



UNIVERSITY OF SAINT JOSEPH  
FACULTY OF CREATIVE INDUSTRIES

# ARCHITECTURE PROGRAMME

2015

# FACULTY OF CREATIVE INDUSTRIES

Álvaro Barbosa, PhD /// DEAN OF THE FACULTY OF CREATIVE INDUSTRIES

The field of Creative Industries represents an innovative paradigm for our contemporary knowledge-based society, closely associated with recent trends in cultural activities, digital technologies, and sustainable urban development.

The University of Saint Joseph is a leading international university in China's Special Administrative Region (SAR) of Macau, where the creative and cultural industries are acknowledged as a strategic area for the development of a vibrant and pioneering cluster of businesses and entrepreneurs. Created in 2012, the new Faculty of Creative Industries integrates some of the most successful programs of our university, ranging from the most traditional subsectors of the Creative Industries, such as Design, Architecture,

and Communication & Media, to new fields of study that increasingly converge on the creative domain, such as Information Systems and Environment & Urban Development.

Some of our programs, such as Architecture, are unique within the higher education system of Macau, but above all, the integration of each these areas within the same faculty provides a unique multidisciplinary community in which students have access to exceptional education opportunities and a work environment that allows them to extend their abilities to the utmost.

With our community of students and academic staff, sited within the exponentially growing entertainment and business environment of Macau, USJ is rapidly becoming a leading university in the field of Creative Industries in East Asia.

# ARCHITECTURE PROGRAMME

Thomas Daniell, PhD /// HEAD OF THE DEPARTMENT OF ARCHITECTURE AND DESIGN

As the first and only architecture program in Macau, the University of Saint Joseph curriculum adheres to international standards while remaining relevant to our specific location in the world. Grounded on a concern for sustainability and energy efficiency, the curriculum addresses four primary themes: high-density housing; heritage management and conservation; experimental material fabrication; the iconography of casino and resort architecture. Of course, none of these themes are treated uncritically. Our task is not to replicate the existing situation, but to speculate on alternatives, to project other futures for Macau, one of the most exciting and unique urban environments in the world today. Beyond instructing students in the history of the discipline and its accumulated techniques, the university provides space and time for reflection and experimentation – a platform from which to postulate alternatives, to develop unprecedented solutions to current problems, and responses to as-yet unknown ones.

Architectural design is based first and foremost on generosity. To design generously means that an architect should always attempt to increase options, open possibilities, acknowledge diversity, and enfranchise the broadest constituency. The architect has a fundamental obligation to society, to the environment, and ultimately to history. Architecture is always made for others, and has a profound role to play in defining existing communities as well as in setting directions for their future. The task of the architect is to understand the multiple demands – legal, economic, cultural, climatic – placed on any project and then synthesize them into a result that is functionally successful, aesthetically pleasing, and environmentally responsible. The University of Saint Joseph architecture program emphasizes ethics as well as expertise, requiring students to constantly evaluate the consequences of their work on the existing built environment and on the natural world. Our graduates will be good designers, but also good citizens, possessing the requisite skill and vision to contribute to the future form of the city in which they live.

# STUDY PLAN



## YEAR 1

15 MODULES | 40 CREDITS

### LANGUAGES

ENGLISH I-IV

### CORE

KNOWLEDGE AND HUMANITY  
THINKING AND REASONING

### MAJOR & ENRICHMENT

ARCHITECTURAL STUDIO II  
ARCHITECTURE WORKSHOP  
"SCENE CITY"  
THE EVOLUTION OF URBAN  
LANDSCAPES  
ARCHITECTURAL STUDIO I  
MATHEMATICS FOR  
ARCHITECTS II  
HISTORY OF ARCHITECTURE  
COMPUTER BASED DESIGN  
MODELING  
GRAPHIC/INTERACTIVE DESIGN  
MATHEMATICS FOR  
ARCHITECTS I

## YEAR 2

15 MODULES | 34 CREDITS

### LANGUAGES

ENGLISH V-VIII

### CORE

LIFE AND SCIENCE  
LIFELAB

### MAJOR & ENRICHMENT

ARCHITECTURAL STUDIO III  
ARCHITECTURAL STUDIO IV  
INTEGRATED URBAN SYSTEMS  
ANALYSIS OF STRUCTURES  
MATHEMATICS FOR  
ARCHITECTS III  
DESIGN FOR THE LUMINOUS  
AND SONIC ENVIRONMENT  
HISTORY OF ARCHITECTURE:  
CONTEMPORARY ISSUES  
CONSTRUCTION TECHNOLOGY  
FUNDAMENTALS  
ARCHITECTURAL TECHNOLOGY

## YEAR 3

17 MODULES | 45 CREDITS

### LANGUAGES

PORTUGUESE I-IV

### CORE

MACAO STUDIES  
WORLDFLAB

### MAJOR & ENRICHMENT

SOCIAL & ENVIRONMENTAL  
IMPACT ASSESSMENT  
ARCHITECTURAL STUDIO V  
PLANNING FOR URBAN  
CONSERVATION  
AND SUSTAINABILITY  
ARCHITECTURAL STUDIO VI  
DIGITAL PHOTOGRAPHY &  
VIDEO IN ARCHITECTURE  
THEORY OF ARCHITECTURE  
& DESIGN  
VIRTUAL ENVIRONMENTS  
INTERIOR DESIGN  
RESEARCH METHODS IN  
ARCHITECTURE AND HERITAGE  
ADVANCED CONSTRUCTION  
TECHNOLOGY  
MATERIALS AND METHODS  
OF BUILDING CONSTRUCTION

## YEAR 4

12 MODULES | 45 CREDITS

### LANGUAGES

PUTONGHUA I-IV

### CORE

BUILDING COMMUNITIES  
DIRECTED READING

### MAJOR & ENRICHMENT

ARCHITECTURAL STUDIO VIII  
ARCHITECTURAL STUDIO VII  
INTERNSHIP  
ISSUES, CONCEPTS AND  
PRINCIPLES OF HERITAGE  
CONSERVATION  
THE BUILDINGS OF MACAU  
INTEGRATED BUILDING  
SYSTEMS  
DESIGN OF BUILDING  
STRUCTURES  
DESIGN FOR THE THERMAL &  
ATMOSPHERIC ENVIRONMENT  
ERGONOMICS IN  
ARCHITECTURE  
BUILDING STRUCTURES  
AND DESIGN FOR SEISMIC  
PROTECTION

## YEAR 5

8 MODULES | 23 CREDITS

### MAJOR & ENRICHMENT

GRADUATION PROJECT I  
GRADUATION PROJECT II  
PORTFOLIO  
PROJECT MANAGEMENT  
IN ARCHITECTURE  
SUSTAINABLE BUILDING  
DESIGN  
ECOARCHITECTURE  
& AESTHETICS  
ENTREPRENEURSHIP  
IN ARCHITECTURE  
MANAGEMENT IN ARCHI-  
TECTURE & PROFESSIONAL  
PRACTICE

5 Years Programme |  
Full-time (day) | 187 Credits  
International and interdisciplinary  
environment.

# TEACHING STAFF

## FULL-TIME

ÁLVARO BARBOSA

/// DEAN OF THE FACULTY OF CREATIVE INDUSTRIES

THOMAS DANIELL

/// HEAD OF THE DEPARTMENT OF ARCHITECTURE  
AND DESIGN

DAVID GONÇALVES

/// ASSOCIATE PROFESSOR

JOÃO GARROT

/// ASSOCIATE PROFESSOR

FRANCISCO VIZEU PINHEIRO

/// ASSISTANT PROFESSOR

JOÃO CORDEIRO

/// ASSISTANT PROFESSOR

NEENA THOTA

/// ASSISTANT PROFESSOR

BERNARD TAN

/// SENIOR LECTURER

DIOGO TEIXEIRA

/// SENIOR LECTURER

FILIPA MARTINS DE ABREU

/// SENIOR LECTURER

GERALD ESTADIEU

/// SENIOR LECTURER

NUNO SOARES

/// SENIOR LECTURER

## PART-TIME

ANA CARDOSO

BEN LUK

CRISTINA DIAS

CHRISTIANE LANGE

CHRISTOPHER KALTENBACH

DYLAN BAKER-RICE

DYLAN KWOK

FILIPA SIMÕES

FILIPE CASTRO SOEIRO

GIL ARAUJO

HOLGER KEHNE

JASON DEMBSKI

JOÃO SEABRA

JOSÉ MARIA RICHARDSON

KARIM JABBAR

LŐİC FAULON

ROBERTO FRANCIERI

MAN-CHO CHOI

MARCO IMPERADORI

TIAGO QUADROS

## GUEST CRITICS

ADALBERTO TENREIRO

AFONSO VILELA

CARLOTTA BRUNI

CATARINA CASTRO HENRIQUES

DANNES KOK

EDUARDO FLORES

FILOMENA VICENTE

GEÓRGIA GOMES DA COSTA

HENDRIK TIEBEN

JOSÉ LUÍS SALES MARQUES

JORGE PINTO

KRISTOF CROLLA

KUO JZE YI

LOURENÇO VICENTE

MARIA JOSÉ DE FREITAS

MARIETA DA COSTA

MANUEL CORREIA GUEDES

MANUEL LAM

MIMI CHEUNG

NUNO DA MOTTA VEIGA C. ALVES

ROSE LEUNG

RUI LEÃO

PIRJO HAIKOLA

## PUBLIC LECTURE SERIES

AARON TAN

ANTÓNIO CARVALHO

BASTIAN ROEHLINGS

CHRISTIAN J. LANGE

CHRIS LUTH

DAVID ERDMAN

GARY CHANG

JOHANNES WIDODO

JONATHAN D. SOLOMON

MARTIN RIESE

MARTINE DE MAESENEER

MIODRAG MITRASINOVIC

NAOKI TERADA

NIGEL ANTHONY READING

TOHRU HORIGUCHI

TOM VEREBES

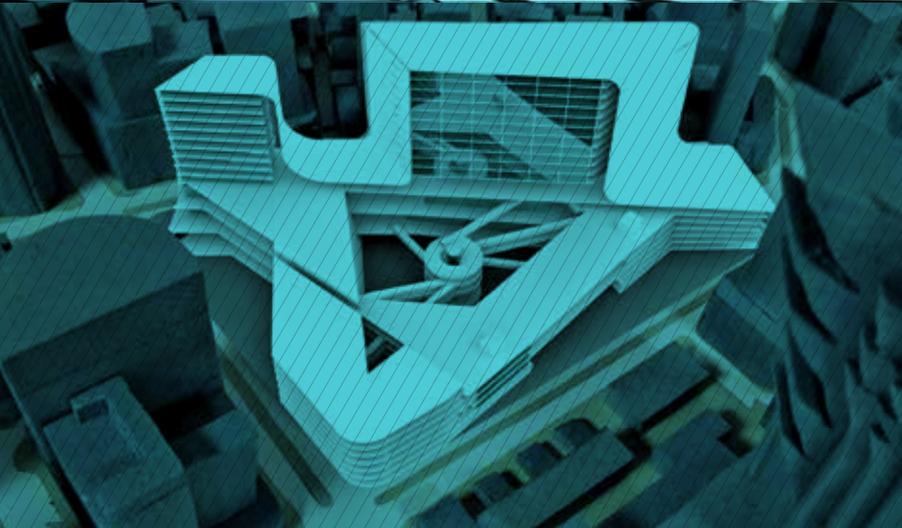
RICHARD ENGELHARDT

RODOLPHE EL-KHOURY

RUI FURTADO

# ARCHITECTURAL DESIGN

The core of the architectural program is the design studio, in which students are guided in the production of innovative proposals for the improvement of the Macau context. Combining hand drawing and modelmaking with advanced digital design and fabrication techniques, students learn to analyse a site and interpret architectural precedents as a basis for developing their own proposals. There is one studio per semester, providing a sequence of projects of increasing complexity across the duration of the program.



Central Core





# URBAN DESIGN



Across its history Macau has dramatically increased in surface area due to natural siltation and artificial land reclamations. Each historical reclamation has a distinct street grid and building morphology, reflecting changing ideas about city design over the decades. Each new reclamation therefore provides an opportunity for a fresh reimagining of what Macau – or indeed any city – might be. The urban design studios encourage students to challenge the exiting masterplans and imagine new ones, while thinking about the necessary and possible relationships between buildings and cities.







# DESIGN-BUILD STUDIO

PULSE PAVILION (2013)



Designed and built by students (Luis Antunes, Miguel Augusto, Anna Baturkina, Chan Wai Hou, Chris Chang, Kelvin Cheang, James Cheung, Benny Chu, Rolan Franco, Gabriel Marques, Ronald Lam, Nestor San Valentin, Rico Tam, Francisco Tam Silveirinha, Sophia Yuen) led by guest professors Kristof Crolla and Dannes Kok, the Pulse Pavilion was a temporary structure located at Plaza Sai Van. An inhabitable sculpture, it was an organic lattice structure created from split bamboo rods, interwoven with fabric panels, and featuring an interactive LED lighting system. By applying advanced parametric software techniques to vernacular construction methods and materials, the pavilion was intended as a reinterpretation of the local building culture and simultaneously a response to the iconic architectural forms and dynamic lighting effects that define Macau's contemporary visual identity.



# DESIGN-BUILD STUDIO

BLOOM PAVILION (2014)



Designed and built by students (Ka Fai Chao, Kokou Eloa Mawuia Defly, Jasmine Ao, Yana Stepanenko, Ian Kan Tam, Choi Peng Ma, Chon Kit Im, Ka U Ma, Claire Alexis May Jurado, Ka Wai Ng, Wai Kuan Lei, Man Tak Choi, David Spilka, U Leng Kam, Sophia Yuen) led by guest professors Jason Dembski and João Palla Martins, the Bloom Pavilion was a temporary structure located on a pier at the edge of Sai Van Lake. Constructed from split bamboo rods and volumetric fabric panels, the pavilion comprises three woven basket “trunks” that merge into an overhead canopy. The tallest of the trunks emerged from the lake, while other two sat on the pier. A computer-controlled LED lighting system wrapped the trunks, synchronized with a sound installation from hidden speakers. Cumulatively, these elements create an ambiguous spatial experience that merged land, water, and sky.



# WATERLINK WORKSHOP

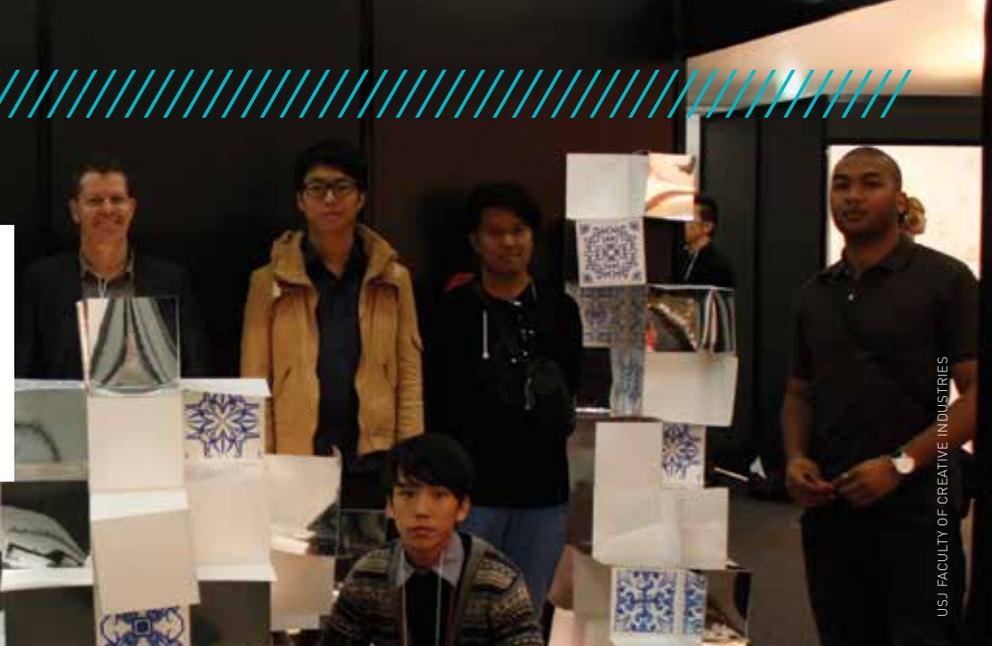


Co-organized by CURB Center for Architecture and Urbanism and the University of Coimbra, the Waterlink workshop brought together architecture students from Portugal and from the University of Saint Joseph in Macau for a five-day workshop to explore the city/water interface in the NAPE area of Macau. The task was the design of a Light Rail Transit station at NAPE, integrated with a public space in close proximity to the waterfront. This was undertaken as a workshop studio comprising lectures, tutorials, design proposals, and discussions, culminating in a public presentation at the Waterlink Roundtable.



# TOKYO DESIGNERS WEEK 2013

The USJ Architecture program was invited to participate in Tokyo Designers Week 2013, a prestigious gathering of designers and students from all across Asia. A group of six USJ students visited Japan to build a large installation comprising cardboard cubes, bamboo sculptures, Portuguese tiles, mirrors, and LED lights. It was a demonstration of many of the issues that architects in Macau must deal with: high-density housing, modular construction, iconic forms, and spectacular light shows.



USJ ARCHITECTURE

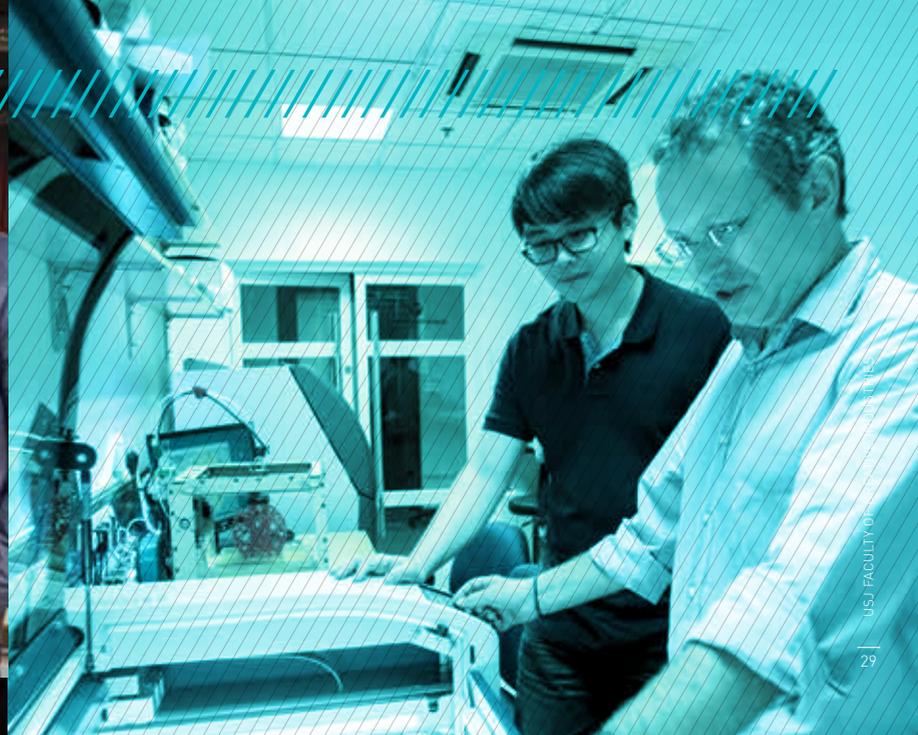
USJ FACULTY OF CREATIVE INDUSTRIES



A collaboration between Architecture Sans Frontières Macau and the University of Saint Joseph, the School Reconstruction Design Bootcamp was an intensive workshop focused on reconstruction efforts in Southeast Asia following Typhoon Haiyan. Students, architects, and others from the Macau community worked together to create proposals for the design of a two-classroom school building in Punta Cogon barangay, which is located within Roxas City on the Western Visayas islands in the Philippines. Funding efforts were successful, and the building will be constructed.

## SCHOOL RECONSTRUCTION DESIGN BOOTCAMP

# FACILITIES



USJ architecture students have access to a wide range of material and equipment. In addition to the main design studio spaces, there is a workshop with a range of tools for building models and full-scale mockups. The university library holds a good selection of architecture and design books. New iMac computers are provided in the computer lab, each of which is installed with the essential software applications for 2D and 3D design, including Adobe Creative Suite, AutoCAD, and Rhino. The fabrication studio contains state-of-the-art equipment for model making and rapid prototyping, including an Epilog Fusion 32 laser cutter, a Roland GX-24 vinyl cutter, and a ProJet 160 3D printer. The IT support team is available to provide tutorials and technical support.

# GREEN CAMPUS



USJ will soon move into a new campus, which is currently under construction in the Ilha Verde district. Designed by renowned Japanese architect Koji Yagi and executed by local office MPS, the campus will be a showpiece of sustainable architecture. Based on sustainable building principles intended to minimize wastage and energy consumption, the campus technology comprises a mixture of passive systems (rainwater harvesting and recycling, ledger green strips and fins, roof gardens, low-transmission glazing) and active systems (solar panels, energy recovery in ventilation and chiller ducts, low-consumption LED lighting). It will be an inspiring location for the education of the next generation of Macau architects.



BASEMENT FLOOR PLAN



GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN



FOURTH FLOOR PLAN



ROOF PLAN

As the first and only architecture program in Macau, the University of Saint Joseph Bachelor of Architecture degree enables students to develop the creative abilities and technical skills necessary to become an effective and respected professional in Macau and the wider world. Addressing the full spectrum of relevant technological, urban, economic, environmental, social, theoretical, and historical issues, the curriculum emphasizes ethics as well as expertise, requiring students to constantly evaluate the consequences of their work on the built environment and the natural world. Topics range from contemporary digital design techniques to architectural heritage preservation, and the entire course is founded on an appreciation of the importance of sustainability and resource conservation. The course is taught by a mixture of local faculty members and visiting professors. All are internationally recognized professionals, thereby providing the opportunity to develop architectural skills in a global context.



UNIVERSITY OF SAINT JOSEPH

聖若瑟大學

RUA DE LONDRES 16 (NAPE)

MACAU SAR (CHINA)

澳門外港新填海區倫敦街16號 (環宇豪庭)

**Department of Architecture and Design**

Faculty of Creative Industries

University of saint joseph

T +853 8796 4400

F +853 2872 5517

WWW.USJ.EDU.MO