



كلية الهندسة
College of Engineering
QATAR UNIVERSITY جامعة قطر

al-Imara

العمارة

Newsletter of the Department of Architecture and Urban Planning

www.qu.edu.qa/engineering/architecture/

Volume 1, Issue 1 | Spring 2018

NAAB Team Focused Visit to DAUP

The Department of Architecture and Urban Planning in Qatar University is expecting its third and final visit from the NAAB (National Architectural Accrediting Board) Team as part of the Substantial Equivalency process for the DAUP Bachelor of Architecture (B.Arch) Program. The term "Substantial Equivalency" identifies a program as comparable in educational outcomes in all significant aspects to a program accredited by NAAB, and provides an educational experience meeting acceptable standards, even though such program may differ in format or method of delivery. The designation is valid for six years beginning 1 January of the year in which the final visit took place. In order to maintain the designation, the program must be visited again in the sixth year of the designation. The department has prepared its team room with projects from selected courses for the NAAB Team to review during the visit. The projects range from design studio to project management to materials/methods of construction. The department aims to achieve its vision to be the leading provider of education and research for the disciplines of the built environment in the Middle East. It aims to provide high quality

education and supportive learning environment for its students. The NAAB Substantial Equivalency helps maintain a high standard of education for our students and ensures that our students hold internationally competent degrees.

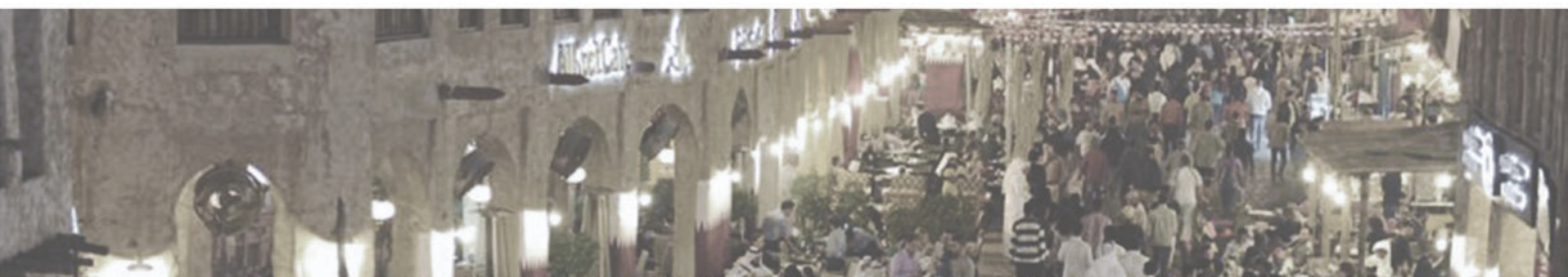


WELCOME MESSAGE FROM THE COLLEGE OF ENGINEERING DEAN



I am pleased to start this week with the proud announcement of our Department of Architecture and Urban Planning launch of its first newsletter issue. I am confident that DAUP will strive to present the most useful and interesting information in each issue; the department always surprises us with creative events and innovative works. We hope the university and the rest of the colleges will enjoy this new way of keeping everyone informed about the exciting news of the department's faculty, students, and alumni.

Dean Khalifa Al-Khalifa, College of Engineering



From the Head of Department



Welcome to al-Imara, the inaugural newsletter of the Department of Architecture and Urban Planning (DAUP) in the College of Engineering (CENG) at Qatar University!

We are very excited about the opportunities this quarterly newsletter will provide to communicate the latest news and events about our department, faculty/staff, research projects, and student work to industry partners in Qatar and abroad as well as fellow colleagues in other departments and colleges at Qatar University. There are exciting things happening in the DAUP from innovative student work in design studios to vital findings in research conducted in the built environment related disciplines.

Our students and staff work extremely hard every day with great results that cannot be solely measured in terms of grades or publications. The built environment affects almost everyone in the world in every day of their lives. What we do, what we teach and what we learn is vital to human society from the smallest village to the largest metropolis and from the humblest dwelling to the grandest architectural expression. It is only natural that we want to share the fruits of our labor with everyone else outside of our department, especially the work of our students.

As we prepare for the National Architectural Accreditation Board (NAAB) Third Visit to our department by the end of this month, it is important to remember that any department at any university in the world is only as strong as its students and, from where I am sitting, our department is extremely strong and the future is very bright, indeed...Enjoy this inaugural issue!

*Dr. Fodil Fadli
1 March 2018*

ABOUT THIS ISSUE OF AL-IMARA

From the Editor



Welcome!

A sketch of a project that echoes our desire and common resolve as faculty and students to have a vast horizon for ourselves here at Qatar University's Department of Architecture and Urban Planning. A quarterly publication, a canvas for insights, a Moleskine sketchbook for everything farther. A garden of Eden for praise and achievements, from the remarkable works of our students to the curious reflections of our faculty, from the wonders of architecture, design, urbanism, and research, to the detailed narratives of their projects and ideas. On the first time ink meets its paper, and on its inaugural issue; to us all, and to the rest of Qatar University, let me give you; *al-Imara*.

*Architect Heba Elgahani
1 March 2018*

العمارة *al-Imara*

Newsletter of the

Department of Architecture and Urban Planning

Volume 1, Issue 1 | Spring 2018

Published by

Department of Architecture and Urban Planning
College of Engineering
Qatar University
P.O. Box 2713
Doha, Qatar

Tel: +974 4403 4362
Fax: +974 4403 4341
Email: architecture-urban@qu.edu.qa
Web: www.qu.edu.qa/engineering/architecture/

Head of Department: Dr. Fodil Fadli
Editor: Heba Elgahani
Layout: Dr. Mark David Major
Heba Elgahani

DAUP Magazine and Newsletter Team

Dr. Mark David Major (Chair), Dr. Madhavi Indraganti,
Sultana Al-Nabet, Heba Elgahani, Dina Saleh

Copyright © 2018 Qatar University

UPCOMING EVENTS

March: QU-AIAS Logo Design Competition
Submission Date
Sunday, 18 March 2017

Public Workshop #2
Wednesday, March 21, 2018
CENG, C07-178
Remote Sensing in Design & Planning

NAAB Team Focused Visit
Saturday to Tuesday
24-27 March 2018
Various venues; see email announcements

QU-AIAS Architect of the Month
April 2018

April: QU-AIAS Logo Design Competition
Submission Date
Sunday, 22 April 2018

Mid-Spring Vacation
Friday, 6 April to Saturday, April 14

Public Lecture #3
Monday, 16 April 2018
12:30-1:30 pm
CENG, C07-178
Building Information Modeling for Tomorrow's Professional
Dr. Ahmad Mohammed Ahmad

RIBA Gold Medal Exhibition
Sunday, 25 April 2018
DAUP, Qatar University

Public Lecture #2
Monday, 26 April 2018
12:30-1:30 pm
CENG, C07-178
Thermal Delight in Architecture: Are We Missing a Vital Link Now?
Dr. Madhavi Indraganti

Architecture Day
Thursday, 3 May 2018
DAUP, Qatar University

Public Lecture #4
Monday, 7 May 2018
12:30-1:30 pm
CENG, C07-178
Professional Practice in Doha Today
Velina Mirincheva, ARRUS/Makower Architects

Stay tuned for more event announcements!

GET TO KNOW

Professor Kas Oosterhuis

On a discussion with Professor Kas Oosterhuis, Dina Saleh was able to ask him three brief questions to get to know him.

Professor Kas Oosterhuis has recently been appointed as a full professor of Architecture & Urban Design at the DAUP at Qatar University. Kas Oosterhuis is both a visionary and a practising designer, leading the innovation studio ONL and the Hyperbody research group at the TU Delft and more recently, the Hyperbody Qatar [HQ] Lab at Qatar University.

Environments at all scales – from furniture to buildings to cities – are considered complex adaptive systems, both in terms of their complex geometry and their behavior in time.



Who was your architecture role model when you were a student?

I believe the most influential project – and therewith the author – is the New Babylon project by the Dutch artist Constant. But back then in the 70s there were more heroes, like Superstudio, Archizoom.

How is your experience of teaching at Qatar University?

Apart from the soft protectiveness from almost everyone towards everyone, disguised in a comprehensive set of procedures, I enjoy working with smart, motivated, strong students.

What are you passionate about?

Abstract art, radical architecture, parametric design to robotic production, and not surprisingly for those who know me: the advancements in the fields of quantum physics.

TEACHING FOCUS

Welcome to New DAUP Faculty & Staff

By *Sultana Al-Nabet*

We would like to welcome the new members of the Department of Architecture and Urban Planning: Kasper Oosterhuis, Mark David Major, Madhavi Indraganti, Ahmad Mohammad Ahmad, Samer Osman, and Velina Mirincheva. Welcome to our family!

Professor Kasper Oosterhuis joins us from Delft University in The Netherlands, where he was a successful in teaching and professional practice.

Dr. Mark David Major joins the department after previously serving at the Savannah College of Art and Design in Savannah, Georgia USA and The Bartlett School of Architecture and Planning at University College London, UK.



Our new Fulbright Scholar is **Dr. Madhavi Indraganti**. She comes from the Prince Sultan University in Saudi Arabia. She is a Japan Society for Promotion of Science Fellow. She researches on thermal comfort, clothing insulation, and vernacular architecture in Qatar and other places. She has 25 years of teaching, research, and professional experience. Her current research focus is occupant comfort in offices. **Dr. Ahmad Mohammad Ahmad** has more than 10 years of experience in teaching, research, and professional practice. He has worked on several research projects such as the Health and Care Infrastructure Research and Innovation Centre and Qatar Building Information Modelling (BIM) project. He has worked on the strategic implementation of BIM at the Atkins Global



Design and Engineering Division in London. His area of teaching and research interest includes architectural design, sustainable building design, Building Information Modelling (BIM).

Architect **Samer M. Osman** is the newest Teaching Assistant in the department. He has 17 years of professional practice specializing in architectural design, and construction development.



His most recent project was the Qatari National Library for which he served as a senior architect in collaboration with Rem Koolhaas' internationally recognized firm, OMA. He has worked with Louis Berger, Qatar Foundation in Doha. Architect **Abdulla Al-Nuaimi** is a graduate of the College of Architecture, Planning, and Landscape Architecture at the University of Arizona in Tucson, USA. Abdulla has earned a NAAB-accredited Bachelor of Architecture in 2015 and a Master of Science in Architecture in 2017. Design-oriented, Abdulla's research interests include developing fresh, innovative design methodologies for sustainable architecture.



Our Part-time Professional Instructor for Design Studios is **Velina Mirincheva**. She is the Principal at ARRUS and an Associate at Makower Architects, where she is responsible for the management and delivery of Doha projects, working directly with clients, and overseeing the design process. She also holds a Master of Science in the Built Environment (Advanced Architectural Studies) (with Distinction) from University College London, UK.



STUDENT FOCUS

QU-AIAS Association in DAUP!

It's been four years since I joined the Architecture and Urban Planning family. At first, my main goal was to get the highest grades and concentrate only on the curriculum and my studies, I think this is the way that most of our freshmen think. But then I realized that the architecture and design field is a very special major that requires direct communication with the community. This allows us to understand the variety of lifestyles and cultures, which, of course, helps inform the design process of the architect. So, the goal has been modified to accommodate my studies as much as I can besides engaging in the social life too instead of limiting my learning experience to only getting the highest grades. To achieve that, I started to socialize more with my batch colleagues and participated in different events around the school.



The QU-AIAS helped me to interact more with other batches and formally participate in many events, such as the National Day events. In addition to that, I was the representative of my batch, thus I was able to help to raise my colleagues' voices and meet their needs by strengthening the communication between the students and instructors. Fortunately, I had a chance to lead, work, and overcome many challenges. Moreover, the QU-AIAS helped me as an architect in the design process. Understanding the project program and accommodating the users' needs of the project was directly affected by my experience in dealing with people through the association.

This semester, Spring 2018, I had the chance to become the QU-AIAS president. Until now, things have been going according to plan. In the last few weeks, we planned the 'reset event' to hand-over the presidency and the faculty mentor as well as a welcome event for the freshmen to encourage them to join the QU-AIAS. Also, it will be my pleasure to serve and enhance my colleagues' experience in the department and QU-AIAS by providing exciting social events, workshops, and seminars hosted by experts to the benefit of all the students.

QU-AIAS influences architecture students from different communities through competitions hosted by international firms, annual conferences, and social network competitions. Our mission is to advance leadership, design and community service



skills. Therefore, we distinguish the member from the rest of their peers through challenges to enhance their knowledge rather than only the design studios process. Our department is fortunate to host a Qatar University chapter of the American Institute of Architecture Students (AIAS) and our architecture students are lucky to have a opportunity to join an organization like the QU-AIAS as they are the only students eligible for this distinction in the State of Qatar.

Maryam Al-Kuwari
 QU-AIAS President
 Spring 2018

PROJECT FEATURE: SENIOR PROJECTS SPRING 2017

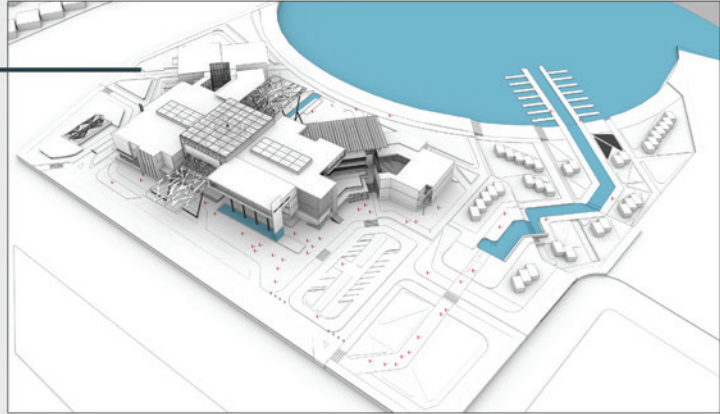
Doha's Medical Resort



Summary - This is a senior project by Nada Khalil, a graduate of Spring 2017. The project earned 1st place prize in the Senior Projects Competition held in the end of each academic year. The project is a medical resort that aims to be a destination for optimum health care for obesity and diabetes prevention and treatment in short and long terms. It provides luxurious and recreational facilities besides to its medical facilities.

WATER FEATURE

by using water feature and make it integrated with other site features to help reduce sun radiation on site



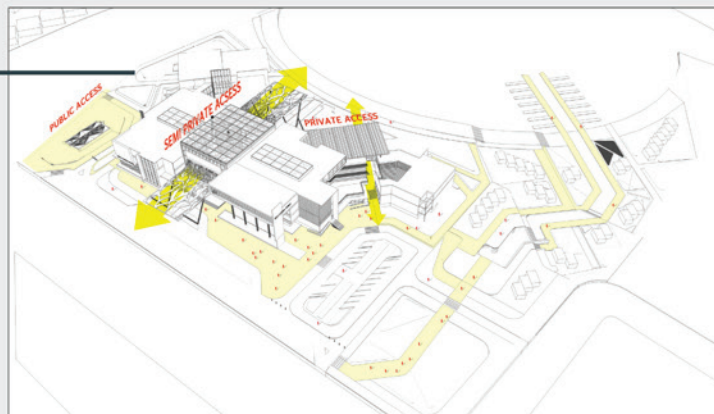
GREEN FEATURE

seeking to maximize efficiency and minimize impact while meeting the needs of its occupants. Green architecture is not a particular style of architecture but a thoughtful and holistic approach to design in which priorities and strategies must be developed



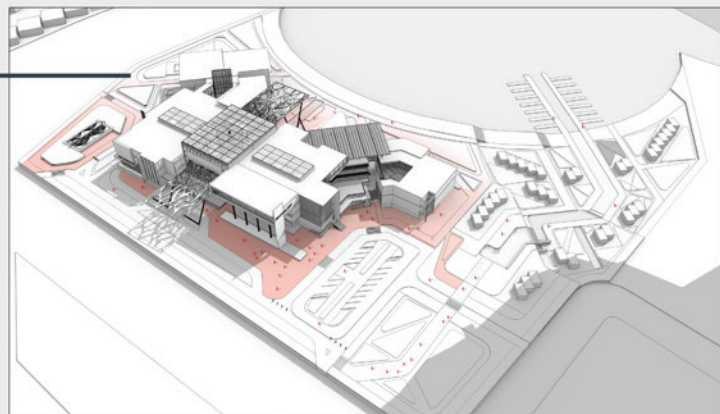
OUTDOOR SPACES

contribute to positive attitudes and social norms that encourage walking, while having close access to recreational facilities such as parks increases the likelihood that people will translate walking intentions into actual action



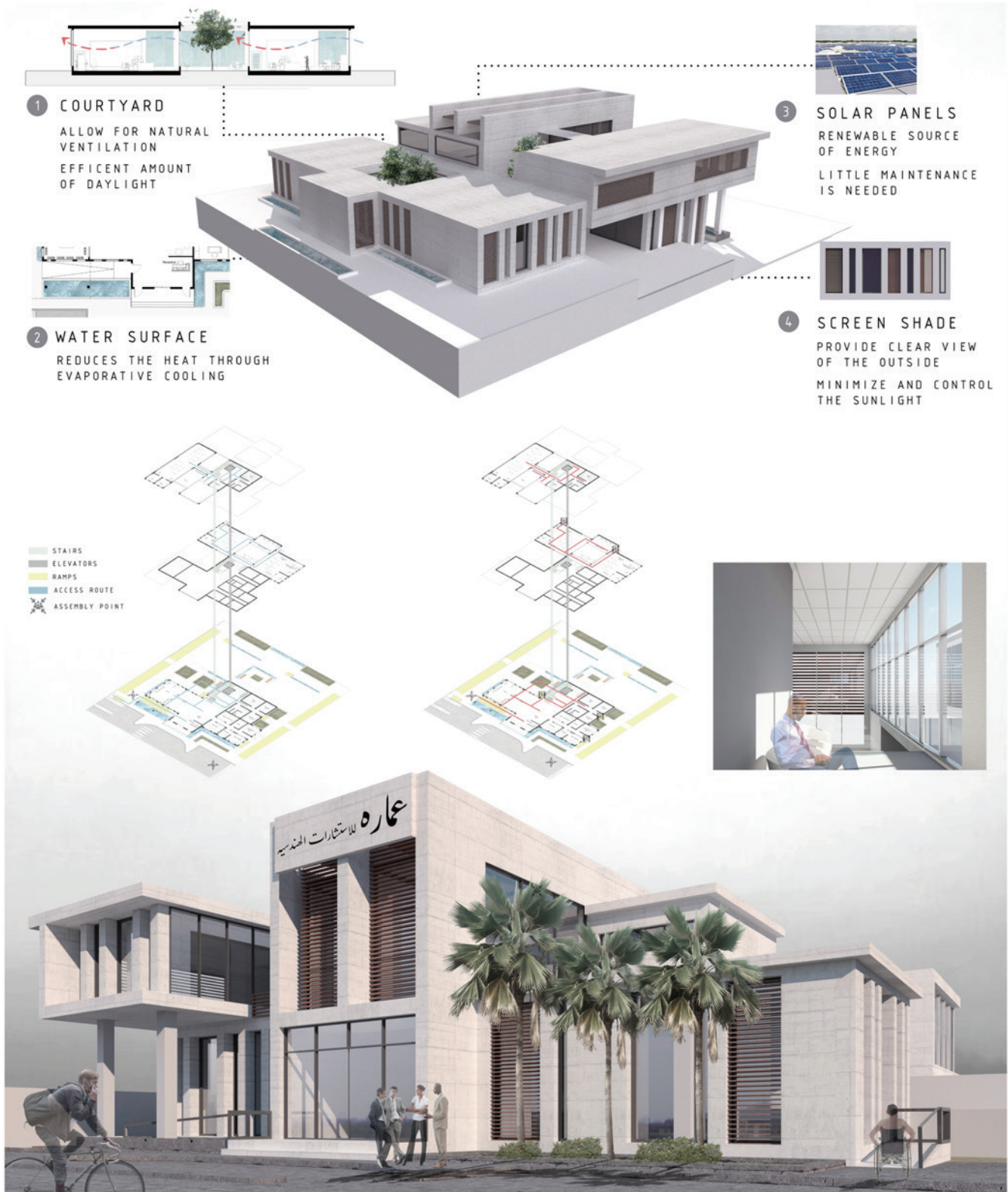
MOVEMENT MOTION

creating a plaza that can be operated as a single movement, or be cutten by shortcuts to minor loops creating new uses and movement with building, in addition to respecting the security zones (clinic and accomodation and the need of creating a building weher all the different programs could work inside



STUDENT WORK

Design Consultant Office

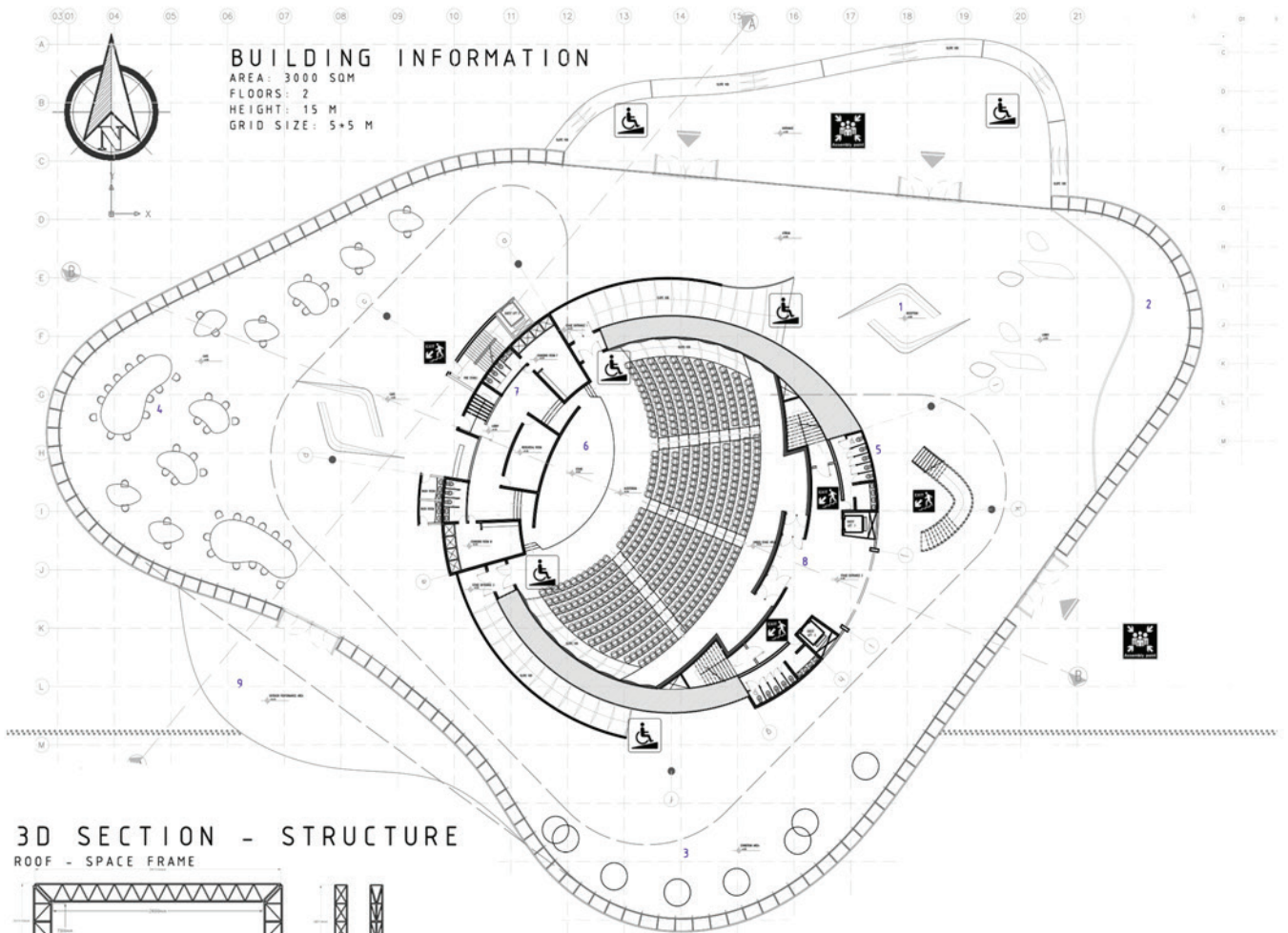


Summary - In Design Studio III Fall 2017, students were asked to develop a design for an architecture firm in Al-Markhiya area in Doha. This is the work of Afrah Al-Housaly, a third-year B.Arch student. Her design worked with the topography of the site, as well as the climatic condition, to provide suitable architectural solutions that are both effective and aesthetically appealing. Her work was one of the best among her batch!

STUDENT WORK

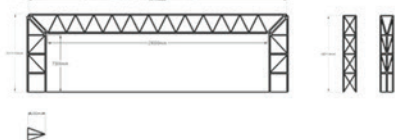
AlBahri Music Hall

GROUND FLOOR 1:100

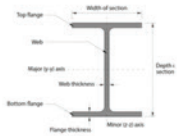


3D SECTION - STRUCTURE

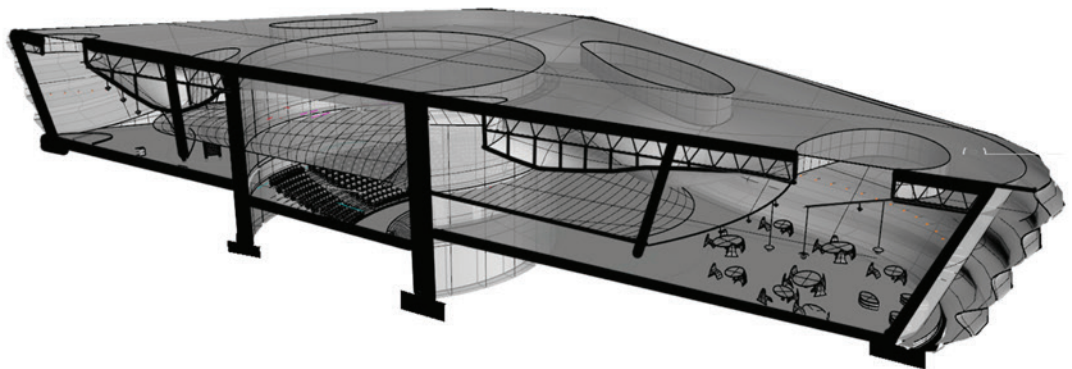
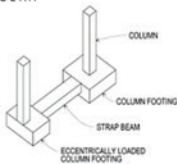
ROOF - SPACE FRAME



COLUMNS - steel



FOUNDATION - STRAP BEAM



Summary - Students in Design Studio V were introduced to urban design problems. The students work first in groups in the urban design stage, then take on individual projects and further detail them. This is the work on Nancy Makhoul. Her design concept was to reflect the pearl hunting journey through modern music and performance hall. She attempted to a non-conventional structural system to suit her dynamic form.

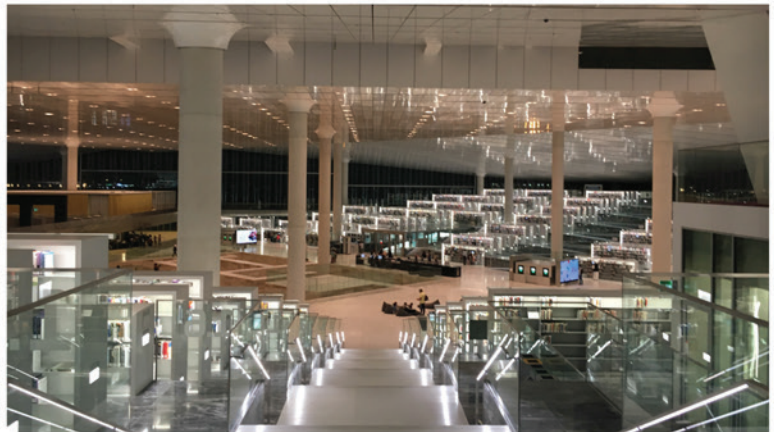
PHOTOGRAPHIC FEATURE | ARCHITECTURE IN FOCUS

Qatar National Library | OMA

Caption Qatar National Library (QNL) is an 'iconic' project designed by European firm OMA and architect Rem Koolhaas, which opened in Doha in 2017. QNL's massive rectangular footprint occupies a site in Education City though the architectural form in elevation and section is an elongated diamond-shape with the public entrance (G+1) to the library accessed underneath the vertex of the facades meet on the exterior building envelope.



Caption The principal interior (G+1 & 2) of QNL is a vast space (reflecting the large building footprint) where there is a sophisticated programmatic articulation of different library uses in different areas, most of which is highly visible and accessible to each other. This brings the library users into direct (through interaction) and indirect (through visibility) contact with each other during most of their visit.



Caption QNL features a beautifully-designed handicapped ramp to enable access from the main floor (G+1) to the library stacks arranged on a series of tiers from G+1 to G+2. The aesthetic chosen by OMA/Rem Koolhaas for this access ramp demonstrates how accessibility for the disabled can be deployed as a key design feature for an interior rather serving as a mere add-on to meet minimum requirements.



Caption - OMA/Rem Koolhaas' QNL design takes a common library use often hidden from the general public – secure rare books and manuscripts rooms – and transforms it into 'everyday theatre' for library patrons. The rooms on the ground level are opened vertically in section to viewing platforms with glass bannisters on the main library floor (G+1) so general public can see what is happening on library's most secure floor.

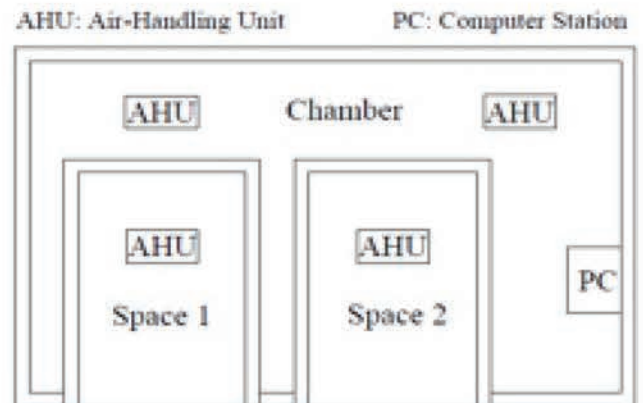


RESEARCH FOCUS

CO₂ Emissions Can Be Reduced with Shading and Lighting

By Dr. Djamel Ouahrani

Shading devices installed on windows are designed to reduce solar radiation transmission by absorbing and reflecting radiation rays. This study investigates the effect of shading and lighting controls when applied on fully-glazed facades on the annual energy savings in Qatar. The addition of fixed external shading devices to glazed surfaces reduces the space loads and sensations of visual discomfort caused by excessive day-lighting. The slat-to-slat separation distance of the brise-soleil blinds is crucial in controlling the beam and diffuse solar radiation penetration into the space. The selection of slat separation-to-width ratio should ensure total blockage of beam solar radiation. Consequently, the sun altitude determines the ratio that yields no discomfort glare; due to the country's latitude, this ratio has to be less than unity in south orientations and slightly larger than the sine of the slat inclination angle in east orientations. The proper selection of separation-to-width ratio leads to significant energy savings which, if integrated with lighting control for internal electric lights, may reach 39.5% and 36.6% in south and east-oriented Clear glazed façade offices, respectively. For a country with high greenhouse gas emissions, this simple energy-conservation measure also provides a cheap technique that is able to reduce CO₂ emissions by up to 52.7 kg/m²/year. Glazed surfaces are crucial in buildings' design and operation. In fact, people nowadays expect good natural lighting in workplaces especially as glazed façades have become more popular. However, among all components of the building envelope, these surfaces demonstrate



the weakest thermal performance. In this study, the addition of several shading devices to glazed façades is investigated through dynamic simulation and validated experimentally. Afterwards, shading and lighting controls are implemented in order to maximize cooling and lighting energy reductions without sacrificing the visual comfort caused by glare. A simulation model of a space with fully-glazed façade in one pre-determined orientation and integrated with a selected shading device on its exterior surface was developed on the dynamic simulation software. Actual experiments were carried out to assess the simulation accuracy in modeling the impact of shading devices. The experiments were conducted at the Energy Efficiency and Building Design Laboratory at Qatar University. It was concluded that the simulation model that combines shading devices with fully-glazed facades is able to consider their impact on the façade temperature and room energy consumption accurately, and could then be used to perform annual simulations on office spaces in hot climates.

News Bits

Professor Kasper Oosterhuis was awarded a QU Internal Concept Grant for "Multimodal Accommodations for the New International Citizen (MANIC)" and a CWSP Grant for the "Game Set and Match IV Conference" (CWSP13-C-1012-17044) in January 2018.

Dr. Mark David Major was awarded a QU Internal SEED Grant for "The Doha Syntax: A Configurational Model of Vehicular and Pedestrian Networks in Qatar's Capital" (QUSD-CENG-2018/2019-4) in January 2018. MUPD student **Heba Osama Tannous** has been hired as the Graduate Research Assistant for the research.

DAUP Faculty submitted 8 proposals of more than \$4.5 million dollars to the National Research Priorities Program (NRP) 11th Cycle of the Qatar National Research Foundation (QNRF) across a range of initiatives from BIG Data/Smart Growth, robotic printing, and relationship between obesity and the built environment to smart growth and energy use/efficiency in buildings in January 2018.

About QU-AIAS

The QU-AIAS is an independent, nonprofit, student-run organization dedicated to providing unmatched progressive programs, information, and resources on issues critical to architecture and the experience of education. The AIAS aims to promote excellence in architectural education, training, and practice; to foster an appreciation of architecture and related disciplines; to enrich communities in a spirit of collaboration; and to organize students and combine their efforts to advance the art and science of architecture. Our mission is advancing leadership, design, and service among architecture students.

QU-AIAS membership supports architecture students in our department but also across the United States and academic programs around the world. QU-AIAS promote excellence in architecture education, and training. Architectural practice is constantly evolving. A large part of that evolution happens in schools. A pedagogy that promotes experimentation and exploration above all. AIAS



members understand their role in the profession as leaders. Not the future of the profession but the now. Programs like Freedom by Design, CRIT and Grassroots mentorship empower students to own that role. We foster an appreciation of architecture, design and related disciplines in departmental events, annual gatherings, and regional conferences, providing students with the opportunity to learn about the issues facing our world, to meet students and professionals with common interests, and to interact with some of today's leading architects and designers.

QU-AIAS enrich communities in a spirit of collaboration through the Freedom by Design™ program and other community outreach, we are

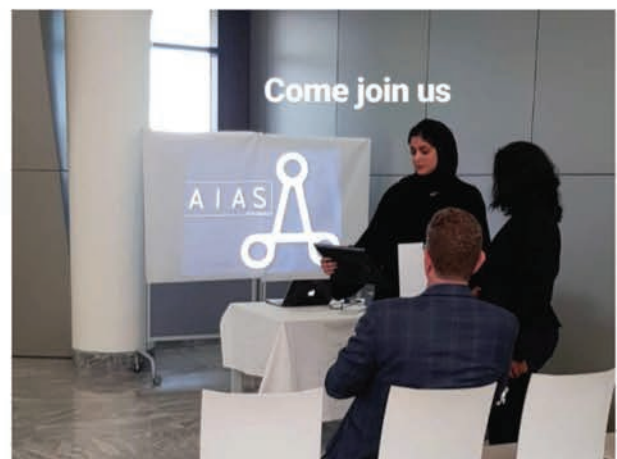
empower our members and students as a whole to be good citizens on their campuses and in their communities. We organize students and combine their efforts to advance the art and policy of architecture by being the sole student voice in the collateral discussion and decision making process that include The American Institute of Architects (AIA), The Association of Collegiate Schools of Architecture (ACSA), The National Council of Architecture Registration Boards (NCARB) and The National Architectural Accrediting Board (NAAB).

Join QU-AIAS and Get Involved Today!

Annual membership dues are \$60. You can join the QU-AIAS online at <http://www.aias.org/membership/#join>. Follow us on Instagram @aias_qu.

YOUR QU-AIAS LEADERSHIP TEAM

President	Maryam Bader Al-Kuwari
Vice President	Aisha Saad Al-Sulaiti
Secretary	Maryam Nasser A J Al-Nuaimi
Treasurer:	Alreem Al-Emadi
Board of Directors	
First Year Rep.	Shaikh Al-Thani
Second Year Rep.	Moza Al-Obaidan
Third Year Rep.	Afrah Al-Housaly
Fourth Year Rep.	Nancy Makhoul
Senior Rep.	Almaha Alyafei
Graduate Rep.	Fatima Shubar
Past President	Maryam Al-Darwish



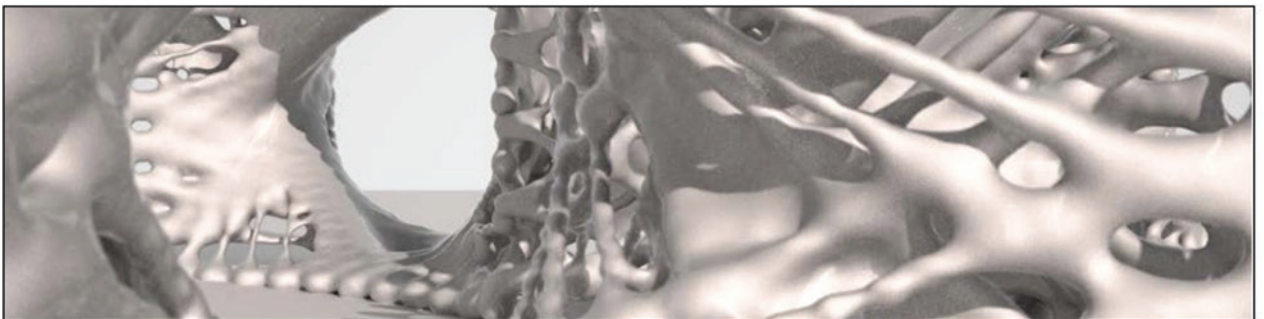
WORKSHOP ORGANIZED BY DAUP STUDIO 6

porocity
workshop
3D design
thinking

Design Studio VI 1,4,6 March + 25,27,29 March

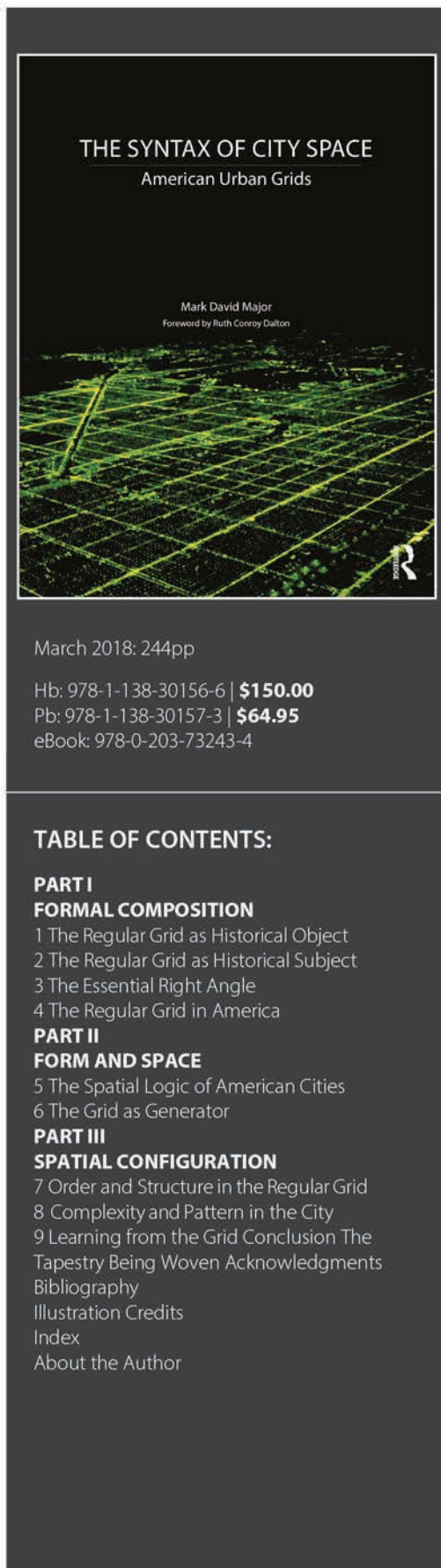


Workshop instructors: Ilona Lénárd + Yassmin Alkhasawneh



The interaction between analog and digital

thinking
3D design
workshop
porocity



THE SYNTAX OF CITY SPACE

American Urban Grids

Mark David Major
Foreword by Ruth Conroy Dalton

March 2018: 244pp

Hb: 978-1-138-30156-6 | **\$150.00**

Pb: 978-1-138-30157-3 | **\$64.95**

eBook: 978-0-203-73243-4

TABLE OF CONTENTS:

PART I

FORMAL COMPOSITION

- 1 The Regular Grid as Historical Object
- 2 The Regular Grid as Historical Subject
- 3 The Essential Right Angle
- 4 The Regular Grid in America

PART II

FORM AND SPACE

- 5 The Spatial Logic of American Cities
- 6 The Grid as Generator

PART III

SPATIAL CONFIGURATION

- 7 Order and Structure in the Regular Grid
- 8 Complexity and Pattern in the City
- 9 Learning from the Grid Conclusion The Tapestry Being Woven Acknowledgments Bibliography Illustration Credits Index About the Author

20% Discount with this Flyer

The Syntax of City Space

American Urban Grids

Mark David Major

The Syntax of City Space explores the urban morphology of American cities. It argues American cities do represent a radical departure in the history of town planning while, simultaneously, still being subject to the same processes linking the urban network and function found in other types of cities around the world. A historical preference for regularity in town planning had a profound influence on American urbanism, which endures to this day.

20% Discount Available - enter the code FLR40 at checkout*

Hb: 978-1-138-30156-6 | **\$120.00**

Pb: 978-1-138-30157-3 | **\$51.96**

** Offer cannot be used in conjunction with any other offer or discount and only applies to books purchased directly via our website.*

For more details, or to request a copy for review, please contact: Aja Harris, Marketing Assistant, Aja.Harris@taylorandfrancis.com