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Professor Agustín Landa,
Architect and Head of Cátedra Blanca,
Tecnológico de Monterrey

Students Envision the Future

AutoCAD helps five architecture students wow local leaders

Project Summary

Each semester, the most promising senior architecture students at the Tecnológico de Monterrey in Monterrey, México, come together in a design studio class called "Cátedra Blanca." In the class, the students form small groups and develop collaborative design projects that focus on urban planning and architecture. In 2003, five students—Nadia Hobart, Francisco Maguey, Pablo Martínez, Rodrigo Ramos, and Enrique Yáñez Alvarado—undertook an unusually ambitious project: they designed a multi-use sports stadium, hotel, apartment complex, and shopping and convention center. The students designed the project, called Estadio Alameda, using the power of enthusiasm, inspiration, long nights, and AutoCAD. With help from AutoCAD, the students:

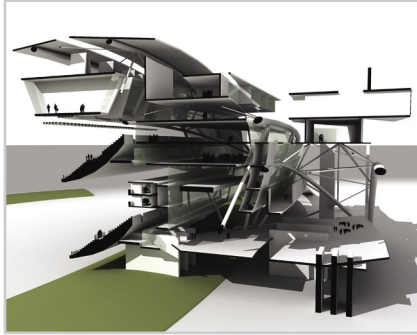
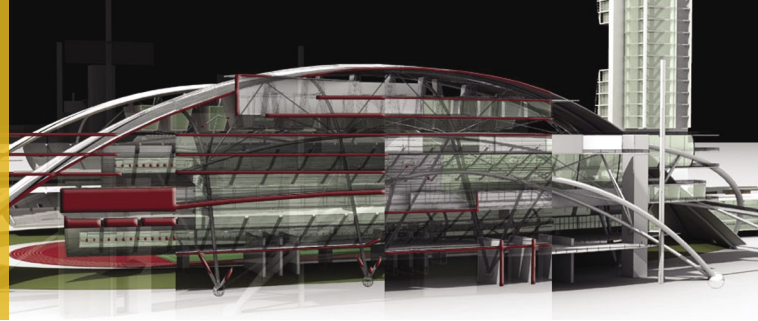
- Completed the basic stadium design in only six weeks
- Completed the presentation material in only four weeks
- Mastered an essential professional tool
- Impressed established architects, local politicians, and business leaders
- Successfully launched careers in architecture

The Challenge

Overcoming Urban Sprawl

The students in Cátedra Blanca do not need to look far for project ideas. The bustling Mexican city of Monterrey surrounds their campus, and it offers numerous urban design and planning challenges. For example, Monterrey faces an ever-growing problem of urban sprawl and a need to revitalize its downtown area. Estadio Alameda is intended to address both of those problems by providing a new, centrally-located venue for shopping, living, business, and sports. And, as a high-profile development, it would likely help to revitalize downtown Monterrey for dozens of blocks in all directions.

"Because our projects are often presented to the local authorities, Cátedra Blanca projects have made a real impact through the years," explains Enrique Yáñez Alvarado. "City officials are starting to pay more attention to the center of the city. We chose to design a mixed-use stadium because we thought it would capture imaginations. People in Monterrey are very passionate about sports."



“Creating stunning designs with paper and glue is one thing, but designing a workable structure is another. The stadium itself is designed around five arcs. With AutoCAD, we were able to calculate the geometry of the arcs and design the other elements, such as walls, corridors, and seating, around the arcs.”

Rodrigo Ramos,
Architect and Former Student

The Solution

After deciding to design a multi-use stadium, the five students began the project by brainstorming the basic configuration of elements. Then, they sketched the design, gave detail to the features, and built scale models based on the sketches. As the basics came together, the students turned to AutoCAD and began transforming their ideas into professional-quality designs.

“Creating stunning designs with paper and glue is one thing, but designing a workable structure is another,” says Rodrigo Ramos. “The stadium structure is designed around five arcs. With AutoCAD, we were able to calculate the geometry of the arcs and from there design the other elements, such as walls, corridors, and seating, around the arcs.”

Working Quickly

The design progressed quickly. It had to—the students had to present the completed design at the end of the semester. After several weeks of individual work on various sections of the complex, it was time for the elements to come together. The students needed to link the apartment, hotel, and office tower to the stadium while connecting the convention center and 50,000 square-meter shopping area to the central sports complex. Using AutoCAD, they were able to streamline the entire process.

“Initially, we created a preliminary master plan in AutoCAD,” explains Pablo Martínez. “Each of us then worked on a specific portion of the complex in AutoCAD. By pasting the pieces to the original coordinates in AutoCAD, we brought the design together. The individual design files fit together immediately and exactly.”

Adding the “Wow” Factor

With the basic design documents complete, the students did not pause in their efforts because they then had to create a presentation. They used AutoCAD to convert their designs to 3D models. Using Autodesk VIZ, they added details

to the models and created views that highlighted the most exciting aspects of their design. For instance, one view superimposed Estadio Alameda onto a satellite photograph of the proposed site, allowing viewers to see what a striking addition it would make to the Monterrey skyline.

As the presentation deadline approached, the team worked furiously to enhance their presentation materials with photorealistic renderings created with Autodesk VIZ. According to Professor Agustín Landa, the architect who leads the Cátedra Blanca, “I opened the classroom one morning and found the students asleep inside. They had produced a 360-degree panorama of the view from the center of the field in a single night. It was quite amazing.”

The Result Bright Futures Ahead

The project has captured the attention and imagination of everyone from established architects to business leaders. But their first audience was the rest of the Cátedra Blanca class. “When they presented their work to the rest of the class at the end of the semester, everyone was astonished,” reports Professor Landa. “The head of Monterrey’s urban development agency attended the presentation. She was so impressed that she shared the presentation with other officials.”

With the Estadio Alameda project behind them, the five students say that the project—and their mastery of AutoCAD—have helped to smooth the transition from school to their chosen profession. Alvarado says, “AutoCAD is an essential platform for design. Being able to use AutoCAD so proficiently has definitely helped all of us in our careers.”

For More Information

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