

PROVA ORALE 1

Il candidato illustri gli argomenti e/o risponda alle domande di seguito elencati:

- 1) Responsabilità e compiti del Responsabile Unico del Procedimento nell'ambito delle Opere Pubbliche
- 2) La contabilità dei Lavori Pubblici
- 3) Cosa si intende per rilevazione delle interferenze in ambito BIM?
- 4) Come si lega la modellazione BIM alla stima dei costi (dimensione 5D)?
- 5) Elementi di prevenzione incendi nell'ambito dell'edilizia universitaria
- 6) In Excel a cosa serve inserire il simbolo "\$" all'interno di una funzione?

CONCAVE GLAZED ROOFS AND WATER FEATURES

CIFI Beijing is the second mixed-use building that Steven Holl Architects have designed for Beijing.

With a population of over 24 million, the Chinese city covers a huge metropolitan area and is in increasing need of state – of – the – art facilities capable of adequately responding to its urban requirements.

Steven Holl Architects was commissioned to design a new 28.000 sq. –m hybrid office/retail building for the well-known CIFI group. Located in the Fengtai district, the building's design leverages five key elements: quality of light, a container structure, urban permeability, open space work environments, and ecological solutions/green spaces as its central focus.

Light plays with the structure's external surfaces, shaping its forms and imbuing CIFI Beijing with an original, ever-changing look.

The building's southern elevation is characterized by large windows of different shapes that seem to sculpt the facade with dynamism and plasticity; the window shapes distribute daylight evenly within the building's workspaces.

The northern elevation's hallmark feature is the presence of four concave glazed roofs developed with Okalux, a worldwide maker of designer insulating glass.

The structure overlaps four layers, featuring external glazing laid on a truss structure, a level for piping, and an internal layer made out of translucent barrisol or NEWMAT. Use of reinforced concrete for the building's load-bearing material not only allows for the utmost freedom in interior layout, it also ensures flexible space usage. The upper floors offer open-plan workspaces for maximum flexibility. The ground floor retail space is surrounded by water features and gardens, a solution that reflects a clear design focus to set the commercial building within a green area well-integrated into the surrounding city to foster a human and pedestrian urban scale.

The entire project's close focus on sustainability is also evident in its sophisticated rainwater recycling system that supplies its water features.

PROVA ORALE 2

Il candidato illustri gli argomenti e/o risponda alle domande di seguito elencati:

- 1) I livelli di progettazione di un'opera pubblica secondo il D. Lgs 50/2016, i relativi contenuti e la validazione
- 2) La direzione dei lavori di un'opera pubblica
- 3) Cosa si intende per livello di sviluppo in ambito BIM?
- 4) Quali sono le figure professionali BIM corrispondenti ai diversi livelli di certificazione e i ruoli di loro competenza?
- 5) L'Abbattimento barriere architettoniche nell'ambito edilizia universitaria
- 6) Che cos'è lo spazio carta in Autocad?

A CIRCUIT FOR SOCIAL CONNECTION

Steven Holl Architects' team of architects won the Future Campus design competition held by the University College Dublin (UCD) in 2018 to build a Centre for Creative Design and provide an overall masterplan for the site.

The international jury was impressed by the firm's highly-iconic Centre for Creative Design building, a gateway to the campus that enhances the site's historical and natural context.

Sited between a square and water features, the Centre building rises in height as a series of prismatic volumes inspired by the geology at the Giant's Causeway, a World Heritage Site promontory of basalt columns along the Irish coast.

Mimicking the inclination of the earth's axis, two vertical structures inclined at 23 degrees allow natural light to flow into the interior.

The auditorium reprises the dodecahedral shape of UCD's iconic 1972 water tank; its towers are inspired by its pentagonal pillar.

The Centre's mission is to encourage creative collaboration: through glass walls, it fosters interaction among building users, triggering a "circuit for social connection" in which students, lectures and visitors may glimpse what is going on inside classrooms and workshops.

Quieter, more reserved spaces inside foster individual concentration and creativity, in a sequence of spatial experiences that form a functional continuum.

PROVA ORALE 3

Il candidato illustri gli argomenti e/o risponda alle domande di seguito elencati:

- 1) La programmazione dei lavori pubblici
- 2) Le procedure previste dal D. Lgs 50/2016 per la scelta degli operatori economici nell'ambito dei lavori pubblici
- 3) Quali sono i principali vantaggi dell'utilizzo del BIM in ambito edilizio e le criticità
- 4) Integrazione tra BIM e sostenibilità
- 5) Il quadro economico dei lavori di un'opera pubblica
- 6) Quali sono i vantaggi dell'utilizzo di riferimenti esterni XRIF su Autocad?

TREES AS DESIGN INSPIRATION

Franklin & Marshall College is an historic private liberal arts college in Lancaster, Pennsylvania. The Herman Arts Center, a building dedicated to artistic education, was built on campus in 1969. However, due to a lack of funds, the original masterplan was never completed, in 2016, the College decided to replace the old structure with a new building – the Winter Visual Arts Center. The design concept's geometric shapes were inspired by woodland, the oldest element on site. The new building's main pavillion is raised above ground to the canopy level of the trees in the surrounding gardens, mimicking the pattern of their foliage.

The ground floor is visually permeable to visitors on their way in and out of the gardens and college.

The roof's load-bearing structure was made out of thin trusses that lend it lightness and a dynamic rhythm. Reinforced concrete walls offer a material reference , channeling the contrast between the grandeur of the tree trunks and the lightness of their foliage.

The external infill panels are made out of a new material: high technical performance 100%-recycled expanded glass. Internal rooms are heated and cooled by a cutting-edge geothermal system that, thanks to insulation of the external envelope, helps bring the project close to the NZEB (Nearly Zero Energy Building) architectural standard.

Finally, a large reflecting pool offers potential overflow, obviating any excess water if it rains heavily in the gardens.