

LOYOLA UNIVERSITY CAMPUS



THE FIRST **5G** UNIVERSITY CAMPUS
LEED PLATINUM IN THE WORLD

luis vidal + architects





LOYOLA





THE 5G UNIVERSITY: A NEXT-GEN HIGHER-ED CAMPUS

Imagine what the first “fifth generation” (5G) university campus would look like. This sustainable campus reimagines the present and the future of higher education.

Welcome to Loyola University Campus: the first LEED Platinum 5G university campus in the world.

luis vidal + architects has designed Loyola University’s flagship campus in Seville, Spain, based on five key features: technology, accessibility, sustainability, responsibility and integration.

The outcome is a project that has achieved LEED Platinum status – the first integrated campus in the world with the designation. Loyola was unanimously named an “Outstanding Innovative Project” in the Andalucía Inmobiliaria Awards.

The design begins with a “glocal” approach, which thinks globally but responds to local needs and users. It provides the community with the best of both worlds, offering a comprehensive solution to the university’s challenges.

After carrying out an exhaustive study of the traditional architecture of the area and the region (where Andalusian squares are especially characteristic) and inspired by the integrated North American campuses, the resulting design fosters university life while being a beacon of sustainability.







THREE PILLARS, ONE DESIGN

The project, developed by luis vidal + architects, was based on a careful analysis undertaken at multiple levels (functional, environmental and programmatic). This framework stands on three pillars: the notion of community, the need for flexibility and the commitment to sustainability.

COMMUNITY

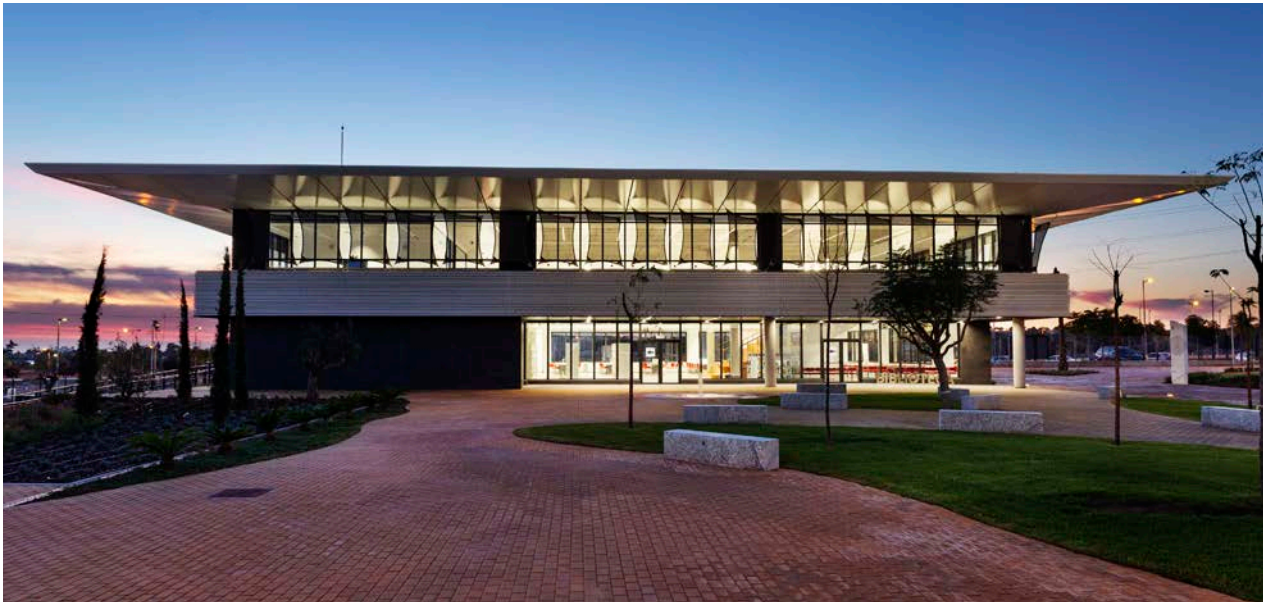
The structure of the campus responds to the inspiring principles of the institution, which promotes education that encompasses academia, personal training and spirituality.

Personal and spiritual development are at the heart of the architectural proposal, symbolically represented on both axes that run through the campus: along the longitudinal axis including common spaces (admin, cafeteria or laboratories) and the transversal axis that refers to human development (the library and chapel).

This intersection between the two axes generates a huge square that becomes the heart of the university and a natural meeting place.

The design of this great square, which shares its dimensions with similar squares in Seville and Cordoba, is a reinterpretation of traditional Andalusian architecture that imagines these spaces as thriving social centers.

LOYOLA



FLEXIBILITY

This campus was conceived as a tailor-made design that adapts to the university's needs. It has the capacity and flexibility to expand and extend to accommodate present and future demands.

An initial analysis of the project determined that the surrounding area and program were difficult to achieve, within an aggressive climate and phasing conditions. The answer to these challenges was based on a concentration strategy: a small number of buildings, efficient and optimized along an axis. This programmatic densification allows for concentration of a cluster of classrooms, laboratories, general services and common spaces (cafeteria and auditorium). On this build, resources are maximized.

Due to the building concentration, certain parts of the site have been selected as a flexible resource for future university growth. These free zones are located to undertake a longitudinal growth of the classrooms, if necessary, as well as the relocation of uses.

SUSTAINABILITY

Sustainability is a driving force for luis vidal + architects.

As a result of this environmental commitment, Loyola University Campus has been given a LEED Platinum designation by the U.S. Green Building Council (USGBC). It is the first campus in the world to obtain this rating level. The project's sustainable actions include: passive and active energy efficiency measures, the optimization of facilities and phases, water and material recycling and efficient landscaping.

MATERIALS

The design strategy incorporates the following materials to maximize sustainability:

- Collection and separation of recyclable material.
- Recycled content: more than 20% of building materials come from previous uses.
- Regional materials: more than 30% of the materials have been extracted and manufactured within an 800 km travel distance from the site, reducing the environmental damages inherent to large material displacements.
- Materials of renewable origin: a minimum of 2.5% of the materials used in the construction, mainly bamboo and linoleum used in soils, are materials whose renewal period is less than one year, thus reducing the depletion of plant species, deforestation, and desertification of the planet.
- Correct management of construction waste.
- Low emission materials in the interior design: low VOC materials (volatile organic components) have been selected to reduce the environmental footprint.

ENERGY EFFICIENCY

The building envelope (roofs, façades and windows) has been designed to minimize energy losses, achieving a 40% reduction in the net energy consumption of the building.

ORIENTATION

Due to the region's severe climate, sunlight control is especially important to prevent excessive accumulation of heat through the façades. Therefore, different elements such as overhangs or sails have been designed to ensure comfort with natural light.

RENEWABLE ENERGY GENERATION

Photovoltaic panels have been installed to reduce the net energy consumption of the building.

WATER USE REDUCTION

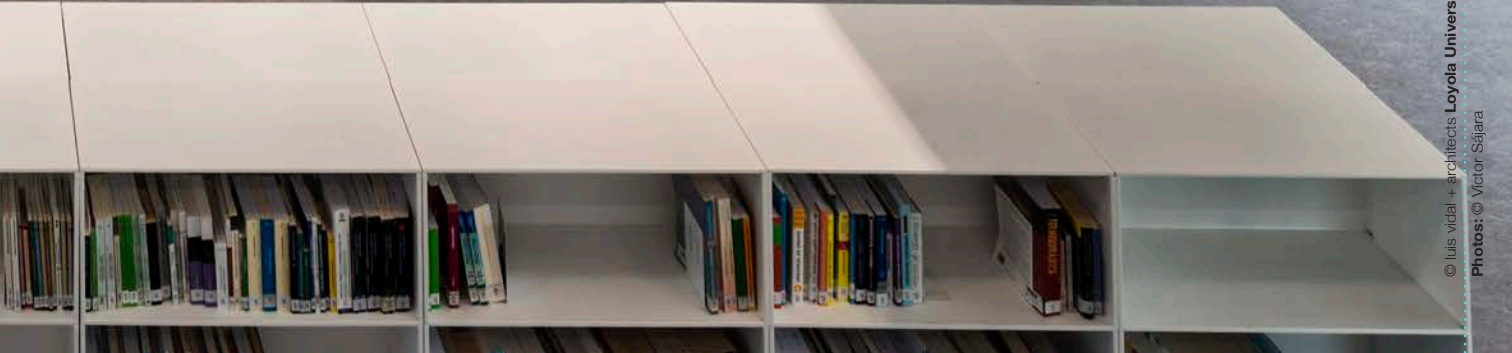
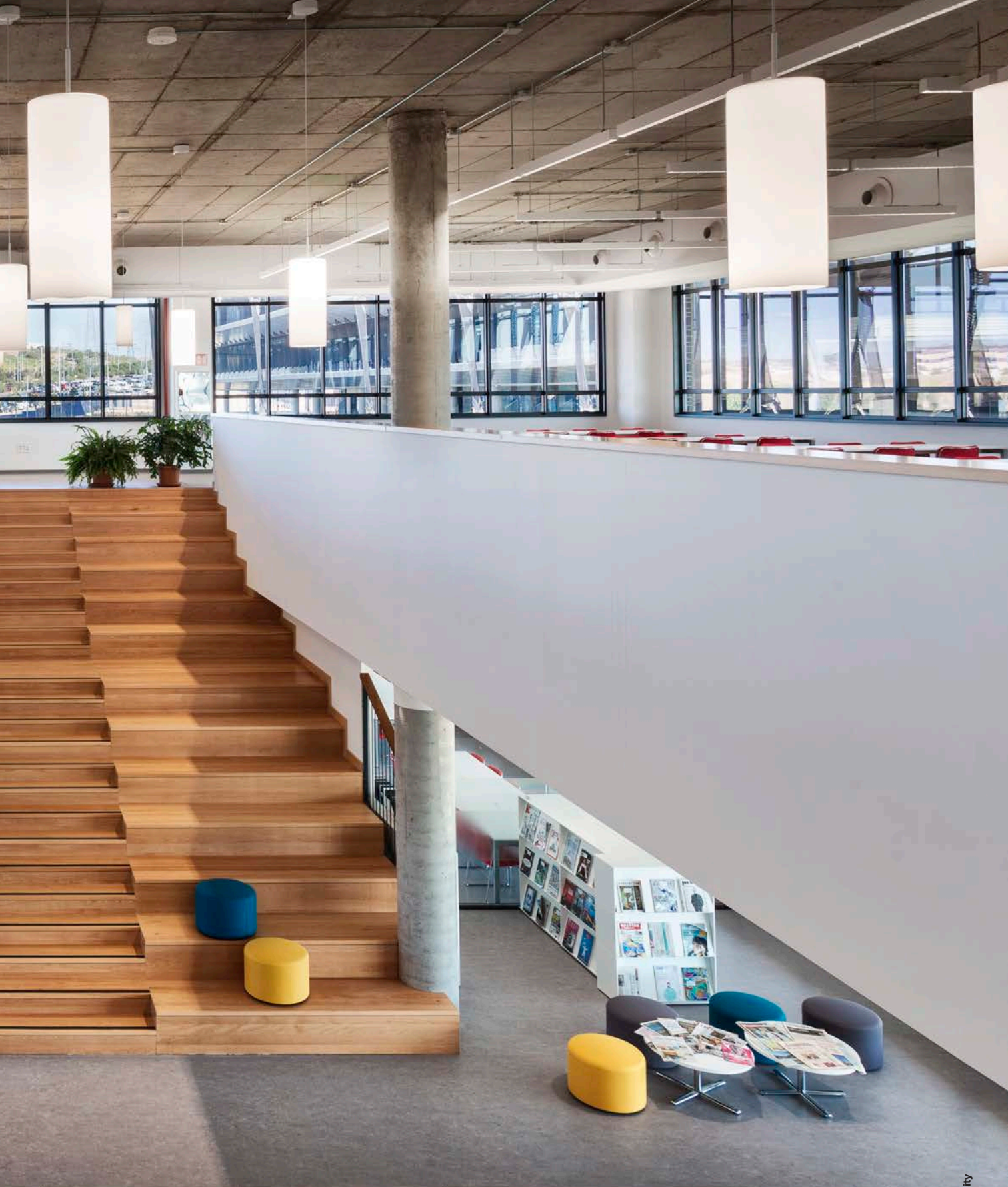
The selection of suitable faucets, timing systems and double discharges in sanitary appliances will reduce water use.

A tank has been built for proper water management, including captured rainwater and recycled wastewater, with a potential saving of 68% of consumption.

EFFICIENT LANDSCAPING

Landscape design includes native species adapted to local climate that require little water.







DIFFERENT SPACES AND ELEMENTS WITHIN THE CAMPUS

CONNECTOR AXIS

In phase 1, the different areas located within the site were organized along the North-South axis, which connects the sports arena with the main building and the square.

As the following phases develop, introducing more uses, this axis will gradually be more populated, transforming the main square into the central core of the entire campus.

This axis structures an irregular site area, organizing future developments and internal circulations, offering a special sequence that ensures a continuous flow of activity.

MAIN SQUARE

Located in the center of the design, and facing the main building, this space is conceived as the heart of the university.

The square creates a place for sharing and meeting that gives support to the different activities that take place on the campus. This plaza is the result of the intersection of the two axes that organize the uses along the site area, the “Knowledge Axis” and the “Human Axis”.

WINTER-SUMMER SQUARES

To enhance comfort, the building’s design has introduced inner streets that stimulate breeze and natural ventilation. Presenting a patio-layout, this cutting-edge design generates winter and summer squares on the buildings.

Therefore, during the summer, these squares turn into comfortable spaces, protected from the west sun in the afternoon (the most damaging at that time of year). The main goal is to generate shade and a breeze to increase comfort through the presence of water.

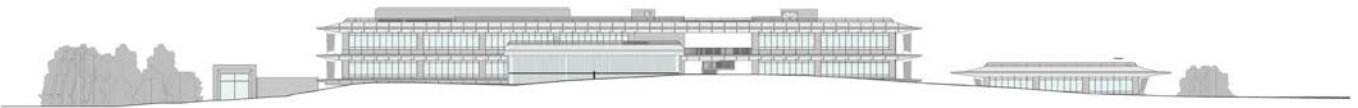
Meanwhile, during the winter, the building floor plan layout creates “winter squares” that receive the low-angle radiation of that time of the year.







AL-EP-0012
1/8" = 1' - 0"



AL-EP-0011
1/8" = 1' - 0"

LOYOLA

DATA SHEET

Year Built	2019
Client	Loyola University
Architects	luis vidal + architects
Built surface	29,000 sqm
Budget	29 M€
Contributors	Calter, AAS Ermes, Margarida Acústica, CSP, Cerámicas La Paloma
Stage	Phase1 Built

BUILDINGS CHARACTERISTICS

The Loyola University Campus has a site area of 37,683 square meters and an urbanized area of almost 29,000 square meters distributed between the main building, sports building, library, paddle locker, access building and chapel. The main building has 24,629 square meters spread over three floors above ground (16.11 meters high) and a basement floor (4.62 meters high). In phase 1, the campus will have capacity for 2,500 users, including students and staff.

Main building	24,629.34 sqm
Sports building	964.07 sqm
Library	2,430.19 sqm
Paddle locker	263.20 sqm
Access building	48.46 sqm
Chapel	650.58 sqm

The buildings are located around the main square, completely urbanized and landscaped. Within the site area, there is also parking facilities.

MATERIALS

Total concrete	15,388 cbm
Total passive corrugated steel	1,140,157 kg
Total active post-stressed steel	446,410 kg
Total wooden formwork	41,974 sqm
Total rolled steel	354,482 kg

FLOOR PLANS



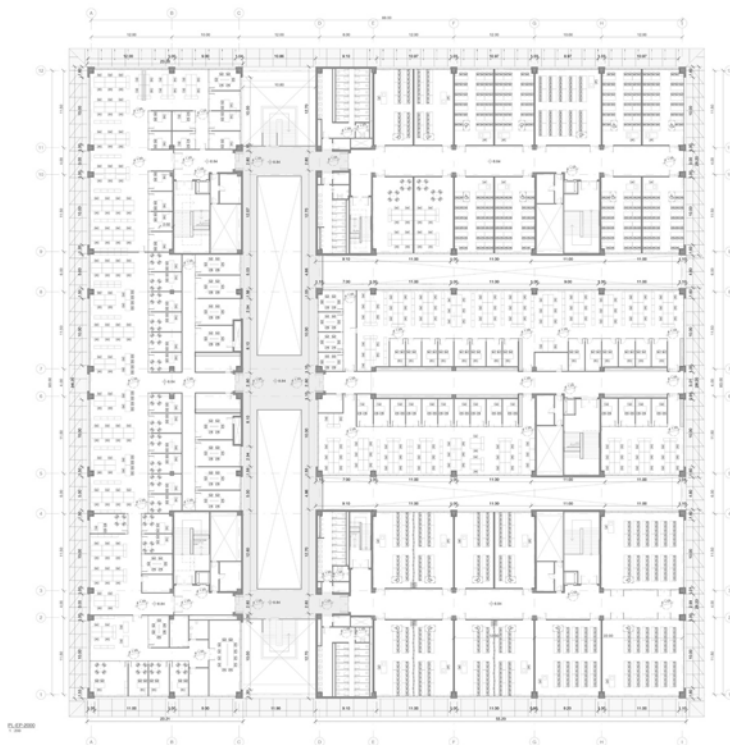
BASEMENT



GROUND FLOOR



FIRST FLOOR



SECOND FLOOR

LOYOLA

UNIVERSIDAD





