volume and its final recycling.

. Use of renewable, recycled, local and sustainable materials is mandatory. An ecological and local approach on the selection of the materials (structure, roof...) and species (trees, plants), both for the building and the Plaza is also compulsory.



This FALL 2018 Barcelona Design Studio has confronted with the following questions which might be divided in different scales/titles:

#### A. City scale

- 1. What opportunities do you see in this open area?
- 2. Can this area connect to existing Barcelona green / public space system?
- 3. Can you trace main circulations around Sagrada Familia?
- 4. Are there any alternative accesses to avoid the concentration only in c/ Marina and c/ Sardenya and c/ Mallorca?

Should this area be entirely pedestrian? How should we pacify this area?

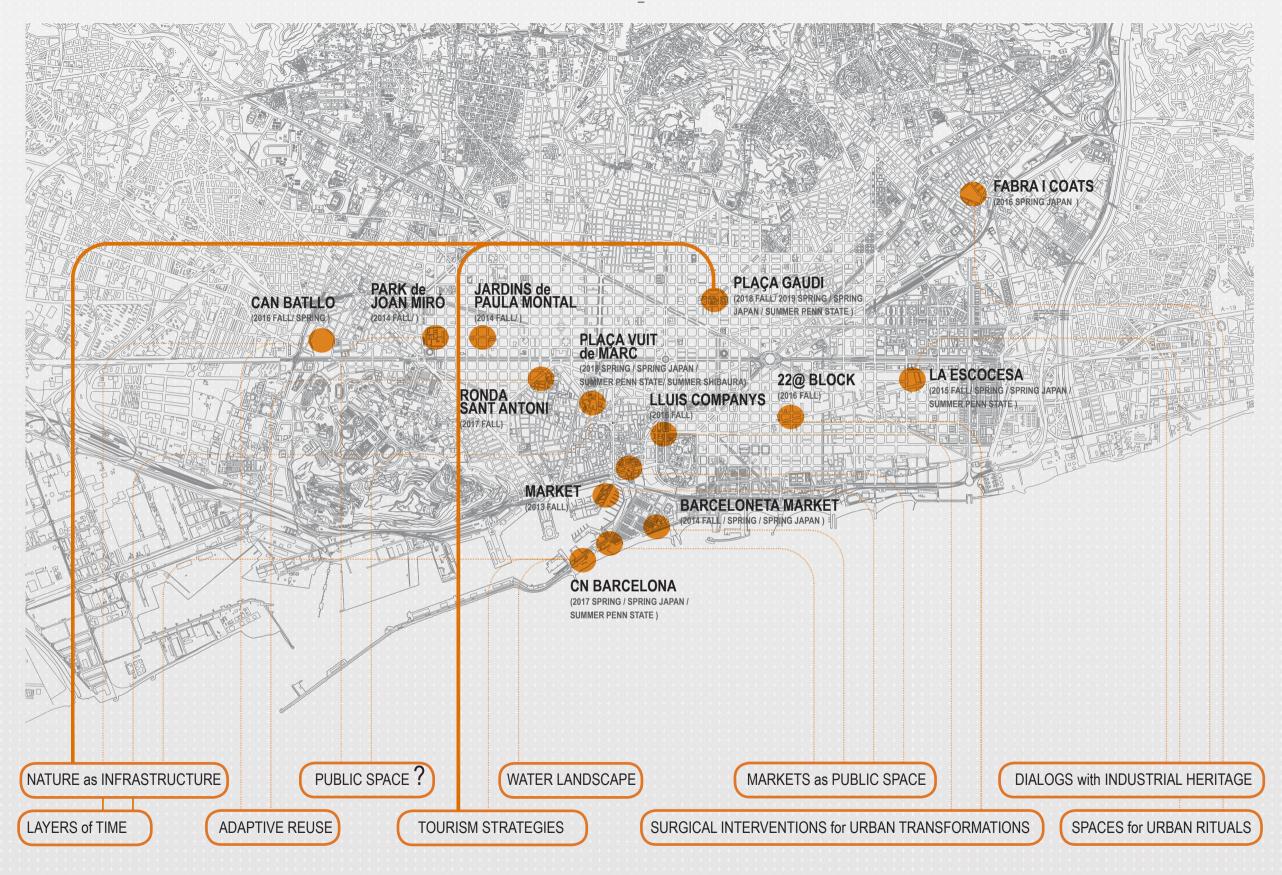
5. Can our strategy be equally useful for the all three scales involved in this design challenge?

#### B. Urban scale above the ground

- 6. Could we enter to Sagrada Familia directly from the Metro station?
- 7. What type of urban plaza Sagrada Familia deserves in its surroundings?
- 8. Is there any type of public space or landscape that can be connected with symbiosis of nature and architecture of Gaudi's work?
- 9. What is the role of the public space and landscape in this transformation?
  10. Is it possible to search for a new type of public space and landscape, with a new vocabulary in relation to the sacral architecture, an industry called "tourism" and at the same time maintain the local identity?
- 11. Can this plaza / square be at the same time the access to the Basilica?
- 12. Should this public space be a neighborhood square or the Turístic square, or it is possible to be both?
- 13.Can we extend the horizontal plane of the square to the vertical plane of the blind wall of the housing in c/Lepant?

#### C. Architecture scale under the ground

- 14. Are we able to add new layer to the project that has been building for the last 100 years and that is contemporary and specific for this place and time?
- 15. What does it mean that this building/square needs to be Mediterranean?
- 16. Do we need a museum/ hangar/ open deposit to expose all Gaudi's work? Does this need to be close to one of Gaudi's works?
- 17. Is it possible to design a museum next to Gaudi's masterpiece and not fall into the trap making the "copy" of another Gaudi?
- 18. Are we able to design the entrance atrium that not necessary means reduce the public space around the Sagrada Familia.
- 19. Why do we need to understand Gaudi in order to design next to his building?
- 20. How would you imagine Mies van der Rohe designing a museum next to Sagrada Familia?
- 21. Which architects you would be in order to design in symbiosis with Gaudi?
- 22. Which opportunities do you see by having Gaudi museum on this site?
- 23. Which other uses should we have in this museum?
- 24. Which materials would you add to this new architecture and to be in symbiosis with Gaudi's palette?
- 25.Can we add in our design the complexity of a renovated discourse about energy, water, biological cycles, fauna and materials?



2019	SUMMER		
1 + + + + +	SPRING		NATURE as INFRASTRUCTURE
2018	FALL	PLAÇA GAUDI —	
	SUMMER		PUBLIC SPACE ?
+ + + + + +	SPRING	_ PLAÇA VUIT de MARÇ	WATER LANDCCARE
2017	FALL	_ RONDA SANT ANTONI	WATER LANDSCAPE
· + + + + + + + · + + + + + + + · + + + +	SUMMER		MARKETS as PUBLIC SPACE
+ + + + + + +	SPRING	CN BARCELONA	WWW.W.C. 10 GO. 1022-10 G. 7162
2016	FALL	CAN BATLLO / LLUIS P. COMPANYS	DIALOGS with INDUSTRIAL HERITAGE
· + + + + + + + + + + + + + + + + + + +	SUMMER	_ INTERIOR EIXAMPLE BLOCKS	
<u> </u>	SPRING	_ FABRA I COATS / 22@ BLOCK / CAN BATLLO	LAYERS of TIME
2015	FALL	LA ESCOCESA	
+ + + + + +	SUMMER	_ EIXAMPLE SKYLINE	ADAPTIVE REUSE
	SPRING	LA ESCOCESA	SPACES for URBAN RITUALS
2014	FALL	PAULA MONTAL GARDENS/ JOAN MIRÓ PARK	SPACES IOI ORBAIN KITUALS
+ + + + + +	SUMMER		SURGICAL INTERVENTIONS
<u> </u>	SPRING	_ PLAÇA CNAB	for URBAN TRANSFORMATIONS
2013	FALL	4 SITES BARCELONETA	++++++
·	SPRING	PASSEIG MARITIM de BARCELONETA	TOURISM STRATEGIES
2012	FALL	BARCELONETA / EIXAMPLE BLOCK	
+ + + + + + +	SPRING	POBLE NOU TRAIN CORRIDOR	PRIVATE / PUBLIC / COLLECTIVE

#### **Participating students**











Brenna E. Whitney















Jami Nicole Hafner ARCH UNDERGRAD ARCH UNDERGRAD





group Miquel Rodri

Guanqi Shuang (Diana) TEXAS A&M UNIVERSIT ARCH UNDERGRAD







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Alexis Renee Daniels TEXAS A&M UNIVERSITY ARCH UNDERGRAD



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Bernardo Guerra TEXAS A&M UNIVERSITY ARCH UNDERGRAD





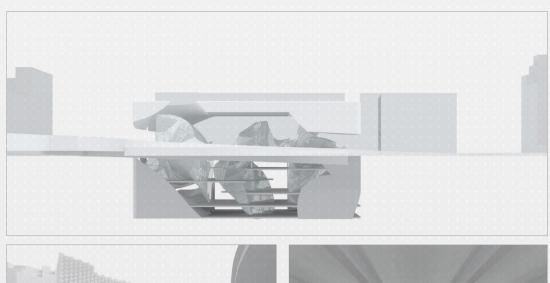
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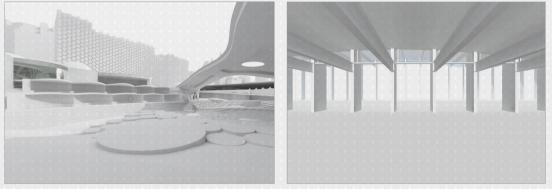




Samantha Beatrix Simmons TEXAS A&M UNIVERSITY ARCH UNDERGRAD



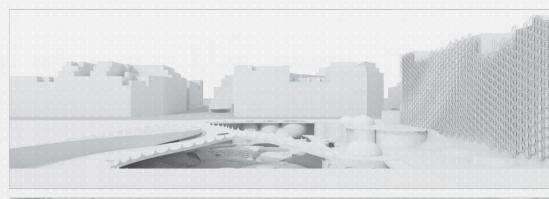


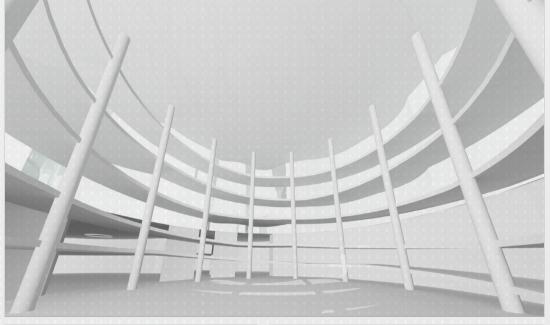




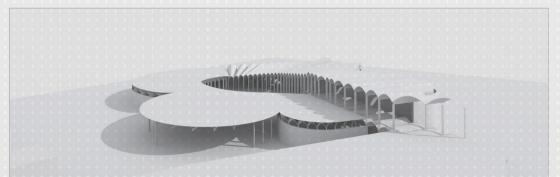




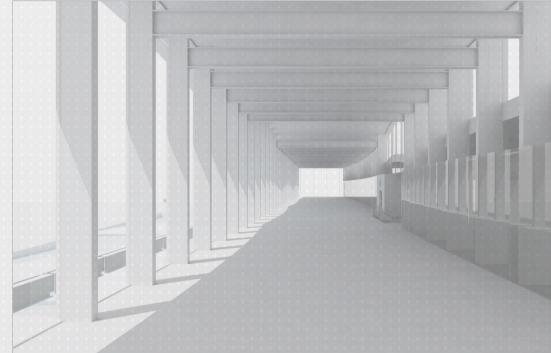


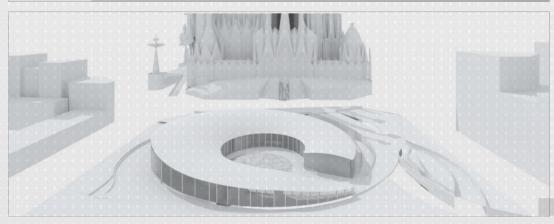


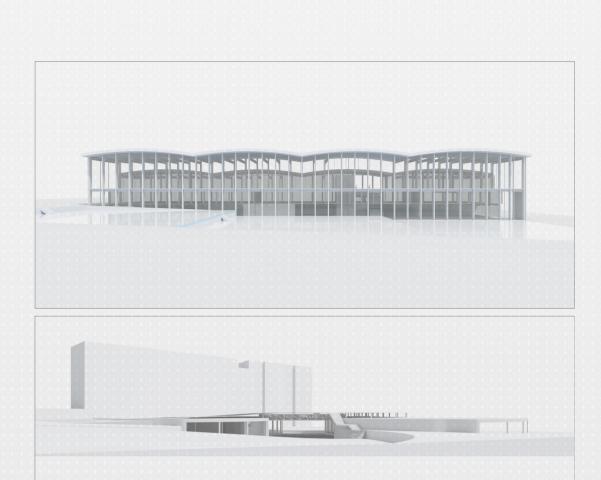


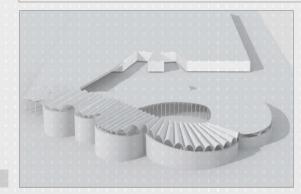


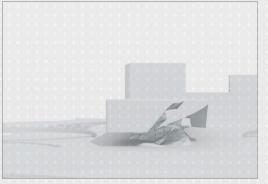


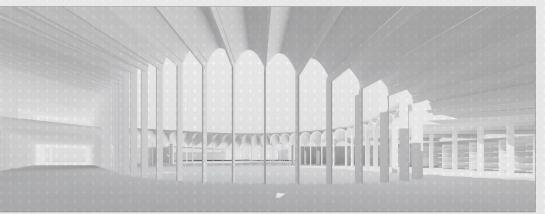






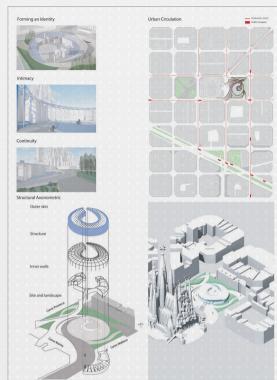


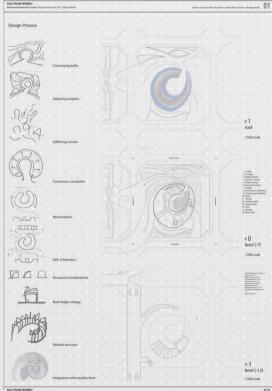




#### MUSEU D' SULITAUN

Andrew Lane, Texas A&M University, Architecture Undergraduate Mitzi Gonzalez, Texas A&M University, Architecture Undergraduate









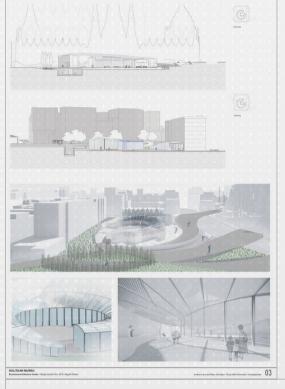
Our design approach started with a conversation on what was missing from the site. Situated across from a heavily visited site, the Parc de Gaudi currently serves as overflow from tourists.

We first recognized the pedestrian congestion on Carrer Marina, making navigation difficult.

The current park holds no identity or strong feature to distinguish itself from other public areas in the city. In response, we propose **intimacy** as an identity for the site.

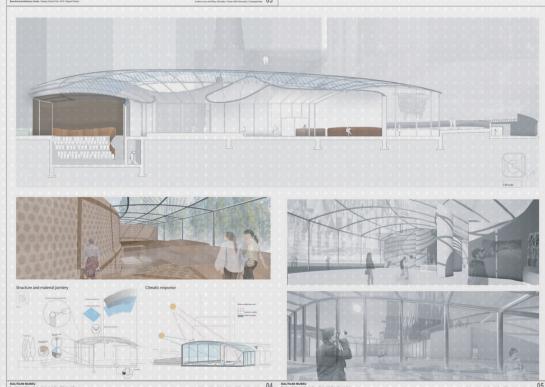
In early sketches, we imagined a centralized plaza to allow for unobstructed views to Sagrada Familia. To access this plaza, a series of ramps branching from the corners of the blocks and the metro station swirl into a centralized area, akin to a whirlpool. By orienting the building away from Sagrada Familia and forcing movement around the building, it creates an embrace to welcome the public. Connecting with Sagrada Familia, one path continues from the steps of the Nativity facade and another from the front entrance.

Upon entering the museum, the experience of moving within a cloud is created by the filtration of light by perforated screens. Continuous glass exterior walls pairing with flowing concrete walls creates continuous circulation, offering views of Sagrada Familia depending on the location within the museum. The structure of the building is realized by a row of centralized columns around the central courtyard and around the exterior, connecting by arches. The form was generating from the structure of a nautilus shell, an inspiration for Gaudi in several projects. Mirroring this structure, the height of the arches changes depending on the function or need for shading to the interior courtyard. By solely supporting the glass roof panelling, the interior walls are enabled to stop short of the ceiling, allowing for light filtration to key aspects of the museum.



In the auditorium, the surrounding landscape of populus nigra trees is framed alongside undulating panels of wood, creating an enveloping natural experience.In accordance with the flowing walls of our building, the landscaping seemingly continuous of our shell-shaped design by submerging into quiet spaces surrounded by rows of vertically emphasized trees. The landscaping of populus nigra trees is done to not obstruct views with large decidiuous trees. Instead, the trees provide shade in summer and are left completely bare in the winter

The interior moment of glass, shadows, interior courtyard and views of Sagrada Familia create an individualized experience for anyone visiting the museum. As a public space, our museum weaves itself into the context of Sagrada Familia and the larger urban context.



#### **BRIDGE-SCAPE**

Hallie Simpson, Clemson University, Architecture Undergraduate Katherine Allen, Texas A&M University, Architecture Undergraduate

In our design, we tried to address the contextual challenges of our site and resolve them in the most practical and aesthetically pleasing way possible. As such, we designed a museum with a bridged, green roof that gradually slopes down into the street of Carrer de Provença; we then continued a green pathway all the way to the park on the side of La Sagrada Familia's Passion façade. Thus, rerouting vehicular traffic around La Sagrada Familia and decongesting the pedestrian lanes. In addition, we connected our path to the tree lined continuation of Avinguda de Gaudi.

To address the back façades of the buildings edging our site and unite them with our design, the green space and La Sagrada Familia we did three things. First, we excavated our site, placing most of our design at a lower elevation than its surrounding environment. Thus, allowing an uninterrupted view of La Sagrada Familia from the residences, as well as maintain their access to natural light. Second, we placed Mediterranean Cypress trees in between the columns of windows to cement the idea of urban relations with nature, as well as mask the mismatched façades of the buildings.

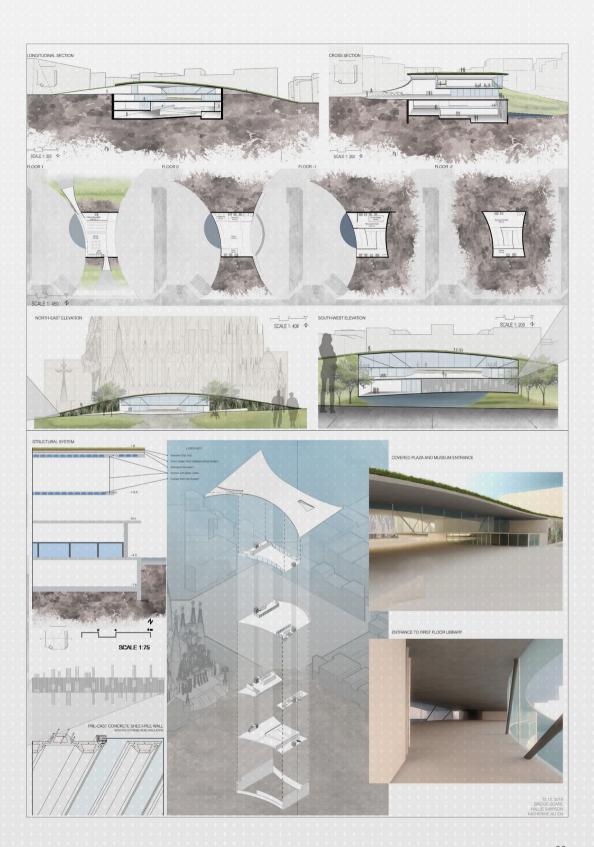
Third, we placed an undulating pattern of variegated earth-toned ceramic tiles on the lower half of the façades. This tied into our use of the tiles on the rise of our exterior stairs, as well as the guide walls of our ramps going into our building. In addition, the use of the tiles is an address to the common use of ceramic throughout Barcelona, as well as a nod to Gaudi and the Modernisme movement that shaped the Eixample district.





Our first floor is a café and library with public study space, which is accessible with ramps from the green roof, or an elevator through the reception hall of our museum. In addition, we provided an open, public plaza overlooking La Sagrada Familia from our excavated ground floor which is accessible by exterior ramps and stairs. The two floors excavated below ground are exclusively for the museum. They contain the exhibit spaces and private workspaces of the museum and are only accessible through the elevator or stairs at reception.

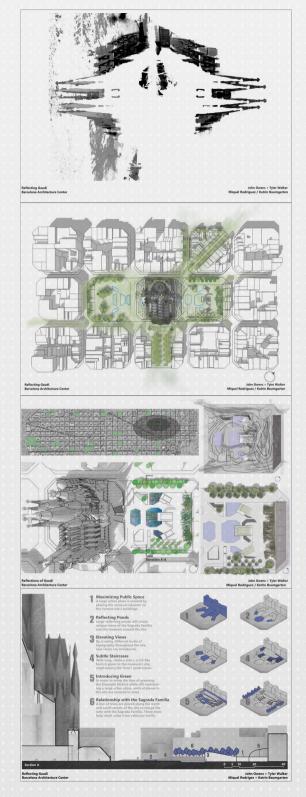




28 BAC. BARCELONA PROGRAM. FALL 2018

#### REFLECTING GAUDI

John Owens, Clemson University Architecture Undergraduate
Tyler Walker, Clemson University Landscape Architecture Undergraduate









The design proposal, Reflecting Gaudi, creates a space that pays tribute to Barcelona at three different scales.

At the scale of the site and respecting Gaudi's Sagrada Familia, the site features multiple reflecting ponds that will provide mirrored views of the Sagrada Familia and its' reflections on these ponds. With all glass facades along the faces that are adjacent to the ponds, these mirrored views will be available throughout the site, as the glass and its' reflection will act as the means of creating the mirrored view.

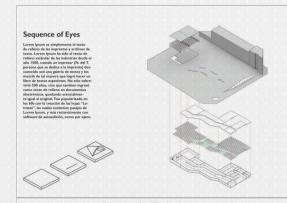
The site features large plazas and elevated views that will draw the tourists into certain nodes around the site. This allows there to be less noisy, tranquil areas of the site that can be used by the locals to relax and enjoy the company of the Sagrada Familia.

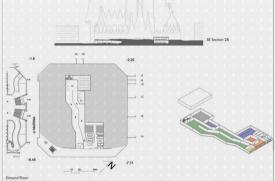
At the city scale, the site follows the current urban proposals of the Eixample by bringing more public space and green into the site. In order to provide the space needed for the crowds of tourists visiting the Sagrada Familia, the site is nearly entirely hardscape. Greenspace and vegetation is brought in through the use of lightweight steel structures that attach to the vertical faces of the site, allowing vines to grow and cover the forms that protrude from the landscape.



#### SEQUENCE OF EYES

Nikolaj Peltier, Roger Williams University Architecture Undergraduate Noah Scavetta, Roger Williams University Architecture Undergraduate













The goal of our project was to design a building did not detract from the Sagrada Familia, as well as making a seamless transition from nature to architecture. We wanted the building to be thought as an intervention into the landscape.

We achieved this by thinking of the landscape as a blanket draped over the museum. In order to get into the building and to get a view of what people are actually here for, the blanket would be cut and peeled up to create a sequence of eyes throughout the museum. These eyes serve two purposes, one to get glimpses of the Sagrada Familia, and to light the path of the museum for visitors to follow. There is one area where the museum breaks through the landscape to the library. This is like a lighthouse over the landscape. This is free for the local community to try to bridge the gap between tourists and the locals. At night light shines from the eyes like they are staring as the millions of people that come every year to see Gaudi's most famous work.





#### FOR LOCALS AND TOURISTS

Abbie Probst, Clemson University, Architecture Undergraduate

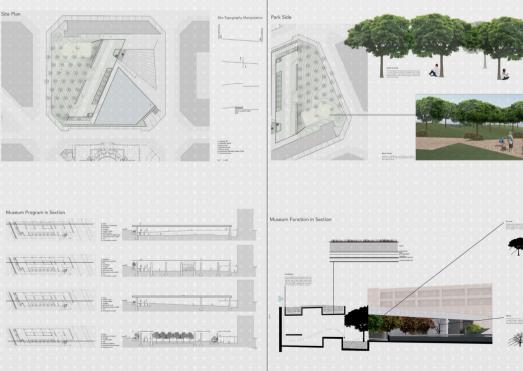




UndergraduateThere are two groups of people who share Placa de Gaudi, tourists and locals. While locals come to spend some time, playing bocce or bringing their children to a playground, tourists tend to come in masses for a short time to take photos of the Sagrada Familia. My design proposal is to separate these two groups. The problem is not that these two groups do not get along, but that their spaces could be arranged in a way that benefits the enjoyment of both parties' activities on the site. The main goal of a tourist visiting the park is to capture the perfect image of the Sagrada Familia. There are only a few locations around the pond where it is possible to do so through all of the tree coverage present. In these spaces, on busy days, people fight to have their turn to take the best photo.

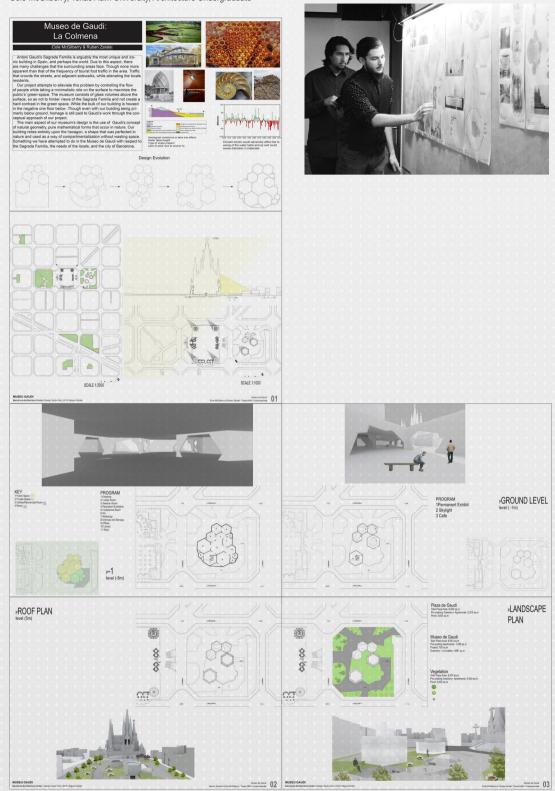
My design proposes inserting a large viewing hill to provide tourists with the perfect location to take a picture. The slope of the hill allows a photo to be taken over the person standing in front of you; no need to fight. Gaudí produced a suggestion for manipulating the

Eixample blocks around the Sagrada Familia in order to create views of the great building when approaching it. One of these lines of site divides the park directly in half. Placing the viewing hill within the lines of Gaudi's intended viewing paths of the Sagrada Familia seemed natural. By placing the viewing hill, and a reflection pond, on one side of the site, the other half becomes open for a park for those who want to spend some time and rest or play. The mass tour groups who come for a few moments to take some photos pass through only the viewing side of the site, not disrupting those who are using the park side for daily activities. The museum is tucked underneath the topography of the park. Hiding the museum below ground allows for the total surface area of the site to remain public, and prevents a structure so close to the Sagrada Familia from appearing in any kind of competition.



#### LA COLMENA

Ruben Zarate, Texas A&M University, Architecture Undergraduate Cole McGilberry, Texas A&M University, Architecture Undergraduate





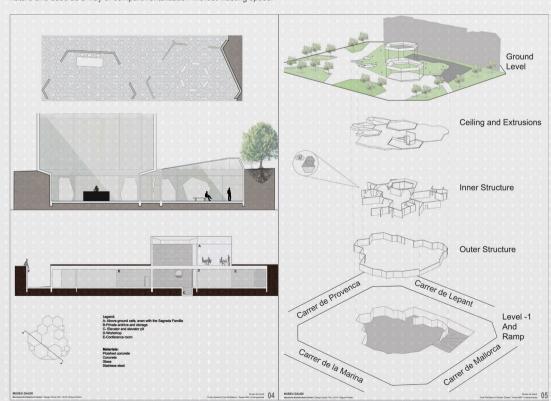
Antoni Gaudi's Sagrada Familia is arguably the most unique and iconic building in Spain, and perhaps the world. Due to this aspect, there are many challenges that the surrounding areas face.

Though none more apparent than that of the frequency of tourist foot traffic in the area. Traffic that crowds the streets, and adjacent sidewalks, while alienating the local's residents.

Our project attempts to alleviate this problem by controlling the flow of people while taking a minimalistic role on the surface to **maximize the publics' green space**. The museum consists of **glass volumes above the surface**, so as not to hinder views of the Sagrada Familia and not create a hard contrast in the green space. While the bulk of our building is housed in the negative one floor below.

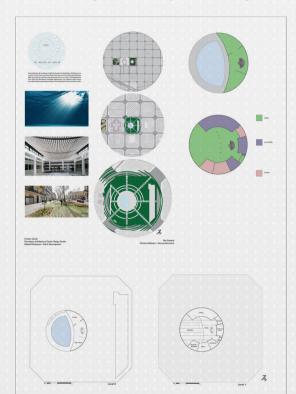
Though even with our building being primarily below ground, homage is still paid to Gaudi's work through the conceptual approach of our project.

The main aspect of our museum's design is the use of Gaudi's concept of natural geometry, pure mathematical forms that occur in nature. Our building relies entirely upon the hexagon, a shape that was perfected in nature and used as a way of compartmentalization without wasting space.



#### IRIS - THE MODERN ART MUSEUM

Cristine Miterko, Texas A&M University, Architecture Undergraduate Samuel Nosovich, Roger Williams University, Architecture Undergraduate



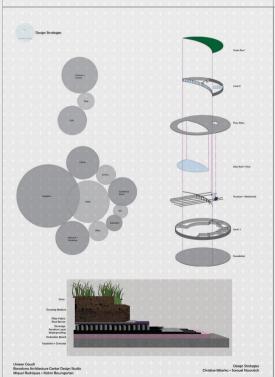


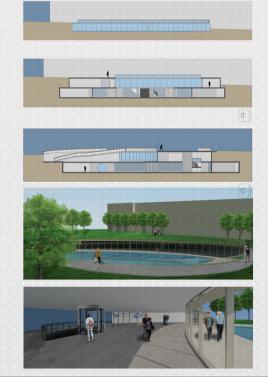


Inspired by Gaudi's **emphasis on light and water,** the Iris Modern Art Museum is a museum that is full of experimenting artists. We used the relationship between light and water to create a unique experience for our visitors. Taking elements from Sant Joan Boulevard, and glass experiments, we created a space that is for public gathering and appreciation of the Sagrada Familia and other artists.

Green Roof Detail labels: Grass Growing Medium Filter Fabric Roof Barrier Drainage

Aeration Layer Waterproofing Protection board Insulation + Concrete





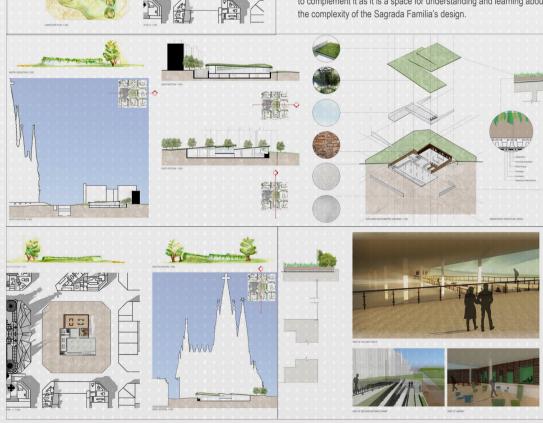
#### REMEMBERING GAUDI

Elizabeth Soyka, Clemson University, Architecture Undergraduate Kennedy Lambe, Clemson University, Architecture Undergraduate



Located in the plaza right across from Antoni Gaudi's greatest masterpiece, La Sagrada Familia, lays the new center for learning, networking, and discussing the work and life of Gaudi. The building provides a mixture of program spaces, from exhibition spaces where visitors can learn more about Gaudi's work, to conference and classrooms where guests can come in and discuss Gaudi in an open, collaborative environment. A large public library creates a getaway for the locals who want a space to work together despite the heavy tourist traffic around the site; while tourists are still welcome to come use the library, it's assumed that they will be more interested in the museum spaces of the building.

Our main idea while designing this building was to create a viewing platform for visitors which provides unobstructed views of the Sagrada Familia, as the site now makes it difficult to catch a glimpse of the church. The roof of our museum was designed to be part of the topography of the site and form a raised surface to view la Sagrada Familia. People are able to walk on top of the roof to cross the site, view the church, or just hang out. In order to incorporate green spaces into our building, we used a green roof that will help collect rainwater, regulate the building's temperature, produce oxygen, provide shade, and to serve as a park for visitors to enjoy. The roof projects from the ground in accordance with the site's topography each section of the roof is angled so as to let in natural sunlight while simultaneously creating a sloped path across the site. The green roof serves to make this a sustainable building that will adapt to any future trends in architecture; it will exist unobtrusively with the site and it will enhance visitor's views of the Sagrada Familia. The facade is simple and sleek so as not to compete with the Sagrada Familia, but instead to complement it as it is a space for understanding and learning about



#### CONNECTING GAUDI

Genesis Herrera, Texas A&M University, Architecture Undergraduate







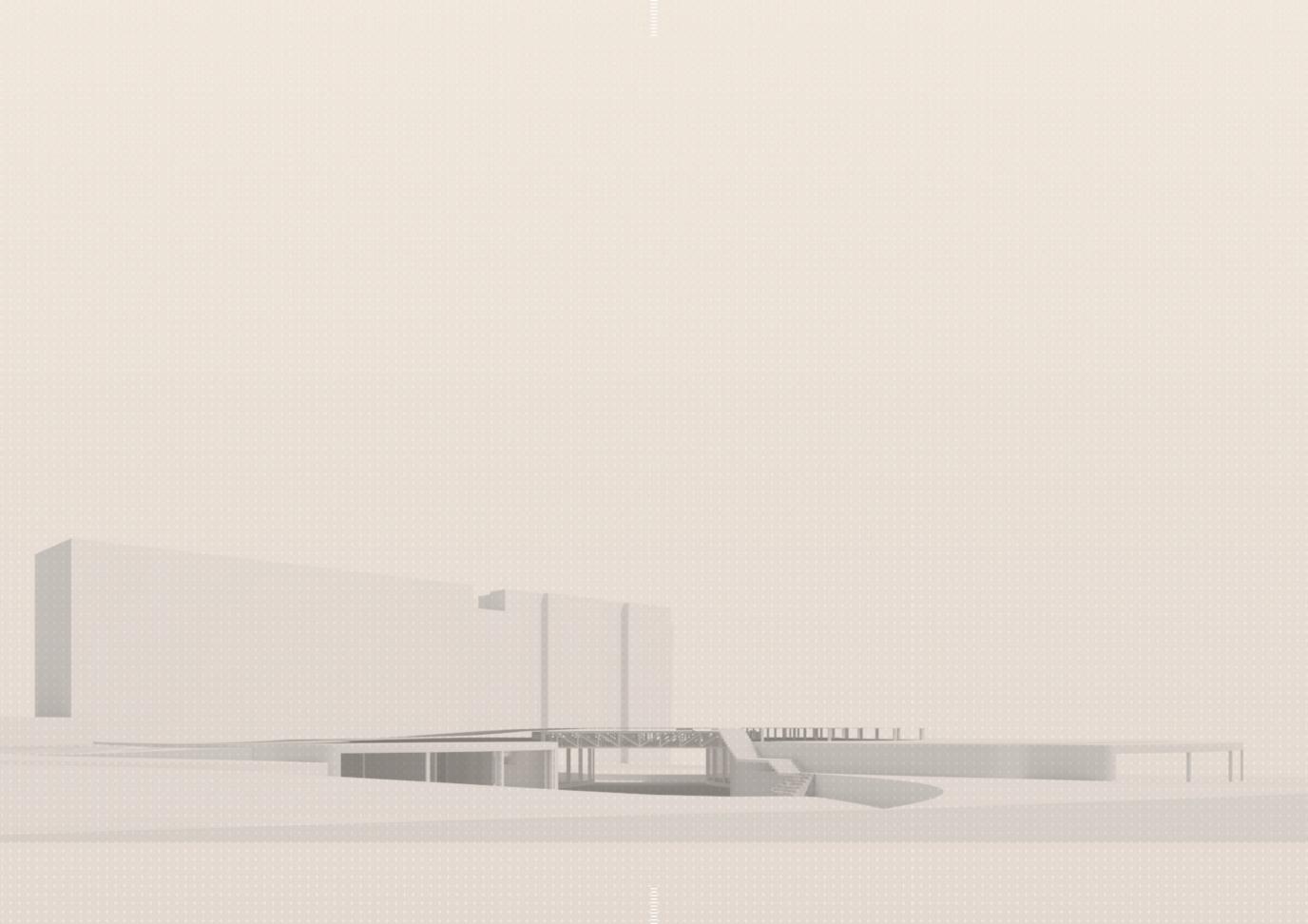
The Basilica of la Sagrada Familia is the most visited landmark in Barcelona, Spain, and for this reason, there is an intense amount of tourists that flood the area everyday year round. The overwhelming amount of visitors in the area pushes the locals to steer away from the Sagrada Familia and the public spaces/ blocks surrounding it.

This design focuses on **two diagonal axis that run from Provença to Mallorca at each cardinal direction**. The axis from north to south begins at the northern end of Provença; the ground follows **the slope of the natural landscape but begins to escalate further down the pathway.** The end of the path leads to a balcony that provides an elevated view of the Sagrada Familia and a reflection pond that sits on top of one of the two buildings.

From this area, people can either walk back down the slope, or walk down the steps that lead to the southern end of the block. The axis from east to west flows between two buildings united by a bridge above. This axis not only allows for people to cross the block with ease, but also leads to the entrances to the two buildings. The northern building is slightly submerged into the ground. Being that the landscape blankets the majority of the building, it offers a kind of intimate space for people searching for an escape from the chaos outside. This building is geared more towards the local community but offers spaces that can be utilized by both locals and tourists.

The program offers a small auditorium space, a local exhibition space multiple conference rooms, a cafe, administration offices and bathrooms. The cafe and exhibition space share a space that allows for people to view the Sagrada Familia when crossing to either side. The southern building is more exposed and geared towards the tourists. This building contains the spaces needed for a museum, including: a permanent exhibit, temporary exhibit, ticket desk, security check point, souvenir shop, archives and bathrooms. Similar to the northern building, the permanent and temporary exhibitions share a common space that allows to people to view the Sagrada Familia while also viewing the art/displays.





#### PUENTE DE LA MARINA

Kimberly Thomson, Roger Williams University Architecture Undergraduate Brenna Whitney, Roger Williams University Architecture Undergraduate







The Sagrada Família serves as one of Barcelona's largest tourist attractions. This puts pressure on the surrounding neighborhood and makes the area relatively difficult for locals to use.

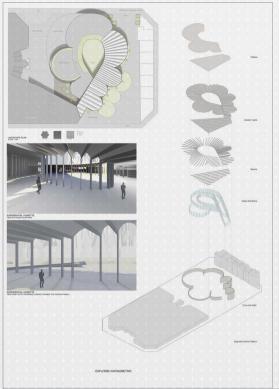
The proposed museum serves as an entrance into the Sagrada Família as well as a park for both locals and tourists. The museum not only houses a collection of Gaudí's work but areas for anyone to utilize the library, research center, or archives, along with a place to study Gaudí and his contemporaries, and an area for conferences and presentations with the backdrop of the Sagrada Família.

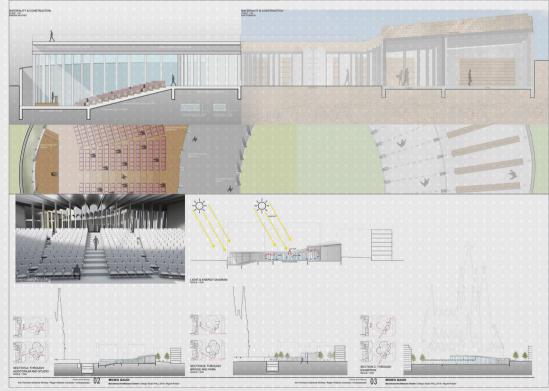
People approach the museum and the Sagrada Familia from Carrer de Marina. They enter the museum from underneath a bridge which extends the plateau of the Sagrada Familia over the museum. Once inside, people continue along a ribbon of circulation. Along the right side of the ribbon continue along a ribbon of circulation. Along the right side of the ribbon are chapels which hold the programs. A glass wall thinly separates the ribbon and chapels. As needed these glass panels can be opened or closed to allow each chapel to be explored as part of the exhibition or simply viewed from the ribbon. Along the left of the ribbon an inner courtyard allows for natural light and ventilation and is enclosed with a glass wall similar to the one separating the ribbon and the chapels. The glass panels can be opened in order to circulate cool air into the museum as the courtyard has spritzers which create a misty cloud.

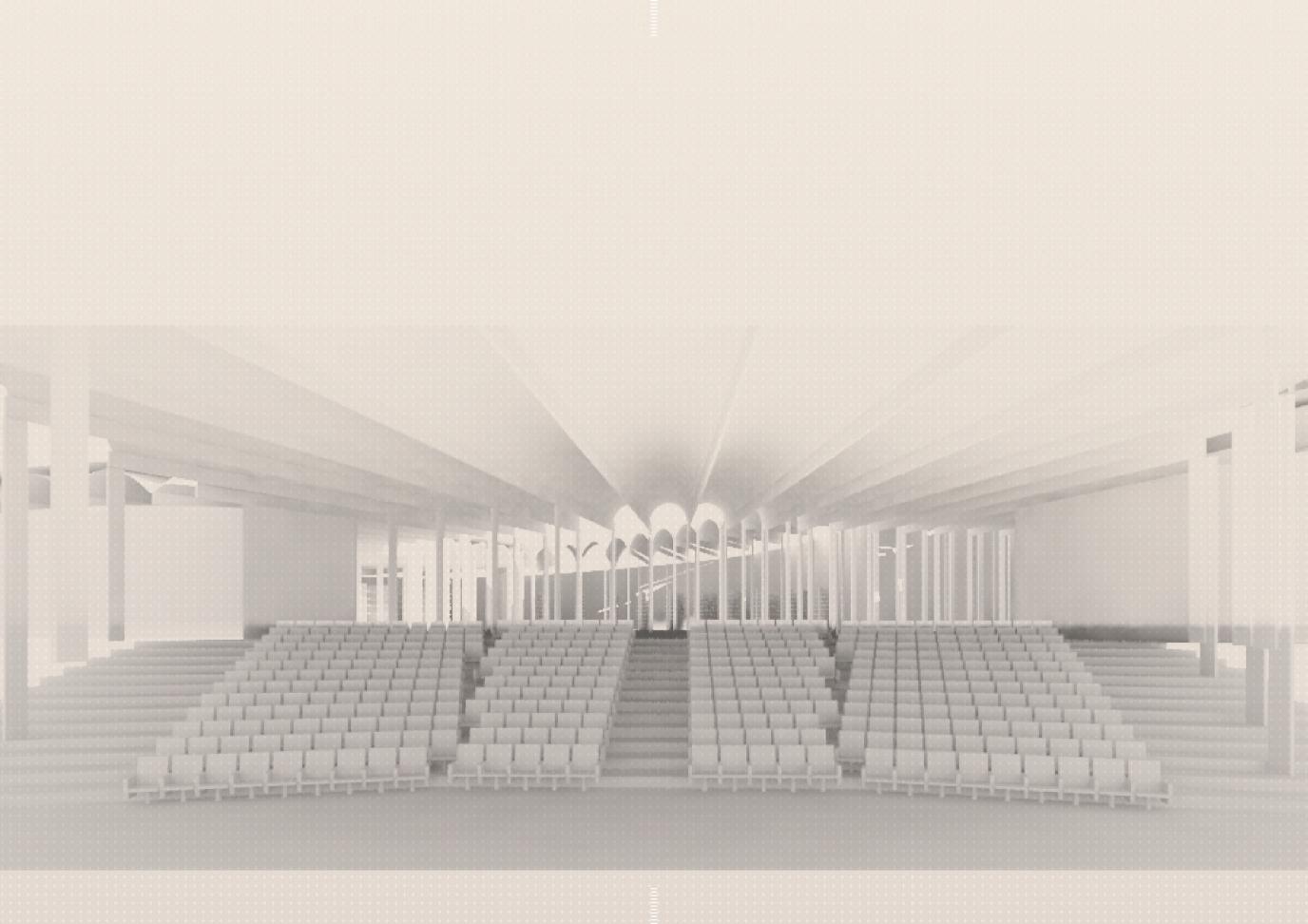
Once people have walked around the ribbon exhibition area, they continue upstairs to the entrance of the Sagrada Familia. To enter, people pass through the security checkpoint inside the museum and then cross the bridge over Carrer de Marina to the Nativity Facade and entrance into the Sagrada Familia. For people who don't want to enter the museum, there is an exit onto the roof of the museum that serves as a park and viewing area for the Sagrada Familia. This exit on the roof is also an entrance for those who just wish to go to the Sagrada Familia.

The museum is separated from the apartment buildings on the site in order to create a more private park for both locals and tourists. Areas for picnics, games, and a playground are positioned as "shadows" of the chapels.

The design of the museum proposes to create a new entrance into the Sagrada Família, a place to study Gaudí and his architecture at the foot of his biggest commission, and a park for locals and tourists to occupy the same area. Through the ribbon of circulation, radiating chapels, and the continuation of the plateau of the Sagrada Família, the proposed museum achieves these goals.

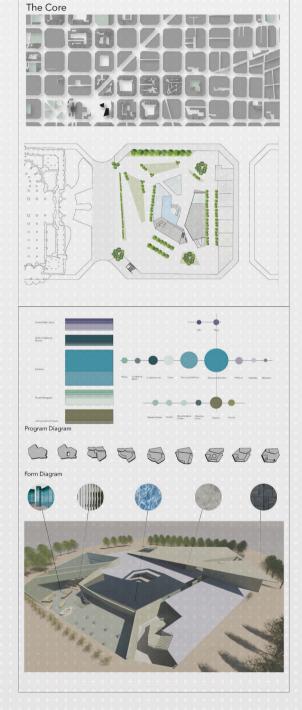






#### THE CORE

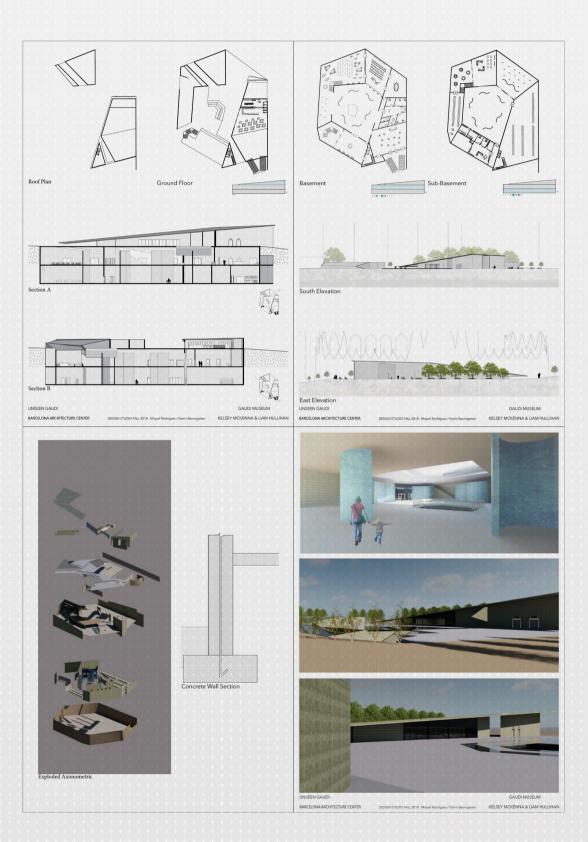
Kelsey Mckenna, Clemson University, Architecture Undergraduate Liam Hullihan, Roger Williams University Architecture Undergraduate





Our project is a museum that works with a core foundation that goes around the inner and outer part of the building. With a hard outer core around the building, it allows for a soft textile core inside of it that plays with light and gives for very unique views of the building and of the Sagrada Familia. Our Goal was for every time you turn a corner in the building, that you experience a new view. If It's not from the light coming through the skylight, than it's from the textile walls.

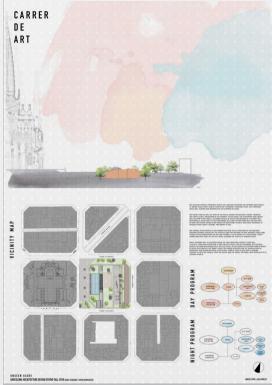
With this core foundation, it also allows us to have a landscape that became unique to our site, as well as incorporating the surrounding area and of course la Sagrada Familia. We wanted to make the site friendly, not just to tourists, but to thousands of people that live in the surrounding area. That's why we added a tree covered path in the back of the building away from the tourist area. It also allowed for us to make sure that there was a divider between the buildings and our museum. However, if you are a tourist, there is easy access from all points of the park to the entrance of the museum. If you don't want to go to the museum, but still be inside the core, you can in many ways as there as three entrances to the interior courtyard that hosts a reflection pond and skylight that looks right down to the bottom of the museum. With everything that this parks and museum have to offer, to the community, the tourists, and to la Sagrada Familia, it will be the CORE of everything.



46 BAC. BARCELONA PROGRAM. FALL 2018 47

#### CARRER D'ART

Lindsey Gore, Texas A&M University, Architecture Undergraduate Zachary Rowley. Texas A&M University. Architecture Undergraduate







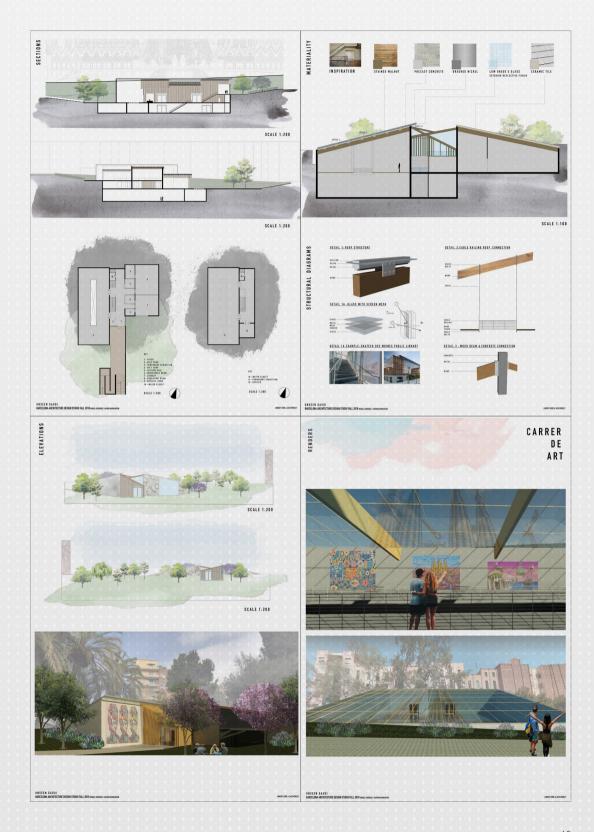


The building complex primarily serves as a museum featuring the artwork and models of Antoni Gaudi, which can be seen in the permanent exhibition space. The temporary space will feature new interpretive art inspired by Gaudi.

The entire complex will be open to the public during the museum's hours. However, the complex will transform in the evenings. After hours, the restaurant and library will be open to the public. Allowing locals to access the museum at a slower pace. Additionally, areas such as the conference hall and lecture room will be available to rent for private usage after hours for receptions, events, and guest speakers, to discuss Gaudi's ideas, designs, and works of art.

The central foyer serves as the connecting core to all functions of the building. Creating separate spaces of the foyer allows the building to have separate public and private spaces throughout the day and evening. It also serves as a pedestrian "street" connecting both sides of the site, while avoiding the traffic of Marina Street.

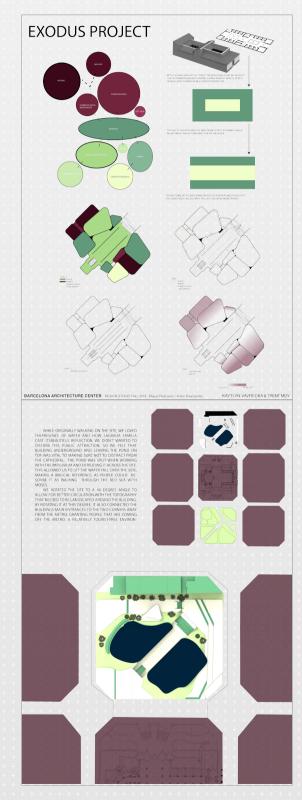
While artwork will be featured inside the two exhibition centers, there will also be a third main attraction to our complex, which can be experienced best outside. Across the main pedestrian street, we plan to fill the large pre-existing pond in order to build our complex, but want to keep the unique inverted view of Sagrada Familia. Therefore, our design includes a reflective, double-sided glass roof to allow visitors to view the church both inside and outside; creating a new perspective of Sagrada Familia.



48 BAC. BARCELONA PROGRAM. FALL 2018 49

#### PROJECT EXODUS

Kaytlyn Vavrecka, Texas A&M University, Architecture Undergraduate Trenton Moy, Texas A&M University, Architecture Undergraduate



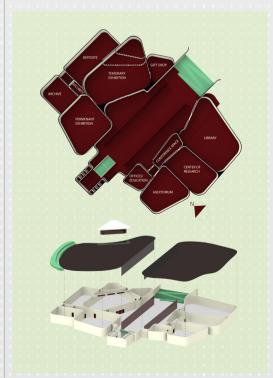




Infrastructure is important for faster economic growth and alleviation of poverty in the country. So when building on a pre-existing site, we felt it was important to explore the infrastructure on and around the site. Metros, speed trains, roads, bus routes, and even bikes are all a part of the system that influences the way the building is layed out. The metro and train lie under the ground, so based off of their placement, is where you can and cannot place a building because it could potentially hit the lines. The same occurs with the roads above ground, on one side of the site there are only two lanes and on the other there are crowded than the other. This affects how much space to put on either side of the site for a better flow of traffic.

When beginning the design process, we first looked at how we wanted the space to be used and interacted with. We looked back at how the romans built common structures and took features from them to inspire us. We found that the impluvium would be a good fit for what the buildings program needed to accommodate. With the main area of the structure being a museum, we believed that a common area with rooms surrounding it would be best design layout from a public/private perspective. This led to us extruding the impluvium to split the whole building between the east and west side of the block. To keep some areas more private than others we divided it by the long public access, with the East side being more private areas with conference halls. auditoriums and the main library. This leaves the exhibition spaces to be placed on the adjacent, west side. To keep the direct public away from extremely confidential areas, like the archive and deposit, we placed them behind the exhibition spaces. This allows for the most space between the public, sacred artifacts, and artwork as well as keeping it away from the underground metro. More private than others we divided it by the long public access, with the East side being more private areas with conference halls, auditoriums and the main library. This leaves the exhibition spaces to be placed on the adjacent, west side. To keep the direct public away from extremely confidential areas, like the archive and deposit, we placed them behind the exhibition spaces. This allows for the most space between the public, sacred artifacts, and artwork as well as keeping it away from the underground metro.





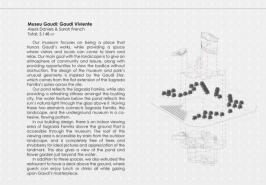
While originally walking on the site, we loved the presence of water and how Sagrada Familia cast its beautiful reflection. We didn't wanted to disturb this public attraction, so we felt that building underground and leaving the pond on top was vital to making sure not to distract from the cathedral. The pond was split when working with the impluvium and extruding it across the site. This allowed us to

let the water fall over the side. This makes a biblical reference, as people could describe it as walking though the red sea with Moses. We rotated the site to a 40 degree angle to allow for better circulation with the topography that needed to be landscaped around the building. By doing this, earth naturally will cover the building in most parts, with only part of the building needing extra landscaping. By rotating it at this degree, it also connected the buildings main entrances to the two corners away from the metro, granting people that are coming off the metro, a relatively tourist-free environment. This also prevents the need for a large amount of stairs towards the north of the site.

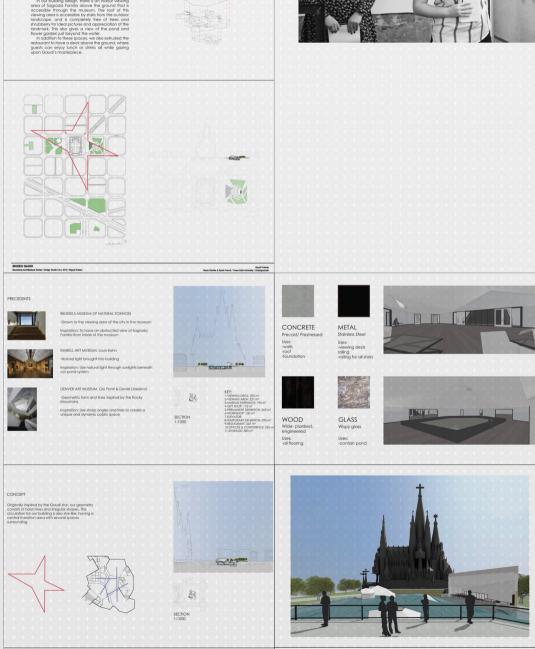
For the structure of our building, based off its shape, size, and placement, we decided that cast in place foundation and reinforced concrete walls would best suit the needs of our building. The curvature of the walls makes it very difficult to make walls and bring them to the site. It is also very expensive. With the weight of the pond, the walls need to be sturdy enough to hold up the concrete structure with water in it, so a timber structure would not suffice. To achieve the waterfall affects along the split, an infinity style concrete structure is built along each interior side of the pond to create a nearly controlled overflow. As the water overflows, it will run down our stain glass iron structures creating the red sea effect.

#### **GAUDI VIVIENTE**

Alexis Daniels, Texas A&M University, Architecture Undergraduate Sarah French, Texas A&M University, Architecture Undergraduate





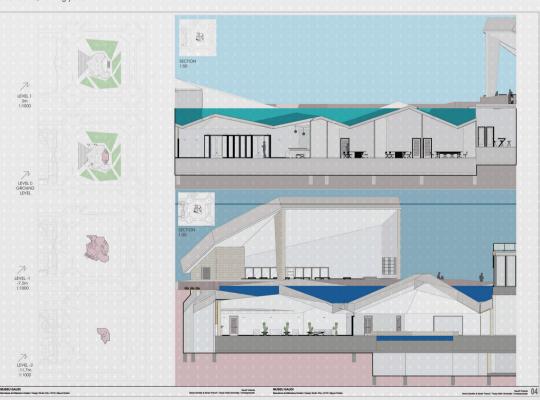




Our museum focuses on being a place that honors Gaudi's works, while providing a space where visitors and locals can come to learn and relax. Our main goal with the landscape is to give an atmosphere of community and leisure, along with providing opportunities to view the basilica without obstruction. The design of the museum and park's unusual geometry is inspired by the Gaudi Star, which comes from the flat extension of the Sagrada Familia's spires across the site.

Our pond reflects the Sagrada Familia, while also providing a refreshing stillness amongst the bustling city. The water feature below the pond reflects the sun's natural light through the glass above it. Having these two elements connects Sagrada Familia, the landscape, and the underground museum in a cohesive, flowing pattern.

In our building design, there is an indoor viewing area of Sagrada Familia above the ground that is accessible through the museum. The roof of this viewing area is accessible by stairs from the outdoor landscape, and is completely free of trees and shrubbery for ideal pictures and appreciation of the landmark. This also gives a view of the pond and flower garden just beyond the water. In addition to these spaces, we also extruded the restaurant to have a deck above the ground, where guests can enjoy lunch or drinks all while gazing upon Gaudi's masterpiece.



#### **BRAIN JANE**

PROGRAM DIAGRAM

Bernando Guerra, Texas A&M University, Architecture Undergraduate Samantha Simmons, Texas A&M University, Architecture Undergraduate



MATERIAL DIAGRAM



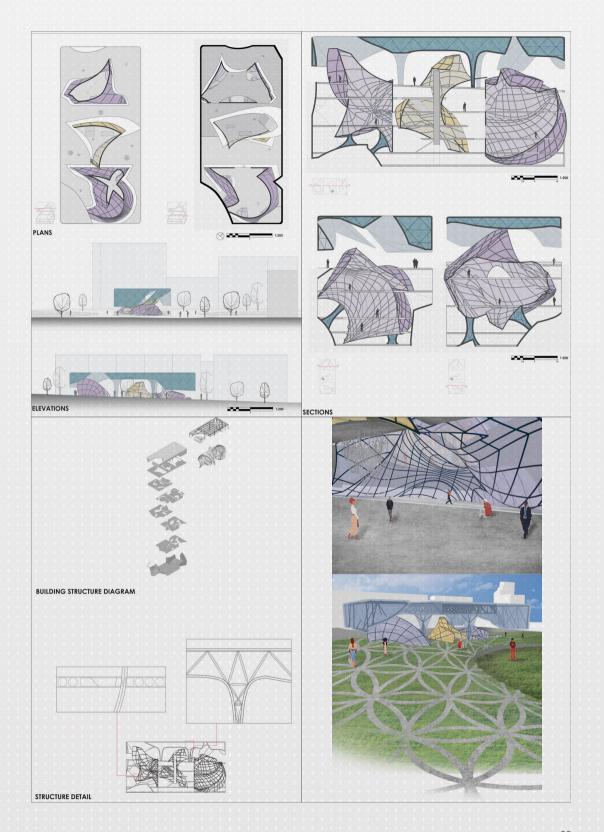


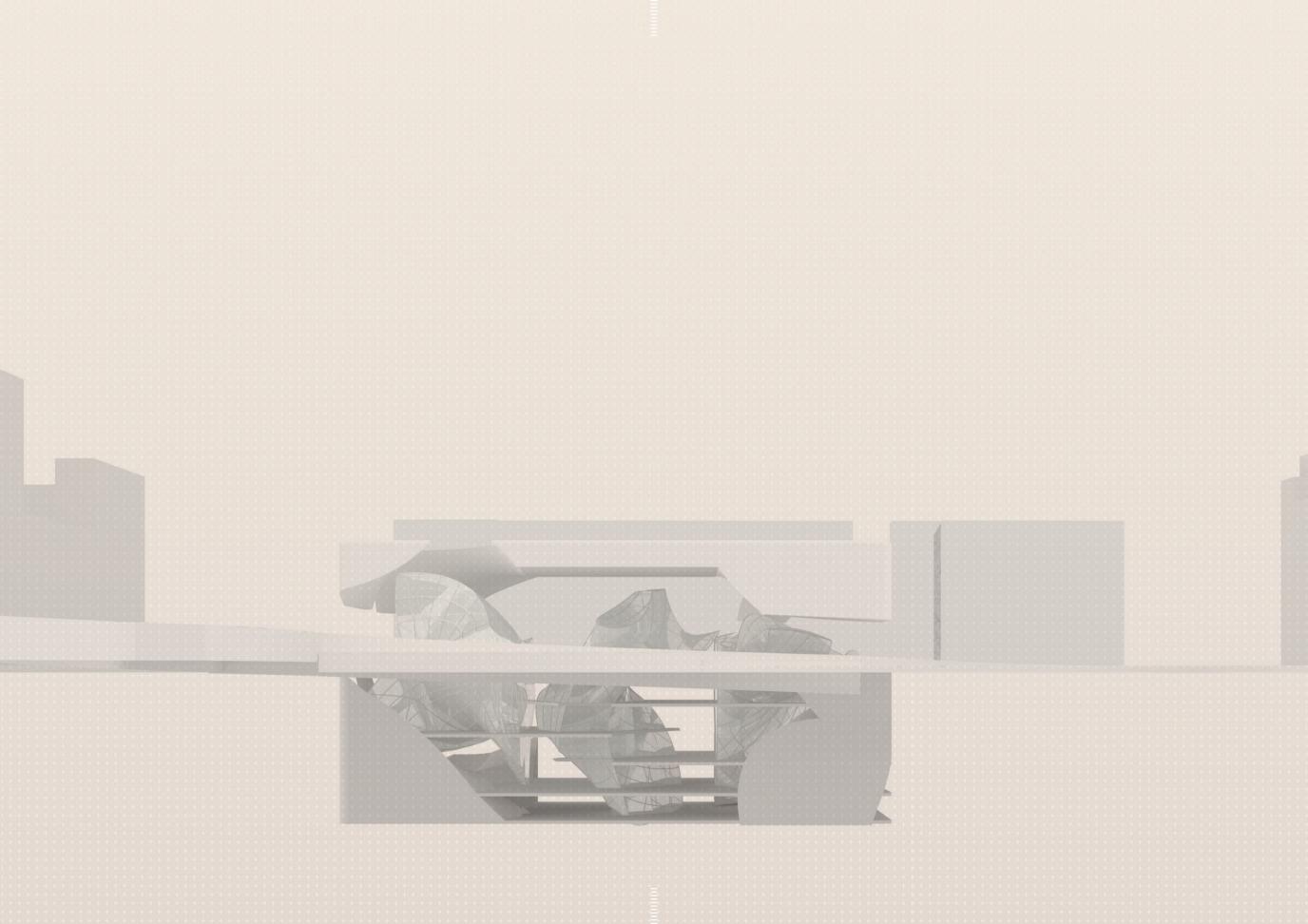
We began our design process with finding inspiration photos. The image from Fifth Element shows a futuristic version of New York City where the older historic buildings remain in their original location, while newer buildings are constructed below those, utilizing space that is exposed due to the receding water line of the Upper New York Bay. The second image we noticed from this image that the City of the Dead functions in nodes of communities connected by thin lines, or railways. We also appreciated how it appeared that the city had no distinctive end or beginning and was innately growing towards the edges and into the background.

We used the "pringle" shape of a parabolic hyperboloid as a base volume and manipulated it through lofting, rotating, twisting, and scaling to produce two volumes.

After creating the volumes, we collided them and created a third volume from this intersection. During the structural phase of the design we decided to mimic the design of veins on a lily pad and add a metal structural ribbing to the exterior of these volumes so that they may support the oors that move through it.

Our program is designed to have an iceberg effect, where the ground floor is the only floor above the surface and the remaining program is located underground. The ground floor is composed of all of the public space and circulation core. This floor blends in with the landscape pattern, giving the effect of an outdoor environment in our building. Inuencing the experience of our public space. The remaining floors are located underground where both temporary and permanent exhibitions are located. This design method categorizes the program into public and private areas.



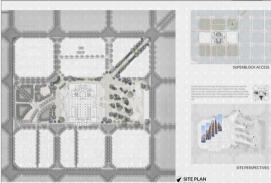


#### **EDGE EFFECT**

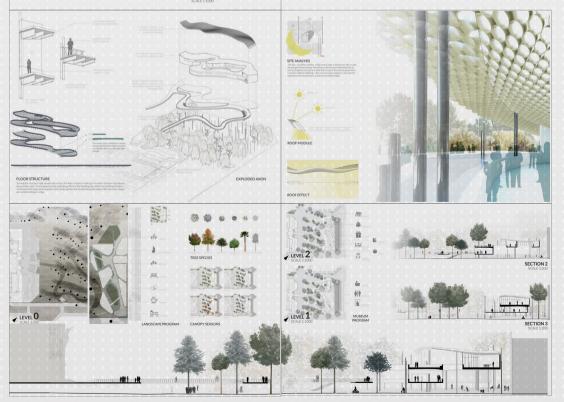
Solene Clavel, Clemson University, Architecture Graduate Emily Kelly, Clemson University, Landscape Architecture Graduate











### 2019 SARA NY Award Society of American Registered Architects student category



The edge effect is an ecological concept that describes how there is a greater diversity of life in the region where two adjacent ecosystems overlap. At this edge, there are species from both of these ecosystems, as well as unique species that are not found in either ecosystem but are specially adapted to conditions of the transition zone.

In an urban context, our site is the edge of two habitats, where there is junction between the residents of the local neighborhood and the tourists visiting a world-renowned monument. Our site and structure aims to reconcile these two typologies and, therefore, create a new space that emerges with a new identity shared by all.

Gaudi's Expiatory Temple of the Sagrada Familia brings the visitors to a forest, a paradise on earth, an experience of light, color, and sound.

To conceive a structure next to it is not to compete with these powerful motifs, but rather to complement them by extending his forest to the outside, and understanding its implications within the city around it.

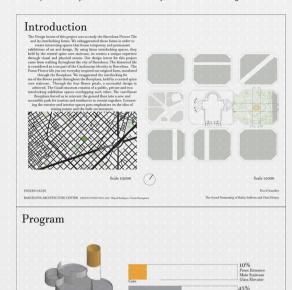
By creating a forest, this project achieves (at a micro-scale) what Gaudi never realized with his idea of the star cutting through Cerda's grid: an angled perspective of the massive structure - never straight on - in order to understand the building fully.

After the forest is built, the ground plane is multiplied, elevated, and connected to the Sagrada Familia's platform in order to support the large amounts of people coming to the site and to give privileged viewpoints within the site. On top of this elevated walkway, the visitors find themselves either looking for the best views or meandering through the museum that snakes through the tree like columns tucked away in the back of the site.



#### FLOR D'AMETLLER

Bailey Sullivan, Texas A&M University, Architecture Undergraduate Christopher Hickey, Texas A&M University, Architecture Undergraduate

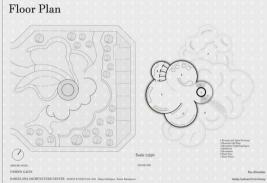


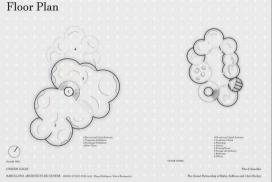


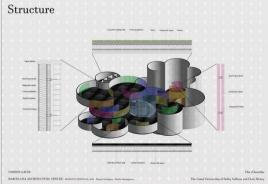


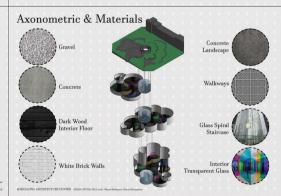
The design intent of our project was to study the Barcelona flower tile and its interlocking forms. We exaggerated these forms in order to create interesting spaces that house the temporary and permanent exhibitions of art and designs. By using interlocking spaces held together by a central spine core, it creates a unique experience through visual and physical means.

Our inspirations came from Olafur Eliasson, Modern Musset design, using **transparent glass to create unique transparent spaces** to walk through. Casting colors and shadows on the floor Panot Flower Tile by Josep Puig i Cadafalch.









Our project relates to Sagrada because both concepts are derived from organic flowing forms and allow for large public spaces to be created. The forms of our landscape gradually creep onto the sight of Sagrada Familia, giving an honest relationship that coincides instead of overwhelming stealing the attention of the chapel itself.

Sagrada Familia also contains large towering spans on the interior which is reflected in our design with the very open atriums and floor plan designs. A sense of vast color is also represented in our project with our smaller interior colorful plastic diving walls relating to the range of colors in stained glass windows of the church.

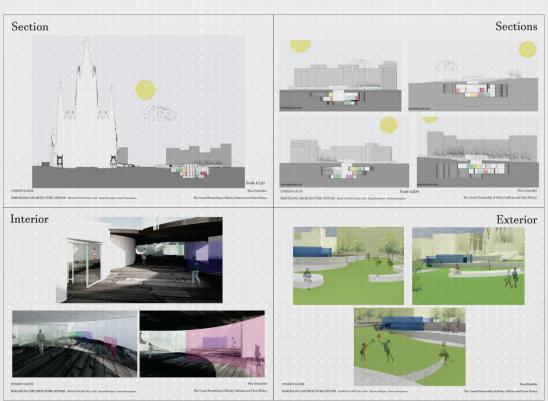
We wanted the project to influence the economy of Barcelona by using sustainable local materials such as precast concrete from companies similar to ecofest which will bring a flow of business and income through Barcelona. These principles relate the other materials we will be using such as hardwood stained floors and glass purchased through BCN companies. Doing this will lower the cost of transportation of materials and will allow us to find the most environmentally conscious production companies.

Our design intent for this project came from walking throughout the city of Barcelona. The historical tile is considered an icon part of the Catalonian identity in Barcelona. The Panot Flower tile you see every day inspired our original form, translated through the floorplans. We exaggerated the interlocking forms of the flower petals throughout the floorplans, held by a central spine core staircase. Through the four flower petals, a successful design in achieved.

The Panot Flower tile you see everyday inspired our original form, translated through the floorplans. We exaggerated the interlocking forms of the flower petals throughout the floorplans, held by a central spine core staircase. Through the four flower pet-als, a successful design in achieved. The Gaudi museum consists of a public, private and two interlocking exhibition spaces overlapping each other. The curvilinear floorplans forced us to reinvent the ground floor into a new and accessible park for tourists and residences to coexist together. Connecting the exterior and interior spaces puts emphasizes on the idea of mixing nature and the built environment.

#### The functionality of the project is very simple with large open floor plans allowing for free flowing traffic through the interior.

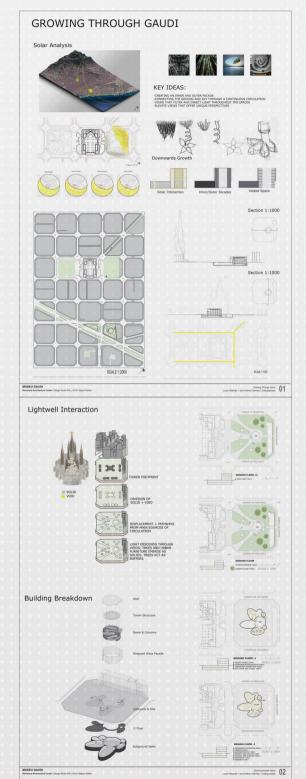
This allows the patrons to decide the route and paths they desire to take relating to their specific desires. The building contains a multitude of services to the public such as a restaurant, store, culturally inviting exhibition spaces and educational/business spaces below. Above ground includes more publicly accessible spaces such as an amphitheater for shows, speeches, and concerts. With an abundant amount of seating, lounging and recreational space the pavilion above will attract tourists and residents alike to the area. The museum talks with the church by subtlety hinting that the church is the main attraction of the area. It influences by passers to stand or rest around the park and take in the beauty and elegance of the church and even persuades you to go inside and visit. We attempted to accomplish this by disregarding the previous street that is no longer in use and having a continuous site material and curved concrete guiders that influence you to walk towards the church.



60 BAC. BARCELONA PROGRAM. FALL 2018 61

#### **GROWING THROUGH GAUDI**

Jami Hafner, Clemson University, Architecture Undergraduate Lucas Helander, Clemson University, Architecture Undergraduate







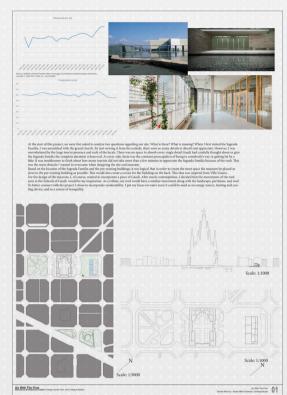
A successful public building is one that gives back to its' visitors in some way. In our museum, you are planted into the mind of Gaudi. Gaudi's brilliance and skill is on display, which treats visitors to an intimate perspective of Gaudi's life and work. The benefit of this museum is that it practically shares the site with the most famous, unfinished basilica in the world: the Sagrada Familia. Our site is currently used as a park where most people try to get the best photograph of the Sagrada Familia, one of Gaudi's projects during his life. With over 8,000 people visiting each day, this area is extremely crowded with tourists. One of the challenges we decided to solve was the connection between the Sagrada Familia and the visitor. With all of this on the ground, we decided to create an elevated space that is serene and tranquil. This space allows you to be with the Sagrada Familia in a more intimate way.

The inspiration for our proposal comes from Gaudi's process. When Gaudi was designing the Sagrada Familia, he started from the bottom and used gravity to build upwards. He connected catenary curves to make strict, geometric connections using earth's force as his guide. Gaudi also found inspiration in nature. The columns inside of the Sagrada Familia are based off of trees. Our museum, being a delicate sanctuary space and a learning environment, is portrayed with a flower, one of nature's most delicate creations. This flower grows upside down, with its roots coming from heaven. We then have a spiral ramp system that acts as the stem; it guides you through the museum and helps cultivate a relationship with Gaudi and his life. The underground portion of the museum hosts all of the exhibits. The walls are in the shape of flower in full bloom, symbolizing the stimulation the museum can provide through the education, experiences, and services it offers.

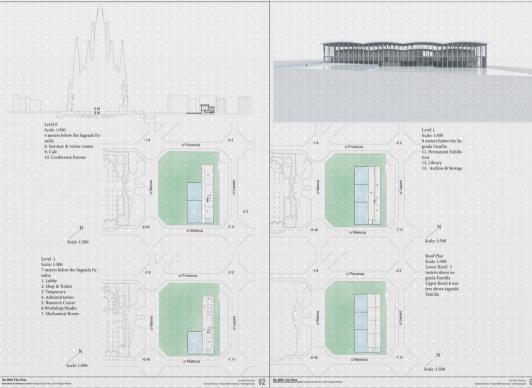


#### GO WITH THE FLOW

Tamara Monroy Texas A&M University, Architecture Undergraduate





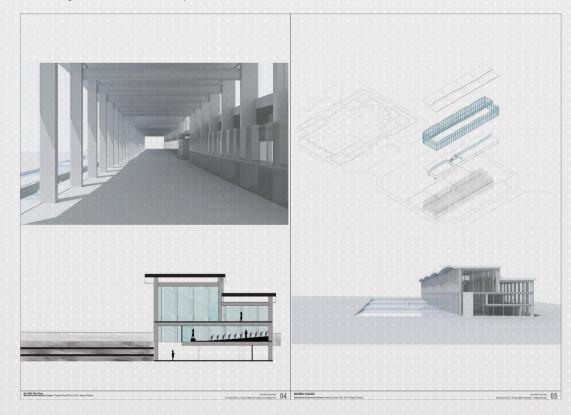


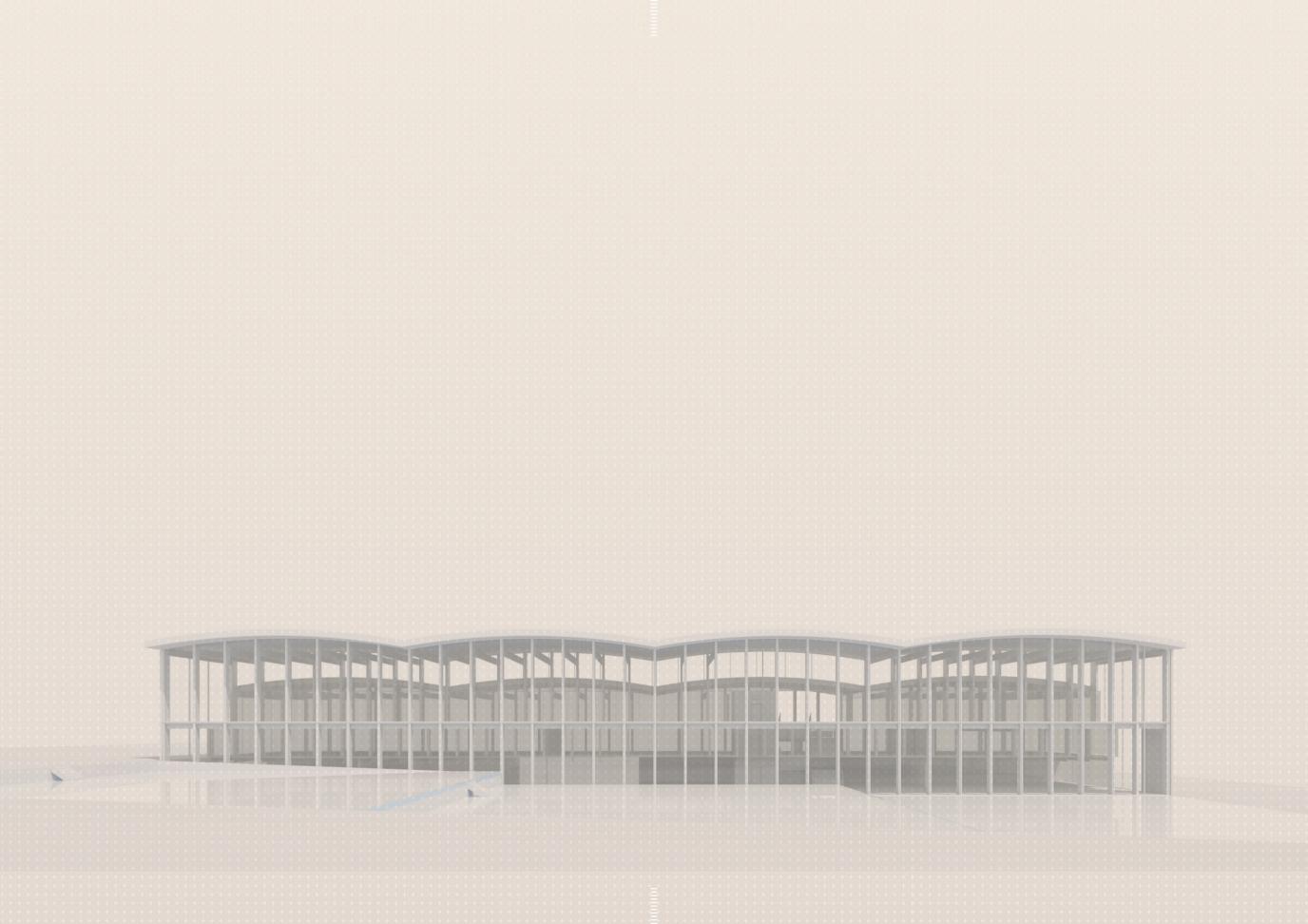


At the start of this project, we were first asked to analyze two questions regarding our site. What is there? What is missing? When I first visited the Sagrada Familia, I was astonished with the grand church. By just viewing it from the outside, there were so many details to absorb and appreciate. However, I was overwhelmed by the large tourist presence and rush of the locals. There was no space to absorb every single detail Gaudi had carefully thought about or give the Sagrada Familia the complete attention it deserved. At every side, there was the constant preoccupation of being in somebody's way or getting hit by a bike.

Based on the location of Sagrada Familia and the preexisting buildings, it was logical that in order to create the most space the museum be placed as close to the preexisting building as possible. This would also create a screen for the buildings in the back. This idea was inspired from Villa Urania.

For the design of the museum, I, of course, wanted to incorporate a piece of Gaudi. After much contemplation, I decided that the movements of the roof seen in the Schools of Gaudi would be my inspiration. As a tribute, my roof would have a similar movement along with the landscape, partitions, and roof. To better connect with the project I chose to incorporate sustainability. I put my focus on water since it could be used as an energy source, heating and cooling device, and as a source of tranquility.





#### **UNSEEN GAUDI**

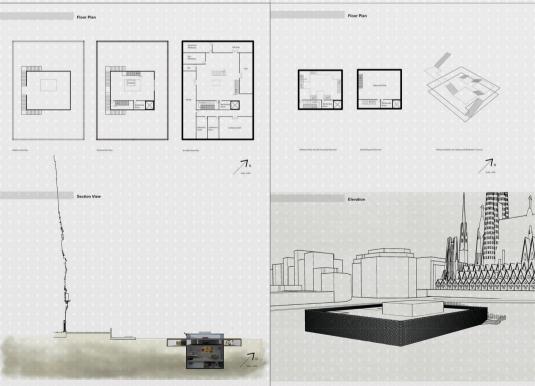
Guanqui Shuang, Texas A&M University, Architecture Undergraduate

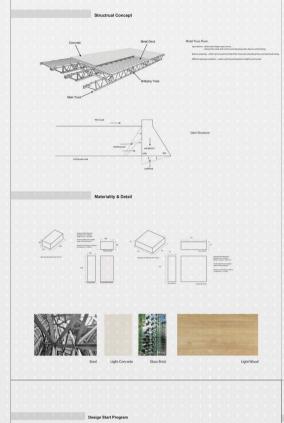




The project, which is to be a museum dedicated to Antoni Gaudi, is entirely led by the context of the building site neighboring the Sagrada Familia. Inspired by his hanging sandbag model of the Sagrada Familia portraying catenary arches, the project is also produced with the speculative respect of the Latin cross in section that we see in the top view of the neighboring Sagrada Familia. We can see that in the context of the site, the structure, organization, and environment have great influences the project building style.

The project layout on the site is radical in movements and balanced with the natural slope throughout the site. The landscape of the project serves to create a connection with the natural forest surrounding our building and the built forest environment of the Sagrada Familia interior columns and its correlation to natural design throughout the exterior.







Undergraduate The corners and edges of the project call to the grid pattern of the Eixample district organization surrounding the site as well as the interior column pattern inside the Sagrada Familia. Next, using the post-reconstruction period ideals of creating green space and public space in a block in the Eixample district context, we conserved many of the pre-existing plants. A play with the geometric form as the base of the building and the creation of a public platform that people can climb adds different surfaces and levels or textures to provide various activities and connections to the ground condition.

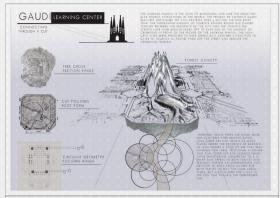
The architectural Style of a formal Latin cross in section and very radical movements in a logical and sophisticated manner furthermore creates a balance to the formal context of the site in creating a logical relation throughout the site and site surroundings. The balance of modern and contemporary style calling to the context of vernacularism through the urban cityscape is entirely following what the context is demanding.



68 BAC. BARCELONA PROGRAM. FALL 2018 69

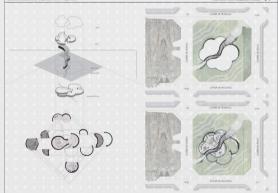
#### GAUDI LEARNING CENTER: CONNECTING THROUGH A CUT

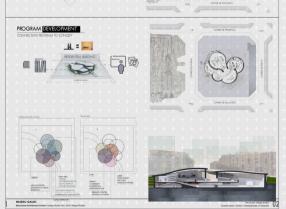
Dominique Antunez, ClemUniversity, Architecture Undergraduate











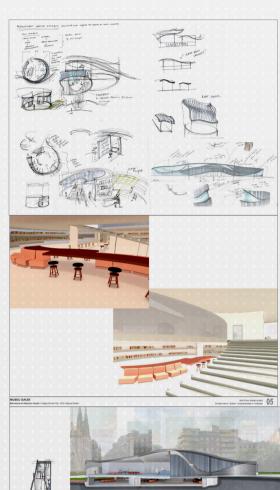


The Sagrada Familia is the icon of Barcelona and one the most popular tourist attractions in the world. The project by Antoni Gaudi was left unfinished yet still receives over 3 million visitors every year. The increasing amount of tourists' season round has caused tension between the residents of the city and the tourists. The streets have now been blocked off to cars due to the amount of crowding in front of the facade of the Sagrada Familia. The adjacent sites were proposed to have served as an another attraction to cater to tourists to funnel them off the street and resolve the crowding problem.

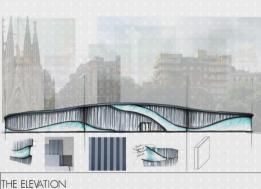
However, while there are Gaudi museums scattered throughout Barcelona, there are not nearly as many places where the residents of Barcelona can admire a piece of art that was intended for them. Proposing a center that can cater art and science exhibitions while being connected to a library can appeal to both tourist and resident. Having an underground connection to both areas allows for both parties to reap the same advantages, but also allows for a cut in the site that funnels the overcrowding.

The program of the museum is split in half by the cut or void in the landscape. This separates the museum in the exhibition and educational sides both with great elevated views of the Sagrada Familia.

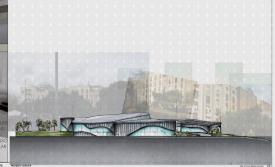
The spaces are then connected by an underground lobby that leads seamlessly into the other building. My intentions are to mend the cut that the tourism left on the city by implanting a building that caters to both parties.







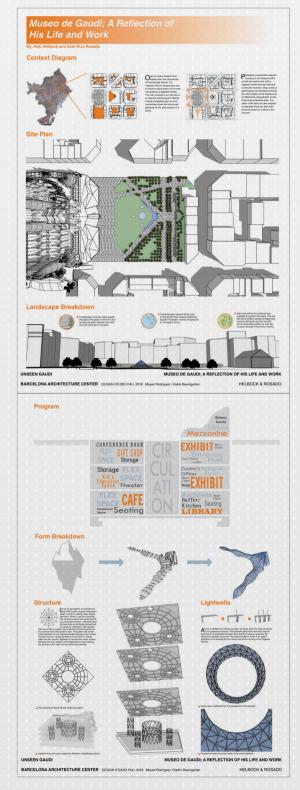




70 BAC. BARCELONA PROGRAM. FALL 2018

#### MUSEU GAUDI, A REFLEXION OF HIS LIFE AND WORK

Rob Helbock, Clemson University, Architecture Undergraduate Axel Ruiz Rosado, Roger Williams University, Architecture Undergraduate





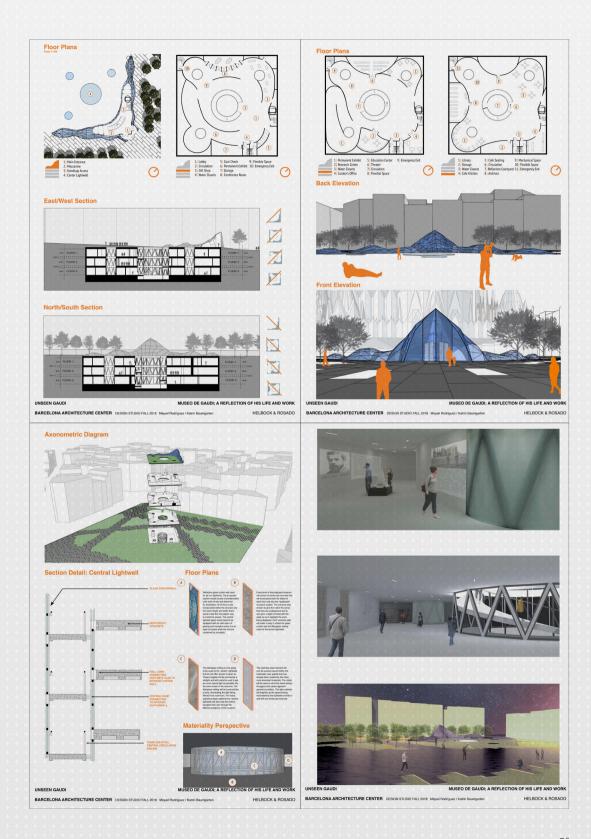


The beginning of our semester started with an analysis to understand the history of Gaudi's life. Through this research, we came to understand that nature inspired him most in this world, and what his original plans were for la Sagrada Familia. Taking this into account, our proposed museum incorporates Gaudi's original plans for the area surrounding the basilica along with incorporating natural elements to the conceptual design.

The "iceberg"-inspired form is the only part of the proposal that is above the ground and not only divides the site programmatically, but is also angled so as to achieve the widest possible relection of the Nativity Facade of la Sagrada Familia. One of the themes that we played with when designing the site is duality. The eastern portion of the site closest to the basilica is a lawn for the appreciation of the Nativity facade by the tourists who only plan to walk by, and the western portion of the site divided the museum is very lush with trees to provide a quiet, reflective space for the locals to relax and enjoy the fresh air. There is space provided for meadows, a bocci ball court, and a children's playground.

The layout of our Gaudi Museum is focused on the movement throughout the central ligthwell. This open air space is used to capture the greatest amount of natural sunlight to the exhibit floors below grade. This central lightwell and the three "accent" ones are structural members inspired by those of Toyo Ito & Associate's Sendai Mediatheque, where the four lightwells act as columns holding up the museum. To achieve a column-less floor plan with the exception of our lightwells, we looked to nature as the inspiration for our floor plates, modeling our joist system after the structure of a spider web.

The "accent" lightwells have an added layer of white fiberglass netting on the inside in order to amplify the amount of light that reaches the bottom floors. Our proposed plan also plays with duality through material and form. We experimented with using gently curved walls to not only suggest a natural flow of progression throughout the spaces, but to also give visitors the chance to thoroughly investigate the lightwells.



72 BAC. BARCELONA PROGRAM. FALL 2018

#### **URBAN OASIS**

William Palmer, Texas A&M University, Architecture Undergraduate Victoria Rosado, Texas A&M University, Architecture Undergraduate

How can you get away from the teeming masses but still enjoy Sagrada Familia? How can you take Gaudi's ideas of using nature & reflect them on the site? How can you recontextualize the circulation & metro exit on the site? With regards to the broader context, we created a new metro exit into our site, recontextualizing the typical long concrete tunnel exits of the existing metro, exiting people into our forested park and transforming the metro stop into a serene transition between the crowded city trains and our garden without compromising expediency.

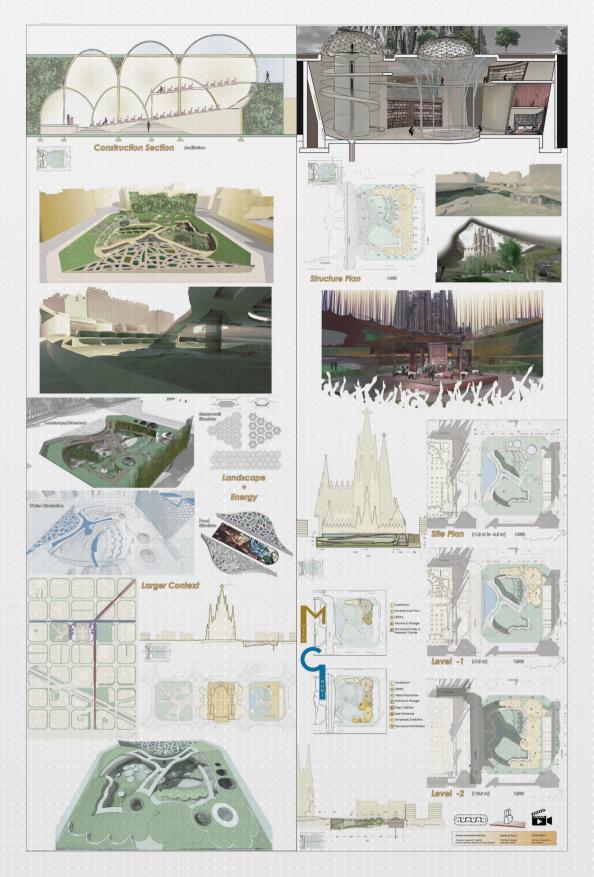
A glass wall is used along the side of the metro that sits against our site, and paired with a reflective glass facade on our museum, a view of Sagrada Familia is created from inside the metro tunnel. We wanted to utilize our site as an oasis from the city, so in order to convert our park into this vision, we started by sinking down the main forested plaza and using falling water as a noise barrier.

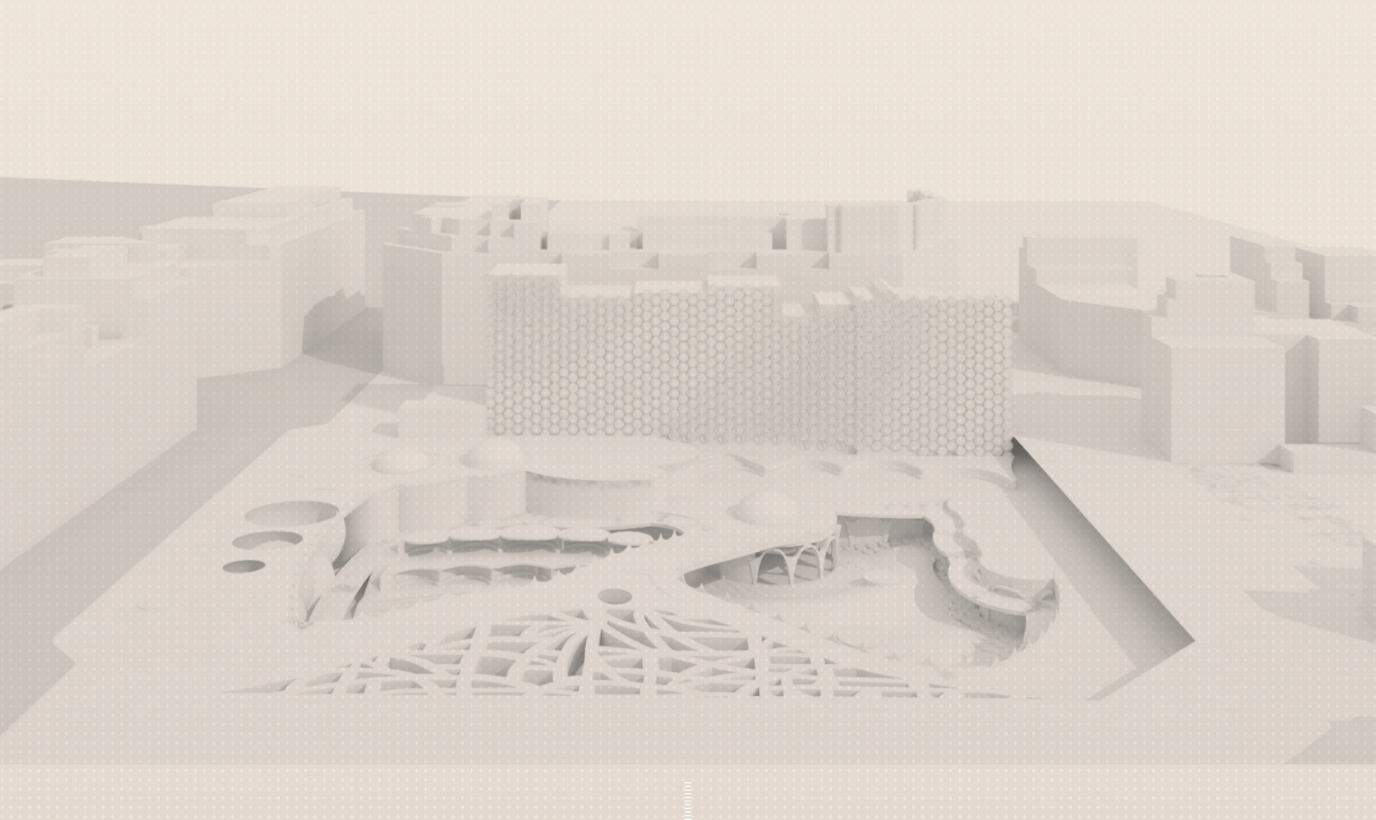
Water is a key feature on our site and is used predominantly as a reflecting pond on the surface from which water flows down the bridge, dropping through in a cylindrical waterfall to a pond below where it branches out to define the program areas we envision for the outdoor spaces, such as an event space for live music & theatre, a forested children's park, and places to sit and read books from the library, have a picnic, or just take in the view & atmosphere, away from the hustle & bustle of city life.



Overall, the water throughout the site will be cooling off the direct environment, reflecting light back up, and allowing light to pass through, creating dappled light into the spaces below. Our museum itself is made up of circular spaces at varying scales, creating patterns similar to the chapel layout of Sagrada Familia. **Nature is utilized as a construction material** in that we have a green wall climbing up the facades of the apartment buildings on our site so it is as if the foliage grew out of the forested park and up the building, fitting with one of our main concepts of an aggressively natural site. All of these elements together, so noise isolation via flowing water & music, views of Sagrada Familia with the crowds replaced by views of vegetation, and the ambiance of light through the trees, water, & glass all help to create a transition and retreat away from the noise & crowds of the city.

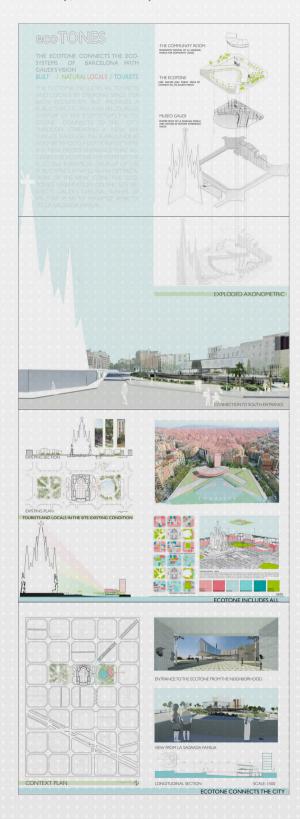






### **ECOTONES**

Rachel Henry, Texas A&M University Architecture Graduate









The ecotone is a mixing zone for the urban ecosystems of Barcelona. The space includes all tourists and locals by creating a zone for each ecosystem as well an ecotone for the public usage by all.

The ecotone connects to the city through creating a new entrance through the surrounding neighborhood. Additionally, there is a new metro entrance that accesses the ecotone.

The form of the ecotone maximizes overlap of the public space as

well as an optimization of the view cone to la Sagrada Familia.

The ecotone's orientation on the site respects Gaudi's original wishes of his star plan to maximize visibility to la Sagrada Familia. The Museo Gaudi is a void carved out of the site to create a boundary between the Sagrada Familia and the tourists on the site. The community center is a solid form addition to the site which floats atop the ecozone in order to give space to the neighbors of la Sagrada Familia



# **Final study Master of Architecture Project**

#### **ECOTONES**

Rachel Henry, Texas A&M University Architecture Graduate FALL 2018 BARCELONA / SPRING 2019 COLLEGE STATION

Barcelona Architecture Center Program offers Master of Architecture students to select the Design Studio project in Barcelona. Rachel Henry has started her project during the Fall 2018 in Barcelona and concluded it from Texas A&M in Spring 2019 with online reviews from Barcelona.

Chair: Erminy Marcel

Co Chair Member: Miguel Roldan Member: Sarel Lavy-Leibovich

Department: Robert R Warden, Proxyed by: Shelley D Holliday

OGS: Debbie Starne

Office of Graduate and Professional Studies: Ginger A White

The subject of nature and architecture, creation and creator is one that has always fascinated me. It is one that I have continued to come back to, and I am glad I got to do it again for my final study. For this project, which I have titled, "ecotone" I have looked at the ecosystems of Barcelona. I have tried to draw a boundary that connects nature and building, and locals and tourists through a new area that takes on the identity of both yet celebrates space for each.

The questions that I have continued to ask throughout this process are: Is it possible to search for a new type of public space and landscape that relates to sacral architecture and tourism, but also maintains the local identity? And, I have also sought to understand how it is possible to create public space which can be connected with the symbiosis of nature and the architecture of Gaudi.

This project takes place in the context of dense Barcelona next to the basilica of La Sagrada Familia designed by Gaudi. It is in the Eixample, or "extension" area of the city. This urban grid was designed by Cerda 23 years before La Sagrada Familia's construction began. The typical block of Barcelona is made up of mixed use, midrise buildings along the outside with a courtyard in the center.

The use of the blocks that surround the site can be categorized in to three functions. These functions are either for the locals, or the tourists. The third function is "green space". The boundaries between these functions are currently quite rigid as in there is very little space that is comfortable shared by both locals and tourists.

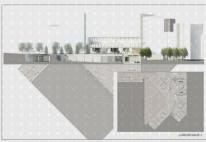
The green space, or Placa de Gaudi, was created to serve as a meditative space which reflected Sagrada Familia for onlookers of the basilica. It currently is swarmed with the four million tourist who visit per year, and seems to have gotten confused in its identity over time. It now hosts a playground, vendors selling selfie sticks and overgrown landscape which make the initial purpose of viewing rather complicated.

The site is accessed most commonly by foot, but there are two metro entrances which occur on the corners of the site. The site also has a four meter topography change from the south to west corner as the site slopes away from the hills surrounding the city and towards the sea. The site also has an existing row of buildings. As I previously mentioned, La Sagrada Familia began construction 23 years after the city grid was organized by Cerda. Because of this, the site of Sagrada Familia was not accounted for in the plan of the city. When it became time to expand the city out to the site where Sagrada Familia was located, Gaudi was able to design his ideal conditions. He came up with a plan of a star which slashed through Credo's grid in order to celebrate views of the basilica.















The area left unbuilt was to be a green space which could be used to admire the basilica. One other important characteristic to note of his plan is the puncture through the middle of the block on the northeast, or nativity facade

Gaudi's relationship with the grid of Barcelona continues in much more than plan. In section, Gaudi built nature. His trees, or columns of stone were meant to evoke a forest which was where he felt he was the closest with God. Gaudi's designs are known for taking inspiration from creation, and creating it in his own designs. In comparison, Cerda's grid relies on using nature to separate building. Both are either drawing or blurring boundaries between building and nature.

To recap, the players of the site are the relationship between building and nature and the urban ecosystems of Barcelona. In order to solve the programmatic issues with the current design of the site, ecological boundaries must be drawn. I have taken inspiration from the work of T.T. Forman on his understanding of the varying types of urban ecology. For one boundary to be solid, the other must be void.

The composition of these boundaries is currently happening in two dimensions on the existing site. The surrounding context, the mixed use buildings, have their boundaries drawn in three dimensions, the stacked program, but lack space in which both can have a shared identity.

In order to draw the boundaries for the site, I referenced geometry from both the existing grid of Barcelona and the axis of Sagrada Familia. I initially placed the program in the center of the site to allow for the best views of the basilica. I then took what would otherwise be a void public space in a city block, and rotated it 45 degrees, and inverted it to open the "public spaces" both towards Sagrada Familia and the neighborhood. The rigid 90 degree angle has been softened to an oval to maximize the distance along the path which provide views towards the basilica.

The upper inverted block is then shifted to be tangent to the axis of Sagrada Familia. The inversions then shift in section to create a third space to be shared by both. This third space is the ecotone. It is what blurs the boundaries between building and nature, local and tourist.

The lower boomerang is carved in to the ground and the upper is lifted 6 meters. The new space, the ecotone then continues the existing site topography to cover the lower boomerang and create a building that is sunken in to the site on one side, but a revealed facade at street level

on the other. Sinking the building achieves a boundary from the existing pedestrian congestion that occurs at the street level outside the entrance to Sagrada Familia.

The programmatic requirements have been split amongst these space in accordance to who will be using them. In the lower volume, the Museo Gaudi and Gaudi Foundation Administration reside. To access this level. one can either enter from the chamfered corner in the south and descend 1 meter on a ramp. One could also enter directly from the new metro connection at the west chamfer which exits directly on to the ramp. In the tunnel for this new metro connection is space for the vendors that currently sit at street level in front of Sagrada Familia. One also could enter from the new neighborhood entrance and descend down a stair or elevator at the back of the site. The program has been arranged so that the entrance and the exhibitions all have the primary views of La Sagrada Familia. The facade of this space is a glass fin glazing system so as to provide tourists, or visitors of the museum unobstructed views of the basilica. The orientation of the materials in this space are aligned to reinforce the views of Sagrada Famila and are all materials that either occur naturally or reflect or are impressed with nature. The circulation though the space happens in a manner which causes one to wind away and towards the basilica. And of course, exit through the gift shop.



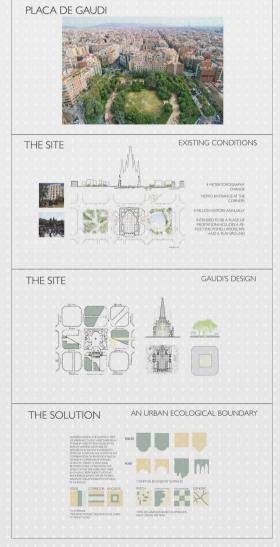


Once one has experienced the museum, they exit back on to the sloped pavilion which is an experience and reflection of Sagrada Familia. The facade of this pavilion is a waterfall which then become a bench. The waterfall is gravity fed into thin channels to run down the slope of the pavilion in the shape of the shadow of sagrada familia. The location of these water channels also helps to guide circulation through this space as it organizes the pavilion in to circulation versus habitable spaces. As one moves up the ramp and on to the path through the trees, they can be reminded of Gaudi's inspiration of nature. The trees that are used at the front of the site are the same trees that Gaudi's form was inspired by, palm and cypress trees. The selection of these trees also allows for an unobstructed view of the basilica. As the topography increases, the waterfall becomes a handrail which guides visitors on to the roof of the museum. From here, various shaded seating areas allow visitors to have an elevated viewing experience removed from the congestion of the entrance to the basilica. The trees used to shade this space are a mixture of coniferous and palm. This echoes the shape of the columns of the above pavilion and allows for year-round green and coverage for the floating pavilion above. In the southern portion of the site, deciduous trees have been used in order to shade the facade of the below museum from the harsh summer sun, but shed their leaves to allow sun in to heat the space in winter.

The pavers used in this level are floating and allow for rainwater harvesting. The surface area of the site has the potential to collect 25,000 gallons of water per year. This water supplies the neighboring buildings. The ecotone level directly connects with the exit through the neighborhood or the chamfers in the north and west sides.

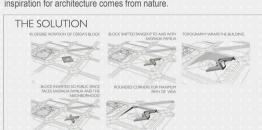
One can then make their way up the stairs or escalator into the space that is open to the community. This level floats above the tops of the trees on the lower portion of the site and amongst the trees at the higher. The program of this space houses the cafe, reading room and seminar and studio spaces. The plan has been organized to prioritize viewing of sagrada familia with circulation and services in the back. The bent form allows for the multiple functions of this space to occur simultaneously as it separates them from one another. This viewing area recognizes that locals have the potential to view Sagrada familia each day, so it provides curved glass which creates a slightly distorted view of the basilica which reflects the colors of nature and the street and provides privacy from below. The outer skin of this layer is the same as below, however, Perhaps this is an analogy of human existence— similar on the outside, but each of our experiences lead us to have different views. This double glass system also insulates the space from some of the solar heat gain.

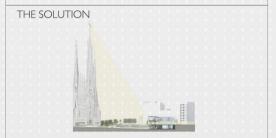




The shape of the glass is a derivative from Gaudi's design of the roof of the school on the site of la sagrada familia. When designing this roof, Gaudi was inspired by the structure of a leaf. It is a cone that converges into a straight line. This same structure has been applied to this glass, but rotated vertically. The double skin acts like an atmospheric layer, protecting the space, and the curved glass like a structure of nature that echoes Gaudi's inspiration. The roof of this space is equipped with solar panels which then also power the neighboring buildings.

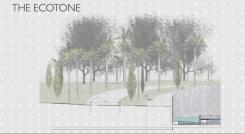
Overall, the design seeks to blur the lines between building and nature, and locals and tourists by providing a new space that allows for both. In answering my initial questions, I have learned that some of the best inspiration for architecture comes from nature.









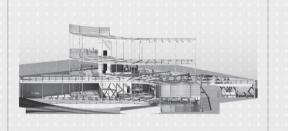


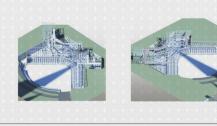
In order to relate to Gaudi's sacral architecture, I had to remain silent on the site by using the land to design. I had to echo the message that creation has a creator and our experience of a space may have a deeper purpose for some. I know the first time I entered Sagrada Familia, it brought me to tears. There is no way I could echo or imitate that kind of experience. In response, I have designed a silent building that lets nature and the message of Sagrada Famila do all the talking.

Thanks yours....











# Fall 2018 Lectures and visits index (extract from BAC database, since 1999)

PHOTO LECTURE / VISIT	SLIDE LECTURE	UNIVERSITY	PROJECT	PROFESOR DESIGN STUDIO	PROFESOR LECTURE	PROFESOR VISIT	LECTURE/WS/T DATE	LECTURE/VISIT TITLE
+ + + + + + + + + + + + + + + + + + + +		TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	Roger Miralles	+ + + + + + + + + + + + + + + + + + + +	20/09/2018	In the footsteps of Gaudí
		TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	Eric Rusiñol	+ + + + + + + + + + + + + + + + + + +	25/09/2018	Sagrada Familia
SALÓ SACRADA FAMÍLIA		TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	EMBA. Enric Massip	+ + + + + + + + + + + + + + + + + + + +	27/09/2018	Salo Sagrada Familia
		TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	Robert Brufau	+ + + + + + + + + + + + + + + + + + + +	04/10/2018	Gaudi shaping the structure
N. Parish		TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	+ + + + + + + + + + + + + + + + + + + +	Pasqual Bendicho_SUMO ARQUITECTES	09/10/2018	Villa Urania
		TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	+ + + + + + + + + + + + + + + + + + + +	Toni Cumella	23/10/2018	Ceramica Cumella
+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + + +	TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	Manuel Colominas	+ + + + + + + + + + + + + + + + + + +	25/10/2018	Plaza Gaudi landscape background
1	THE	TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	+ + + + + + + + + + + + + + + + + + +	Escofet _ Mariona Benain, Enric Pericas	30/10/2018	+ + + + + + + + + + + + + + + + + + +
de Awish		TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	Toni Giornes	+ + + + + + + + + + + + + + + + + + +	31/10/2018	Projects
+ + + + + + + + + + + + + + + + + + +	1	TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	Alberto Veiga	+ + + + + + + + + + + + + + + + + + +	19/11/2018	Brunico School of Music
	+ + + + + + + + + + + + + + + + + + + +	TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	+ + + + + + + + + + + + + + + + + + +	EMBT	20/11/2018	Projects
+ + + + + + + + + + + + + + + + + + + +		TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	Barcelona Building Technology: Pia Wortham	+ + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + + +	Technology: a brief history Structure: basic building elements Ancient structure: Egglic Greece and Rome Gothic: Sarta Maria del Mart to the enlightenment Mercat del boar and the industrial revolution Casard: Geometry and Structure Casard roum industriab buildings and the catallain waut Palsu Sarti, Jordi and a history of domes Hotel Me and a history of towers
+ + + + + + + + + + + + + + + + + + +		TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	Urban History of Barcelona _Layers of urbanity: Jelena Prokopljevic	+ + + + + + + + + + + + + + + + + + +	+ +	Part DIE, ORIGINS OF MOCRETO CTV throbudding and roman oily Defining urban referents Industrial Ctyl Part TVD, FIND/CIDMALST UTOPPA Expanding the Oil The rese century single Part TVDE FIND CTVD ARCHITECTS FURBAR reconstruction and new models Silvarebox models New challenges
		TEXAS ABM CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miquel Roldan Miquel Rodriquez	Field Studies seminar: Ivan Blasi		+ + + + + + + +	Morpia - OIL CARMED MORpia MORpia Morpia - OIL CARMED MORpia
		TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	Field Studies Travel Madrid: Ivan Blasi, Zana Bosnic	+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + + +	VISITS LIST
+ + + + + + + + + + + + + + + + + + + +		TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	Field Studies Travel Netherlands: Ivan Blasi, Anna Sala	+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + + +	VISITSLIST
+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + + +	TEXAS A&M CLEMSON ROGER WILLIAMS	Museo Gaudi _Sagrada Familia	Miguel Roldan Miquel Rodriquez	Final Presentation Jury: Miguel Roldan, Miguel Rodriguez, Ulrike Heine, Marcel Erminy, Koichiro Altani, Katrin Baumgarten, Zana Bosnic, Ivan Blasi, Pasqual Bendicho, Pia	+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + + +	

#### INVITED PROFESSORS





ERIC RUSSIÑOI







## related professions. 20.09 Lecture:

# Roger Miralles\_ In the footsteps of Gaudí

**Design studio lecture series** 

The Barcelona Architecture Center hosts the fall 2018 BAC Lecture Series. The conferences will take place at the "Barcelona Campus"; a network of architects, landscape architects, designers, projects, universities and centers which comprise the professional and academic context of the BAC architecture community. The lecture series seek to trace these connections, bringing students, professionals and local institutions into contact to create a forum for conversation and debate on current topics in architecture and

Roger Miralles has given us lecture on Antoni Gaudi and the figure of Josep Maria Jujol in his work. Sequence of different Gaudi's works: La Pedrera, Casa Batlló, Palau Guell, Park Guell, Casa Vicens and the context of time of these projects. Architect's Miralles also will give the students his own vision of Gaudi's work and its validity in today's times.



#### 25.09 Lecture and Visit:

### Eric Rusiñol Sagrada Familia

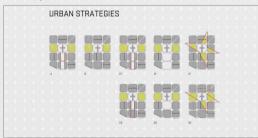
Architects in charge of actual construction of La Sagrada Familia will give us tour and the lecture at the basilica. Lecture will be the insight to the project by Antoni Gaudi through the history until the actual construction and the future previsions to its completion planned in 2026.

The content of the lecture has included aspects related to the history, religion and symbolic of the temple, the concepts of geometry and structures, the process and the constructive details.



# Enric Massip Saló Sagrada Familia

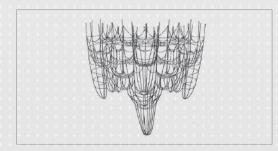
Urban study around the Sagrada Familia by the Architect. Proposals connected to the reproduction of the Gaudi's urban "star" and other urban solutions around the basilica and the problematic / discussion that those imply.



#### 04.10 Lecture:

# Robert Brufau\_Gaudi shaping the structure

Architect who designed structures for the most important national and international projects will explain us the presence and the importance of the structure in Antoni Gaudi's projects.



### Toni Cumella workshop

Toni Cumella is the third generation of family of ceramists and one of the most important ceramists working with architectural national and international projects. He explains his pieces as artisanal ceramics using new technologies. Students have received the tour of this workshop and get the first-hand explanation on the process of design and fabrication.



# 25.10 Lecture: Manuel Colominas

Manel Colominas, Agricultural Engineer, Geographer & Historian, specialist working on a design and construction of landscape architecture projects, has explained to students two squares Placa de Sagrada Familia and Plaça Gaudi through the history, their connection with the green system of Barcelona. Gaudi as landscape architect - Park Guell and the connection of vegetation in Gaudi's works.

He has also introduced to students the pallet of families of Mediterranean plants that can be used for a future square / park.



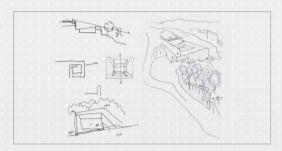
# **Escofet Factory**

Students will receive the tour of Escofet, the leading factory in urban pavements and urban furniture with more than one century experience.



#### 04.10 Lecture and Visit: **Toni Girones**

The principal of Martínez Lapeña & Torres Architects, one of the most important local architects awarded nationally and internationally will explain us their recent project of renovation of La Casa Vicens, one of the first houses by Antoni Gaudi and short review of their other project of museums and public spaces.



# 30.10 Visit: Vila Urania SUMO Architects

The students will receive the tour and the lecture by one of the principals of SUMO Architects, of the new complex of facilities in Sarria Neighborhood, the intervention of the existing building and gardens by incorporating them into a new building with low environmental impact and reduced energy consumption.



### 22.11 Lecture: Alberto Veiga

Recent European Union Prize for Contemporary Architecture – Mies van der Rohe Award winner architect from Barozzi Veiga studio will show the students the selection of recent projects of museums going on in their studio









JELENA PROKOPI JEVIC

# Session 1. Introduction and Roman city

Urban history as a links between the past and the future. Tools for analysis and project.

Part ONE ORIGINS OF MODERN CITY

Structure and urban layers of Barcelona and its place in the European context. Legacy of Barcino: rationality, functionalism, infrastructures, spaces of power. Forms and materiality of Roman walls. Roman housing typology.



### Session 2. Defining urban referents

Medieval densification of the roman structure; spatial concentration and fragmentation of power. Definition of public space and its dynamic use; the city's formal references. The cultural diversity of medieval walled city. Catalonia as a Mediterranean power. Relations with Spain and Europe. City's expansion and structure. Catalan gothic and typology of public and private spaces.



# Session 3. Industrial city

Urbanization of Ramblas: the new city centre. Industrial revolution and the appearance of the new bourgeoisie. Their impact on the cityscape and creation of secular referents: factory – market place-railway station. The new connectivity: roads and railroads. Expansion outside the city walls: Barceloneta urban plan and building typology.



# 2. Barcelona History Research

The architectural history research course in Barcelona will be a sum of lessons learned through three different approaches to examining the diversity of topics related to the principal theme of the history of Barcelona, the European context and the critical analysis of key European examples. The intention of the course is for the student to build a map of Barcelona, key European cities and works within the cultural, urban, historical and theoretical contexts.

The course will be structured into 3 blocks, each focusing on a distinct theme. Daily classroom discussions and activities will be directed at exploring key questions related to each lesson in order to generate a dialog around the different theoretical concepts which may be applied to the design process. Students are expected to inform the classroom discussions with outside knowledge gained through library research and visits to sites and buildings.

# **BLOCK B:** Urban History of Barcelona – Layers of urbanity

Instructor: Jelena Prokopljevic

This block pretends to explain the development and the urban history of Barcelona by linking it to the general urban planning concepts and strategies and changes that took place simultaneously throughout Europe. The accent will be placed on concepts rather than on specific historical facts in order to provide the students with the general relations and analytical tools that can be used in the process of rethinking and intervening in the existing urban tissue. Benefitting from the multi-layered urban history of Barcelona, visible and tangible in today's city, the course will drive special attention to the memory sensible projects that enhance the coexistence of structures from different times, often built for different lises.

Just as Parthenon was once used as an ammunition storage or a Cristian church was built in the centre of the Roman Emperor's palace in Split, several residential houses of Barcelona or Tarragona have absorbed portions of Roman walls as their supporting structure or 19th century factories have been converted into education o cultural facilities, maintaining and adapting the original structure. This idea of juxtaposed layers of urban history: of material and sensible rests that form part of contemporary city, will give us an insight of the ways of envisioning the future cityscape by Catalan architects. The last part of the course will address the current problems and new solutions for re-naturalization of the urban space.

### Part TWO. FUNCTIONALIST UTOPIA

#### Session 4. Expanding the city

Outgrowing the walls- Paris, Vienna and Barcelona – advantages and problems of Plà Cerdà; parallel projects and colonial cities. 1888 Exhibition, Modernism, Art Nouveau, Secession – identity expressions at the turn of the century. Gaudí and structural experimentation.



#### Session 5. The New Century

New connections and public spaces. Re-organization of city's functions: transit, green spaces and squares. Plan Jaussely, Plaza Catalunya, Via Laietana. First metro line. Big events urbanism 1: international exhibition of 1929. Housing crisis.



#### Session 6. The International style

Modern movement and the civil war: GATCPAC, GATEPAC and CIAM. Functional city, collective housing and public facilities. European models and Spanish tradition. New functionalities: public buildings and housing models.



#### Part THREE. THE CITY OF ARCHITECTS

# Session 7. Postwar reconstruction and new models

Post-war regime architecture in Spain and parallels to the post-war Europe. The new deal, the city reconstruction and the population growth. Mass housing, new neighbourhoods and polycentric city. Collective housing models of 70s and 80s and international models. Pre- Olympic interventions in public spaces.





### Session 8. Barcelona model

Big events urbanism 2: 1992 Olympic Games and Forum 2004. Structural benefits for the city and the base for the tourist industry. Large public facilities and public spaces as centres of urban reform. Crisis of the model and new sensibilities.



### Session 9. New challenges

Naturalization of city limits: river-bank projects Besós and Llobregat; Connections with Collserola Mountain. Naturalization of the centre: future of Glorias square. New ways of organization of planning and construction: participation processes, self-managed communities, and new housing models. Challenges of tourist industry.



#### PROFESSOR



## Intro - Technology: a brief history

Introduction to human collective learning and it leads to innovation; a historical point of view.



# Intro - Structure: basic building elements

Introduction to technological advances beginning with the six simple machines and their application to salient technological breakthroughs throughout history.



## BLOCK B: Barcelona Building Technology -**BUILDING SCALE**

Instructor: Pia Wortham

3. Barcelona's Building

Barcelona Building Technology course in Barcelona will be a sum of

lessons learned through three different approaches to examining the

diversity of topics related to the principal theme of materials, construction and technology. The intention of the course is for the student to build a map of methods for identifying, contextualizing and analyzing buildings and their construction in order to apply these concepts to the design process. The course will be structured into 3 blocks. Within each block, there will be lessons, each directed at critically examining the topic of discussion. Students are expected to inform the classroom discussions with outside knowledge gained through library research and visits to sites and buildings.

**Technology** 

The introduction of this block will be the signature of the timeline and dictionary of Barcelona building technology. Following the introduction this block will look at 7 buildings in Barcelona from a technological point of view. We will examine the materials and technology of each period in history, as well as the kind of tools the builder/craftsman, and later architect had at his disposal. We will place the buildings in their historical context in terms of structural analysis and innovations in building technology. We will explore how all buildings fit into a social and economic context by looking at the history that surrounds these five examples. How were the programmatic needs of each project met in terms of appropriateness of structure? Architectural history is often taught as a timeline of changes in style, without taking into account the scientific side to architecture. This class hopes to answer the question of how architecture is built to inform and reinforce what the architectural student faces in the design studio.

# **Ancient structures: Egypt Greece and Rome**

Egypt, Greece and Rome. How the process of construction reflects each culture as well as the technological advances that contributed to the success of each civilization.



#### Session 4.

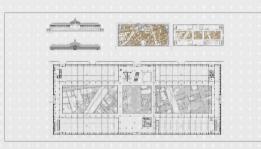
# Gothic: Santa Maria del Mar to the enlightenment

The Romanesque and the middle ages; how are technology and innovation affected by a radical change in the political structure of Europe. A close look at the advances in technology that will lead to the Renaissance.



## Mercat del born and the industrial revolution

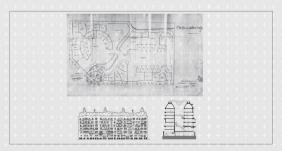
The Renaissance in Italy to the industrial revolution in England following closely the changes and progress in the production and use of iron.



#### Session 6.

## **Gaudi: Geometry and Structure**

The art nouveau movement in Europe with a concentrated focus on Gaudi and Catalunya, how Gaudi fit into the Modernista movement and most importantly his structural innovations.



#### Session 7.

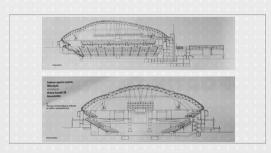
### Caixa forum: industrial buildings and the catalan vault

The Catalan vault! Structural innovations in brick industrial buildings in Catalunya and Guastavino's contribution to hundreds of Iconic buildings in the United States.



### Palau Sant Jordi and a history of domes

A focus on domes, from the Pantheon first discussed in lecture three to Palau Sant Jordi and the Pantadome system of construction.



#### Session 9.

#### Hotel Me and a history of towers

A focus on towers and skyscrapers, with a detailed discussion on wind loads, dynamic, static loads, top down construction and finally a focus on cantilevers with the Hotel Me by Perrault.





IVAN BLASI

# 4. Field Studies in Architecture and Related Arts

The European territory is rich in history, culture and architecture. A certain common identity is perceived from outside its borders but it is difficult to detect from within. Public facilities, competitions and spaces are not exclusive of Europe but they have shaped the continent's territory over the centuries. The last years have brought important changes and cities have adapted according to political, economic, cultural and above all social transformations. European towns continue being attractive mostly because of their history but also because of their vibrancy. In the last years, one in ten enterprises in the European non-financial business economy belonged to the tourism industries. These 2.3 million enterprises employed an estimated 12.3 million persons. Students participating in the BAC program will become locals while they live in Barcelona and tourists while traveling around the territory and they will always be architects, with a specific awareness for how others live and how to understand different realities.

Cities have historically constituted a strategic area of intense exchange, dialogue and conflict. This space continues to play a key geopolitical role at a global scale. While in Europe, students will be able to travel to different locations on their own with some tools provided in Field Studies. Film makers, musicians, writers, painters and photographers among many others have created different perceptions of cities. As architects, all these visions together with the actual experience of a place help us understand it and design a project. All our previous life experiences will also be part of this personal relationship with a place. This is the aim of Field Studies: be aware of our role as architects at all times and make the most out of our discoveries.

Barcelona is the departure point to understand how visiting a city can be done in many different ways. Visits to its periphery: plaça Europa, Forum and Vall d'Hebron; to its elevated areas: Montjuïc, Parc del Laberint and Turó de la Rovira; and to its infrastructures: port, airport, "rondes" and Rambla de Sants-train system; will complement different ways of interpreting European cities such as London, Paris, Berlin, Vienna and Praque among others.

Visiting Madrid and Toledo will allow us to learn about part of Europe's Southern history, a culture of Arab, Jewish and Roman origins which built a capital (Toledo) which today is nearly a neighborhood of one of Europe's biggest metropolis (Madrid). A city growth focused on territorial expansion confronted with the territorial organization of the Randstadt, the Dutch conurbation of 7,100,000 inhabitants (Amsterdam, Utrecht, The Hague, Rotterdam), with a similar population to metropolitan Madrid and Toledo (6,600,000 inhabitants)

Address the current problems and new solutions for re-naturalization of the urban space.

#### Session 1. Montjuïc



Session 2. "The best design of the year" at the DHUB



Session 3. 22@



Session 4. Madrid



Session 5.
"EU Mies Award"



Session 6. Rambla de Sants"



Session 7.
"European identity"



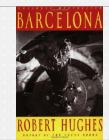
Session 8.
The Netherlands



Session 9.
"Vall d'Hebron"



Session 8.
"Barcelona resilience"



Session 7. "Plaça Europa"



Session 8.
"Mies on scene" documentary



Session 9. "Olympic Village"



Session 9.
"Forum Diagonal Mar"







BOSNIC

# **Study Travel Spain: Madrid and Toledo**

Toledo was the capital city of one of the richest Taifas of Al-Andalus. For some time during the 16th century, Toledo served as the capital city of Castilla, and the city flourished. However, soon enough the Spanish court was moved, first to Valladolid and then to Madrid in June 1561, installing it in the old castle. This visit to two of the main actors of the history of the Iberian Peninsula, home of Muslims, Jews and Christians will allow us to understand the layers which are common in many European cities and which have constituted them and still are catalyzers of their present conditions.

## Day 1. History

Arrival to Madrid center and visit to the most famous monuments such as the Cathedral, Opera House, Museum Area, Plaza Mayor and Royal

#### Day 2. Culture

De la Sota, Sáenz de Oíza, Torroja, Fisac, Moneo, Mansilla-Tuñón, Ábalos, Herreros, are just some of the names of the architects who transformed the city centre and its extension. Which are their strategies? Re-Use, new constructions, demolishing heritage, what can be done? We will be visiting several buildings by these architects.

#### Day 3. Public Space

Museum day. Some of the most important art collections can be found in Madrid: El Prado, Reina Sofía, Thyssen, CaixaFòrum Madrid by Herzog & de Meuron. A visit to some of them will be done in a collective way.

#### Day 4. Lavers

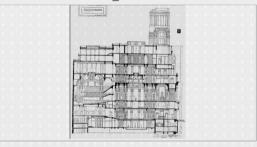
Visit to Toledo, seeing the cathedral, city walls, synagogues, old town but also the escalators by Elías Torres and José Antonio MartínezLapeña which created a new access to the old city. In the afternoon we will be meeting Romero Vallejo Arquitectos to discuss on the new Toledo and its relationship with Madrid regarding new infrastructure, extension, densification.

### Day 5. **Experiments**

Madrid is bidding for the 3rd time to be the city hosting the Olympic Games. Some important works by Cruz y Ortiz, Perrault, MVRDV-Blanca Lleó and some interesting proposals and competitions have taken place in the last years. We will be visiting this newer part of Madrid, its suburbs and urban strategy, before going back to Barcelona.

Prague among others.

Circulo de Bellas Artes Antonio Palacios



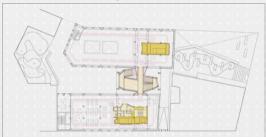
The Madrid of the Austrians



Caixa Forum\_ Herzog & de Meuron



MediaLab Prado\_ Langarita Navarro



visit 5. El Retiro Park\_ Cristal Palace and Velazquez Palace Ricardo Velázquez Bosco



visit 6. El Prado Museum Juan de Vilanueva, extenrion by Rafael Moneo



Visit 7. Royal Palace



Madrid Rio West 8, Burgos & Garrido



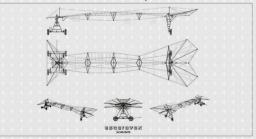
Madrid Rio bridges \_ West 8, Dominique Perrault



Matadero Madrid



Matadero Madrid Andres Jaque



Visit 11. Matadero Madrid \_ Casa de Lector Ensamble Studio



Visit 12.
Matadero Madrid\_ Langarita Navarro



Visit 13.

Reina Sofia extension Jean Nouvel



Visit 13.

Reina Sofia\_ la Guernica Picasso



Visit 14. Toledo



Visit 15.

Ia Granja escalator Elias Torres



Visit 16. San Juan de los Reyes Monastery



Visit 17. Zoolander escalator and Congres Center Rafael Moneo



Visit 18. Exhibition by Mies van der Rohe Foundation: "Spanish Architectures. Crónica desde Europa



Visit 19. Sorolla Museum



Francisco Giner Foundation, Amid cero 8



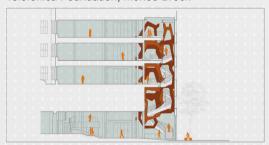
Visit 21. Barceló Market Nieto Sobejano



visit 22. COAM Architects Association Madrid, Gonzalo Moure



Visit 23.
Telefonica Foundation, Moneo Brock



Visit 24. Granvia



Visit 25. Centro Centro





#### **PROFESSORS**



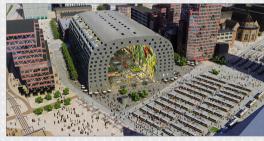
SALA



Rotterdam\_De Rotterdam \_ OMA



Rotterdam\_ Market hall\_MVRDV



Rotterdam Cube houses Piet Blom



Study Travel Europe: The Netherlands

8 cities in 8 days, is that possible? Is it possible to visit 9 neighbourhoods in 9 days? Obviously, the number is not important but instead, understanding a non-compact metropolis is one of the key issues of this visit to The Netherlands. Amsterdam, Rotterdam, The Hague, Delft, Utrecht, Hilversum, Almere, Haarlem and Zaandam are part of the Randstad, a perfectly interconnected area within the Netherlands and within Holland, also perfectly connected to Paris, London and Hamburg but also to Singapore, New York and Sao Paulo.

Day 1. Zaandam + Rotterdam

Day 2. Rotterdam

Day 3. Hague

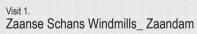
Day 4. Delft

Day 5. Hoge Veluwe National Park

Day 6. Amsterdam bike

Day 7. Amsterdam

Day 8. Utrecht





Rotterdam\_ Rotterdam Central Station / Benthem Crouwel Architects + MVSA Architects + West 8



Rotterdam\_ Timmerhuis\_OMA



Rotterdam\_ Euromast Tower



Rotterdam\_ Kunsthal\_OMA



Rotterdam\_Sonneveld House\_Brinkman and Van der Vlugt



Visit 11. Rotterdam\_\_ Het Nieuwe Instituut\_ Museum for Architecture, Design and Digital Culture



Visit 12.
The Hague\_new City Hall\_ OMA



Visit 13. The Hague\_Station Spui, The Hague (Souterrain/tram tunnel)\_ OMA



The Hague\_City Hall and Library\_ Richard Meyer



Visit 15.

Delft\_Delft City Hall and Central Station\_Mecanoo



Visit 16.
Delft\_TU Delft Mekelpark



Visit 17.

Delft\_Aula TU Delft\_Van Den Broek + Bakema



Visit 18.

Delft\_TU Delft University Library\_ Mecanoo



Visit 19.

Delft\_TU Delft University Architecture\_MVRDV



Visit 20.

Delft\_ The Old City and the New Church



Visit 21. Hoge Veluwe National Park



Visit 22. Hoge Veluwe National Park\_ St. Hubertus Hunting Lodge\_Hendrikus Petrus Berlage



Visit 23. Hoge Veluwe \_ Kröller-Müller Museum and Sculpture garden \_H. van de Velde / W.G. Quist



Visit 24. Hoge Veluwe \_ Kröller-Müller Museum \_ Rietveld Pavilion Gerrit Rietveld



visit 25. Amsterdam\_ Stedelijk Museum Amsterdam Benthem Crouwel Architects



visit 26. Amsterdam\_ Vincent van Gogh Museum / Gerrit Rietveld



Visit 27. Amsterdam\_ Rijksmuseum\_ Pierre Cuypers/ Cruz Ortiz



Visit 28.
Amsterdam\_ Dam Square and the Royal Palace



Visit 29. Amsterdam\_Silodam Housing\_ MVRDV



Visit 30. Amsterdam\_ Palace of Justice\_ KAAN Architecten



Visit 31. Amsterdam\_ Ferry terminal\_Arons en Gelauff architects



Visit 32.
Amsterdam\_ NDSM LOODS



visit 33. Amsterdam\_ EYE - Dutch Film Institute\_ Delugan Meissl Associated Architects



Visit 34. Amsterdam\_ Eastern Docklands Borneo-Sporenburg - West 8



Visit 35. Amsterdam\_ Borneo Sporenburg apartments EMBT



Visit 36. Amsterdam\_ Borneo Sporenburg apartments



Visit 37. Amsterdam\_Borneo Sporenburg Apartments\_ the Whale\_De Architekten CIE



Visit 38.
Amsterdam\_Borneo Sporenburg Bridge\_West 8



Visit 39. Amsterdam\_ IJ Tower Apartments\_ Neutelings Riedjk



Visit 40.

Amsterdam\_ Funenpark\_ Landlab



Visit 41.
Utrecht\_ Educatorium OMA



Visit 42. Utrecht\_ Medical Faculty\_ Erick van Egeraat Associated Architects



Visit 43.
Utrecht Utrecht Library / Wiel Arets Architects



Visit 44.
Utrecht\_Schröder-Schräder House\_Gerrit Rietveld



Utrecht\_ KBWW Twin House \_MVRDV + SeARCH





# 5. Semester highlights:

Welcome Reception at Roldan+ Berengue arqts.



The Royal Palace Madrid visit



Orientation walks MACBA



Toledo University visit



Mies van der Rohe Pavilion



Official Architects' Association of Madrid visit



Montjuic visit



La Sagrada Familia visit and lecture



La Sagrada Familia visit and lecture



Bonding party with students from Shibaura Institute of Technology



Ceramica Cumella visit with Toni Cumella



Ceramica Cumella visit with Toni Cumella



Robert Brufau conference "Gaudí, shaping the structure"



Villa Urania visit with Pasqual Bendicho Sumo Arquitectes



Villa Urania visit with Pasqual Bendicho Sumo Arquitectes



Escofet factory visit



Escofet factory visit



Students discussing their designs at the Escofet visit



Students designs at the Escofet visit



Design Studio with Miguel Roldan



Design Studio Midterm presentations



Design Studio Midterm presentations



Thanksgiving "family" dinner



Lecture and studio visit of Toni Girones



Rotterdam Erasmus bridge



Rotterdam Het Nieuwe Instituut\_ Museum for Architecture, Design and Digital Culture visit



Rotterdam City Projects model



Design Studio Final Presentations



Design Studio Final Presentations



Design Studio Final Presentations



Design Studio Final Presentations



Design Studio Final Presentations





