



# Universiti Tun Hussein Onn Malaysia

Is Rated as a Five-Star Institution













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#### Foreword from Vice Chancellor



Assalammualaikum Warahmatullahi Wabarakatuh and Greetings.

I would like to congratulate and welcome all students who will embark on the next important chapter of your life here at UTHM. We appreciate your trust for choosing to be with UTHM in continuing your endeavor for success in your life.

The Coronavirus Disease 2019 (Covid-19) has continue to deny new and current students the opportunity to experience higher education environment one would dream. The innovation of vaccines has given

us the ray of hope that would eventually allow us to do what we do best, i.e. educating the young and bright Malaysians like you.

I would like to highlight that UTHM has set four main pillars in order become a global technoprenuer university. They are Edu-Train, Technopreneur, UTHM Prihatin and Governance. At the heart of these pillars are the students and staffs who will be the driving force for success. As a new student to this university, it is my hope that you will participate and contribute to the mission of the university.

Nevertheless, UTHM will continue to strive in providing the best learning experience available. Academic programmes are continuously reviewed to ensure that the most recent educational initiatives are implemented. This is in line with the aspirations of the Ministry of Higher Education Malaysia in transforming learning and teaching process to be more flexible, organic, dynamic and effective. Additionally, initiatives such as High Impact Educational Practices (HIEPs), Future Ready Curriculum (FRC), Entrepreneurship Integrated Education (EIE) will take centre stage and shape the academic curriculum, which will increase the Graduate Employability (GE). These initiatives, coupled with dedicated academics and world class facilities will produce holistic graduates and later professionals, as promised in our tagline, 'UTHM Produces Professional".

On a final note, I would like to again welcome all students to our big family. I believe that you will become successful university graduates and will continue the university tradition of academic excellence. I am also confident that you will be able to apply knowledge and skills gained for the benefit of the society.

Best wishes.

Y. BHG. PROFESSOR DATUK Ts. Dr. WAHID BIN RAZZALY Vice Chancellor Universiti Tun Hussein Onn Malaysia

# Foreword from Deputy Vice Chancellor (Academic and International)





I would like to take this opportunity to congratulate and welcome all new students of the academic session 2021/2022 to Universiti Tun Hussein Onn Malaysia (UTHM). Similarly, my congratulations to the Centre for Academic Development and Training for successfully publishing this proforma in which can become a guide for the students to plan their learning journey at the university.

As everyone is aware, the Covid-19 pandemic has continued to change Malaysia's higher education landscape. All universities must adjust to the

new norm which affects the learning and teaching process. Students and lecturers are left with no other options than to continue with online classes. Thus, UTHM will continue to ensure quality education through innovative delivery and world class facilities so that no student will be left behind.

Apart from the above, the higher education in Malaysia has evolved from teacher-centered to student-centered learning. In addition, much initiatives have been rolled out towards the development of holistic and balanced graduates in terms of ethic, moral, knowledge, and skills. In order to improve the quality of learning and teaching, Industry Revolution 4.0 and work-based learning elements are embedded into the curriculum to ensure that academic programmes offered by UTHM continue to be relevant to the needs of current industry and market. Apart from that, knowledge and experience sharing between the key players of local and foreign industries in relation to industries and students as well as local community are delivered through CEO@Faculty programs.

UTHM with much effort and dedication will strive to become the champion of TVET. The existing academic programmes are aligned towards producing excellent TVET graduates. New programmes are developed to cater for new areas in TVET, which are seen to be the dominant workforce in Malaysia. It is hoped that all these efforts will further accelerate UTHM in becoming a global technopreneur university.

I do hope that all the initiatives which have been and will be rolled out by UTHM will give you valuable experiences in exploring knowledge and skills at UTHM. I would like to call out on you to take the opportunity to explore your own potential through various co-curricular activities and programmes prepared by UTHM. To achieve these aspirations, early preparations guided by this proforma will help you plan for your journey throughout your studies at UTHM. I hope you will be able to achieve excellent academic results and outstanding success.

Finally, I wish you all the best and pray that you will be successful in your studies at the university and be able to contribute to the development of the religion, race and nation.

"WITH WISDOM, WE EXPLORE"

**PROFESSOR Dr. AZME BIN KHAMIS**Deputy Vice Chancellor (Academic and International)
Universiti Tun Hussein Onn Malaysia

#### **Foreword from Dean**



Assalammualaikum Warahmatullahi Wabarakatuh and Greetings.

It is my pleasure to welcome you to Faculty of Civil Engineering and Built Environment (FKAAB) for academic session 2021/2022. You have made the right decision in choosing Universiti Tun Hussein Malaysia (UTHM) to pursue your undergraduate education. The university accredited academic programmes are some of the most sought-after programmes in the country.

The faculty through its Department of Architecture has put together this Proforma for students reference. The Proforma contains Plan of Study for Bachelor of Science in Architecture programme as well as synopsis of all courses offered in the curriculum. Apart from that, you will also find the list of Faculty members and staff with their expertise.

Students should familiarize with courses offered in the programme curriculum, and together with your academic and career advisor (PAK), ensure that your plan of study of every semester complies with UTHM Academic Regulations (Bachelor Degree and Diploma programmes) in effect. Some courses have pre-requisites of their own, as described in the synopsis of course. It is every student's responsibility to be aware of, and to comply with faculty and university regulations, policies, procedures and deadlines.

At times, continual quality improvement and other considerations may lead to changes to programme curriculum and its implementation; Faculty of Civil Engineering and Built Environment therefore reserves the right to make changes to the Proforma at any time.

The health crisis occasioned by COVID-19 pandemic has caused unprecedented social and economic disruption everywhere. In ensuring continuity of our teaching, learning and research activities, the Faculty continues to try its best to pursue these activities, which may include, among other things, online instructions.

I encourage you to take an active role in your own education. Strive for excellence in everything you do. The faculty will always assist and support you in the process of your education.

Best wishes for a successful academic year. #GTU2030

PROFESSOR Ir. Ts. Dr. MOHD IRWAN BIN JUKI

Faculty of Civil Engineering and Built Environment Universiti Tun Hussein Onn Malaysia



#### **Vision**

To be a global technical university in sustainable technology and transportation.

#### Mission

Provide technical solution for industry and community based on tauhidic paradigm.

## **Education Philosophy of University**

UTHM education and training, founded on the tauhidic paradigm, strive to produce competent, professional and entrepreneurial graduates, driven by advanced technologies for global development.

## Logo of University

The logo of UTHM displays a proton, a book, a tiered mortar board (levels of learning), a book-rest and a shield.

#### Symbolism:

Red Bravery
 Blue Collaboration
 Silver Quality/ Prestige
 Book-rest Knowledge

Proton Science and Technology

Book KnowledgeMortar board Levels of study

Circle Resilient and related to global characteristics

Shield Confidence

The whole concept of the logo represents UTHM as a learning institution that supports knowledge expansion and development at all levels of study in science and technology.

**Blue** represents the close relationship among UTHM community in ensuring successful and resilient implementations of the University programmes as well as its education and research activities that are carried out for the benefit of mankind.

**Red** symbolises the adventurous nature of UTHM in exploring new fields to establish itself as a leader in the applications of science and technology. Thus, this reflects the spirit and self-esteem of the UTHM community.

## Chancellor



**Duli Yang Maha Mulia Sultan Ibrahim Ibni Almarhum Sultan Iskandar** Sultan Yang Dipertuan Bagi Negeri Dan Jajahan Takluk Johor Darul Ta'zim D.K., D.K.(Pahang), SPMJ, SSIJ,S.M.N.,S.P.M.T., S.M.P.K., P.I.S.

## **Pro Chancellor I**



Duli Yang Amat Mulia Tunku Ismail Ibni Sultan Ibrahim Tunku Mahkota Johor (Crown Prince of Johor, TMJ) D.K., SPMJ, P.I.S

# **Pro Chancellor II**



YBhg. Tan Sri Dr. Ali Hamsa

## **Board of Directors of University**

#### Chairman

#### YBhg. Dato' Sri Ibrahim bin Ahmad

## **Members**

## YBhg. Prof. Datuk Ts. Dr. Wahid bin Razzaly

Vice Chancellor, Universiti Tun Hussein Onn Malaysia

## YB. Dato' (Dr.) Haji Nooh bin Gadot

Advisor, Johor Islamic Religious Council

## YBhg. Dato' Dr. Mohd. Padzil bin Hashim

Putra Business School, Universiti Putra Malaysia

## YBhg. Dato' Ir. Dr. Haji Abdul Rashid bin Maidin

Managing Director, Pusat Bertauliah Akademik Profesional KOSAS

## YBrs. Dr. Sharifah Adlina binti Syed Abdullah

Ministry of Finance Malaysia

#### YBrs. Mr. Shahril Anwar Mohd Yunos

Managing Partner, Virtus Capital Partners Sdn Bhd

## YBrs. Ts. Zainab binti Ahmad

Chief Director, Jabatan Pendidikan Politeknik dan Kolej Komuniti, Kementerian Pengajian Tinggi

## YBrs. Prof. Dr. Yusri bin Yusof

Professor, Universiti Tun Hussein Onn Malaysia

## YBrs. Puan Elain Lockman

Chief Executive Officer and Co-Founder, Ata Plus Sdn Bhd

## **Alternate Member**

## YBrs. Ts. Haji Mohamad Amin bin Hamat

Deputy Chief Director, Ministry of Higher Education

## Secretary

#### En. Abdul Halim bin Abdul Rahman

Registrar, Universiti Tun Hussein Onn Malaysia

#### **Members of Senate**

#### Chairman

## YBhg. Prof. Datuk Ts. Dr. Wahid bin Razzaly

Vice Chancellor

#### **Members**

## Prof. Dr. Azme bin Khamis

Deputy Vice Chancellor (Academic and International)

#### Prof. Dr. Mohd Shahir Shamsir bin Omar

Deputy Vice Chancellor (Research and Innovation)

#### Assoc. Prof. Ts. Dr. Lokman Hakim bin Ismail

Deputy Vice Chancellor (Student Affairs and Alumni)

## Assoc. Prof. Ts. Dr. Mohd Kamarulzaki bin Mustafa

Provost UTHM Pagoh Campus

#### Assoc. Prof. Dr. Mas Fawzi bin Mohd Ali

Assistant Vice Chancellor (Strategic Planning and Corporate Relations)

#### Prof. Dr. Shahruddin bin Mahzan @ Mohd Zin

Dean, Centre for Graduate Studies

#### Prof. Ir. Ts. Dr. Mohd Irwan bin Juki

Dean, Faculty of Civil Engineering and Built Environment

#### Assoc. Prof. Dr. Rosli bin Omar

Dean, Faculty of Electrical and Electronic Engineering

#### Assoc. Prof. Ir. Ts. Dr Bukhari bin Manshor

Dean, Faculty of Mechanical and Manufacturing Engineering

## Prof. Dr. Wan Fauzi@Fauziah binti Wan Yusoff

Dean, Faculty of Technology Management and Business

## Assoc. Prof. Ts. Dr. Abdul Rasid bin Abdul Razzaq

Dean, Faculty of Technical and Vocational Education

## Ts. Dr. Azizul Azhar bin Ramli

Dean, Faculty of Computer Science and Information Technology

#### Prof. Dr. Hashim bin Saim

Dean, Faculty of Applied Science and Technology

## Assoc. Prof. Dr. Jumadi bin Abdul Sukor

Dean, Faculty of Engineering Technology

#### Assoc. Prof. Dr. Mohamad Zaky bin Noh

Dean, Centre for Diploma Studies

## Assoc. Prof. Dr. Khairul Azman bin Mohamad Suhaimy

Dean, Centre for General Studies and Co-curricular

#### Assoc. Prof. Dr. Zailin Shah binti Yusoff

Dean, Centre for Language Studies

#### Prof. Dr. Erween bin Abdul Rahim

Director, Centre for Academic Development and Training

#### Assoc. Prof. Ts. Dr. Razali bin Hassan

Director, Malaysia Research Institute for Vocational Education and Training

#### Assoc. Prof. Dr. Amran bin Harun

Director, Institute for Social Transformation and Regional Development

#### Prof. Dr. Noridah binti Mohamad

Faculty of Civil Engineering and Built Environment

#### Prof. Dr. Mohammad Faiz Liew bin Abdullah

Faculty of Electrical and Electronic Engineering

## Prof. Ir. Dr. Md Saidin bin Wahab

Faculty of Mechanical and Manufacturing Engineering

#### Prof. Dr. Yusri bin Yusof

Faculty of Mechanical and Manufacturing Engineering

## Prof. Dr. Abdul Talib bin Bon

Faculty of Technology Management and Business

#### Prof. Ts. Dr. Rosziati binti Ibrahim

Faculty of Computer Science and Information Technology

#### Prof. Dr. Nazri bin Mohd Nawi

Faculty of Computer Science and Information Technology

## Prof. Dr. Rozaini bin Roslan

Faculty of Applied Science and Technology

#### Assoc. Prof. Dr. Abdul Mutalib bin Leman

Faculty of Engineering Technology

## Ir. Ts. Dr. Raha binti Abdul Rahman

Industry Fellow

## Assoc. Prof. Ts. Dr. Mohd. Farhan bin Md. Fudzee

Director, Information Technology Centre

## En. Abdul Halim bin Abdul Rahman

Registrar / Secretary of Senate

#### Mr. Norzaimi bin Hamisan

Bursar

#### Mdm. Zaharah binti Abd Samad

Chief Librarian

## Mdm. Norliah binti Yaakub

Head of Legal Advisor Office

## **Faculty of Civil Engineering and Built Environment**

#### **Vision**

To be a global technical university in sustainable technology and transportation.

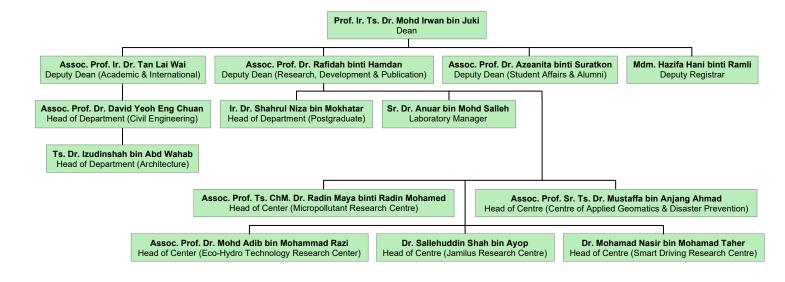
#### Mission

Provide technical solution for industry and community based on tauhidic paradigm.

Faculty of Civil Engineering and Built Environment (FKAAB), formerly known as Faculty of Civil and Environmental Engineering (FKAAS), was established on May 1, 2004 as a result of the merging of two departments, i.e. Department of Civil Engineering (Faculty of Engineering) and Department of Construction and Environmental Engineering Technology (Faculty of Engineering Technology). The Department of Civil Engineering dates back to September 13, 1993 when Polytechnic Staff Training Centre (PLSP) was set up, while Department of Construction and Environmental Engineering Technology was established on September 30, 2000 when Institut Teknologi Tun Hussein Onn (ITTHO) was upgraded to Kolej Universiti Teknologi Tun Hussein Onn (KUiTTHO) and subsequently to Universiti Tun Hussein Onn Malaysia (UTHM).

FKAAB offers academic programmes to students at bachelor and postgraduate levels. These programmes are specially designed towards achieving Faculty vision and mission. Boasting a pool of academicians and researchers with doctorates from all across the globe, including United Kingdom, Australia, Canada, Germany, Sweden, New Zealand, Japan and Hong Kong, FKAAB is a prime mover in conducting innovative and sustainable research in accordance with needs of the nation. With its top quality education and prowess in research and development, FKAAB strives to become a driving force in producing human capital, and a main center of reference in civil engineering and built environment. Qualities and global competitiveness of the programmes offered by FKAAB are proven with full accreditation by Board of Engineers Malaysia. The Board is full signatory of Washington Accord since June 18, 2009.

FKAAB consists of three (3) departments. The faculty is led by a Dean and assisted by three (3) Deputy Deans, as shown in the organisation chart.





Tel: +603 8688 3611 | Faks: +603 8688 3600

## **KETUA PEGAWAI EKSEKUTIF**

(Chief Executive Officer)

AGENSI KELAYAKAN MALAYSIA

(Malaysian Qualifications Agency) Mercu MQA

No. 3539, Jalan Teknokrat 7, Cyber 5 63000 Cyberjaya Selangor Darul Ehsan



FEB 2019 UTHM Naib Canselor

Ruj. Kami

MQA.600-2/2/5700 (

Tarikh

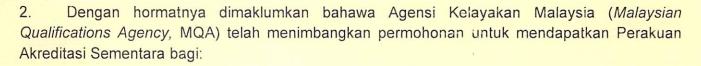
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Naib Canselor Universiti Tun Hussien Onn Malaysia (UTHM) Parit Raja 86400 Batu Pahat **JOHOR** 

Tuan,

## PERAKUAN AKREDITASI SEMENTARA

Perkara tersebut di atas adalah dirujuk.



Nama Program:

Sarjana Muda Sains Senibina (MQA / PA 8229)

Nama PPT:

Universiti Tun Hussien Onn Malaysia (UTHM)

Parit Raja

86400 Batu Pahat

Johor

- Selaras dengan Seksyen 39 Akta Agensi Kelayakan Malaysia 2007, MQA telah memutuskan untuk memberi Perakuan Akreditasi Sementara bermula dari 4 Februari 2019 hingga 30 September 2020.
- Perakuan Akreditasi Sementara ini tidak mernbawa maksud apa-apa jua pengiktirafan daripada Lembaga Arkitek Malaysia.
- Pihak tuan dinasihatkan untuk meningkatkan lagi kualiti pengendalian program ke arah mendapat Akreditasi Penuh. MQA boleh melaksanakan pemantauan program tersebut dalam tempoh Perakuan Akreditasi Sementara diberikan.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan amanah,

Sesation hal tuans

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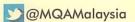
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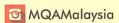
Emel: rahmah@mqa.gov.my BA(KT)/HD/

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(CAD), UTH

ETUA PEGAWAI EKSEKUTIF ief Executive Officer)

AGENSI KELAYAKAN MALAYSIA

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Ruj. Kami

: MQA. 600-2/2/5700 ( >\ )

Tarikh

September 2020

Naib Canselor Universiti Tun Hussein Onn Malaysia (UTHM) Parit Raja 86400 Batu Pahat Johor

Tuan,

PERMOHONAN PELANJUTAN PERAKUAN AKREDITASI SEMENTARA BAGI PROGRAM SARJANA MUDA SAINS SENIBINA (MQA/PA 8229)

Perkara tersebut di atas adalah dirujuk.

- segala hormatnya saya merujuk kepada surat tuan 2. Dengan UTHM/BPA/100-30/6/3 Jld.24(50) bertarikh 5 Julai 2020 dan e-mel 26 Ogos 2020 bertarikh berhubung perkara tersebut di atas.
- Pihak Agensi Kelayakan Malaysia (Malaysian Qualifications Agency, MQA) telah meneliti permohonan pelanjutan tempoh Perakuan Akreditasi Sementara bagi program tersebut di atas. Berdasarkan semakan, pihak MQA bersetuju untuk melanjutkan tempoh Perakuan Akreditasi Sementara bermula 1 Oktober 2020 hingga 30 September 2021.
- Sehubungan itu, sukacita dimaklumkan bahawa segala syarat dan peraturan mengenai Perakuan Akreditasi Sementara yang dinyatakan melalui surat dengan rujukan MQA.600-2/2/5700(1) bertarikh 18 Februari 2019 adalah dikekalkan dan terpakai sehingga tempoh Perakuan Akreditasi Sementara ini tamat.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Yang benar,

PROF. DATO' DR. HUSAINI BIN OMAR

BA(4) / Nurfauzan / rozana

PROF. DR. ISMAIL BUN BOUL RAHMAN Timbalan Naib Cansalor Akademik & Antarabangsa) Universiti Tun Huseeln Olin Malaysia

PLAME + CAD

SEP 2020

UTHM Naib Canselor









# LEMBAGA ARKITEK MALAYSIA

(Board of Architects Malaysia) Tingkal 17, Blok F. Iou Pejabat JKR Jalan Sullan Salahuddin 50582 Kuala Lumpur Ajamai Pos Fen Surat 12695 50786 Kuais Lumpui

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E-mail: info@lam.gov.my YM.vag.msl.www: Web

Ruj. Tuan: UTHM/FKAAS/600-3/12 Jilid 2 (29)

Ruj. Kami: LAM 171N(F)(Pt I)

Prof. Madya Dr. Abd. Halid Abdullah Dekan Fakulti Kejuruteraan Awam dan Alam Sekitar Universiti Tun Hussein Onn Malaysia 86400 Parit Raja, Batu Pahat Johor Darul Ta'zim

Iun 2015 ERIMA 29 JUN 2015 Fakulii Kejuruteraan Awam Dan Alam Sekhar

Tuan,

PERMOHONAN KELULUSAN MELAKSANAKAN PROGRAM

PROGRAM: SARJANA MUDA SAINS SENIBINA

INSTITUSI : UNIVERSITI TUN HUSSEIN ONN MALAYSIA (UTHM)

Dengan segala hormatnya saya diarah merujuk kepada surat tuan berhubung perkara yang tersebut di atas.

Bersama-sama ini dikemukakan Ulasan Kelulusan Program Sarjana Muda Sains Senibina UTHM yang disediakan oleh Majlis Akreditasi dan Pendidikan Senibina Malaysia (MAPSM), Lembaga Arkitek Malaysia (LAM) mengenai program di atas. Pihak tuan diminta menjelaskan bayaran sebanyak RM6500 sebagai yuran bagi Permohonan Kelulusan Program melalui cek atau draf bank atas nama 'Lembaga Arkitek Malaysia'.

LAM ingin menarik perhatian tuan mengenai keperluan mengemukakan permohonan bagi kelulusan melaksanakan program melalui pihak Agensi Kelayakan Malaysia (MQA) sepertimana yang dinyatakan di bawah seksyen 38 Akta Agensi Kelayakan Malaysia 2007 (Akta 679).

Sekian, terima kasih.

Yang benar,

(ESAH ABDULLAH) b/p Setiausaha Kehormat

Majlis Akreditasi dan Pendidikan Senibina Malaysia

## **Bachelor of Science in Architecture**

## **Programme Advisors**

## **Adjunct Professor**

## Dato' Sri Ar. Dr. Amer Hamzah bin Mohd Yunus

Professional Architect Monitoring Committee, ASEAN Architect

## **Visiting Professor**

## Professor Dr. Magda Sibley

Cardiff University of UK

## **External Examiner**

## Dato' Ar. Dr. Ku Azhar Bin Ku Hassan

Director

Edasas Architect Sdn. Bhd.

## Ar. Kelvin Ong U-Lin

Principal Arkitek U-Lin

## **Industrial Advisors**

## Ar. Hj. Mustapha Bin Mohd Salleh

Managing Director Aliran Interiors Sdn. Bhd

## Ar. Hamdan Abdul Jamal

Principal

Hamdan Abdul Jamal Architect

#### **Faculty Staff**

## **Management & Administration**

#### Dean

#### Professor Ir. Ts. Dr. Mohd Irwan bin Juki

PhD(Civil Eng)(UiTM), MEng(Structure)(UTM), BEng(Hons)(Civil)(UTM)

## **Office Secretary**

#### Mdm. Noorhayati binti Othman

Dip(Executive Secretary)(UiTM)

## **Deputy Dean (Academic and International)**

#### Associate Professor Ir. Ts. Dr. Tan Lai Wai

PhD(Civil Eng)(McGill Univ), MEng(Civil-Hydraul & Hydrology)(UTM),

BEng(Hons)(Civil)(UTM), Dip(Civil Eng)(POLIMAS)

## **Deputy Dean (Research, Development and Publication)**

#### Associate Professor Ts. Dr. Rafidah binti Hamdan

PhD(Environmental Eng)(Univ. Leeds), MEng(Environmental)(UTM), BEng(Chemistry)(UTM)

#### **Deputy Dean (Student Affairs and Alumni)**

#### Associate Professor Ts. Dr. Azeanita binti Suratkon

PhD(Construction Mgmt)(Chiba University)(Japan), MSc(Construction Mgmt-Project Mgmt)(Heriot-Watt Univ), BSc(Building)(UTM), Dip(Quantity Surveying)(UTM)

#### Head, Department of Civil Engineering

#### Associate Professor Dr. David Yeoh Eng Chuan

PhD(Civil Eng)(Univ Canterbury), MEng(Civil & Structure)(UTM), BSc(Hons)(Civil Eng)(UTM), Dip(Edu)(UTM), Cert(Civil Eng)(PUO)

#### **Head, Department of Architecture**

## Ts. Dr. Izudinshah bin Abd Wahab

PhD(Civil Eng)(UTHM), MSc(Landscape Architecture)(USM), Bachelor(Architecture)(USM), BSc(Housing, Building & Planning)(USM)

## Head, Department of Postgraduate Studies

## Ir. Dr. Shahrul Niza bin Mokhatar

PhD(Civil & Structure Eng)(Kyushu Univ), MEng(Civil-Structural)(UTM), BEng(Hons)(Civil)(UTHM), DipEd(Civil Eng)(UTHM)

#### **Laboratory Manager**

## Sr. Dr. Anuar bin Mohd Salleh

PhD(Civil Eng)(UTHM), MSc(Land Surveying)(UTM), BSc(Land Surveying)(UTM)

#### **Head of Micropollutant Research Center (MPRC)**

## Associate Professor Ts. ChM. Dr. Radin Maya Saphira binti Radin Mohamed

PhD(Env Eng)(Murdoch Univ), MEng(Civil)(UTHM), BSc(Industrial Chemical)(UTM)

#### Head of Jamilus Research Center (JRC)

## Ir. Dr. Sallehuddin Shah bin Ayop

PhD(Civil Eng)(Heriot-Watt Univ), MEng(Civil-Structure)(UTM), BEng(Civil)(UTM)

#### **Head of Smart Driving Research Center (SDRC)**

## Dr. Mohammad Nasir bin Mohamad Taher

PhD(Civil Eng)(UTHM), MEng(Civil)(UTHM), BEng(Hons)(Civil)(UTHM)

Head of Applied Geomatics and Disaster Prevention (CAGeD)

## Associate Professor Sr. Ts. Dr. Mustaffa bin Anjang Ahmad

PhD(City Planning)(Univ Saga), MSc(Land Surveying)(UTM), BSc(Land Surveying)(UTM)

# Head of Eco-Hydro Technology Research Center (ECO-HYTECH) Associate Professor Dr. Mohd Adib bin Mohammad Razi

PhD(Civil Eng)(UiTM), MEng(Civil-Hydraul & Hydrology)(UTM), BEng(Civil)(UTM), Dip(Civil Eng)(UTM)

## Office Secretary

## Mdm. Juliana binti Mohd Sapuan

Dip(Office Mgmt & Tech)(UiTM)

## **Deputy Registrar**

#### Mdm. Hazifa Hani binti Ramli

Master(Public Administration)(UM), Bachelor(Law)(UM)

## **Senior Assistant Administrative Officer (Academic)**

#### Mdm. Siti Hasnah binti Hud

Dip(Public Administration)(UiTM)

## **Senior Assistant Administrative Officer (Post Graduate)**

## Mr. Rosmaidi bin Shahal

STPM(Afdzal Centre, Kluang)

## **Assistant Administrative Officer (Finance & Development)**

#### Mdm. Nor Sabariah binti Md Supadil

Dip(Business Studies-Mgmt)(PTSS)

## **Chief Administrative Assistant (Operational & Clerical)**

## Mr. Mohd Rawi bin Deris

STPM(Sultan Ismail College)

## Senior Administrative Assistant (Operational & Clerical)

#### Mdm. Norsaliza binti Salleh

Bachelor(Mgmt)(OUM)

## Senior Administrative Assistant (Operational & Clerical)

#### Mdm. Yasmin binti Bajuri

Dip(Public Administration)(UiTM)

## **Senior Administrative Assistant (Operational & Clerical)**

## Mdm. Rafpidah binti Sarji

STPM(SMK Tun Sardon)

## **Senior Administrative Assistant (Operational & Clerical)**

#### Mr. Zamri bin Ahmad

Dip(Electronic Eng)(MIDAS Tech Inst)

## **Administrative Assistant (Operational & Clerical)**

#### Mr. Khairol Azmi bin Kamsiran

Dip(Corporate Exec)(DMDI Int College)

## **Office General Assistant**

Mr. Mohd Afiq Maula Fauzi

SPM(SMK Sri Gading)

#### **Department of Architecture: Academic Staff**

#### Dr. Izudinshah bin Abd Wahab

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#### Mdm. Zamra binti Jasman

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## Mdm. Asmah binti Ibrahim

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#### Mr. Mohd Bahtiar bin Mohd Basri

Cert(Civil Eng-Construction)(POLISAS)

## Mr. Mohd Khairi bin Zainal

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Cert(Quantity Surveying)(POLIMAS)

## Mr. Shaiful Hisham bin Saaban

STPM(Dato Menteri Air Hitam, Batu Pahat)

## Name of Programme

## **Bachelor of Science in Architecture**

## **Aims of Programme**

The Bachelor of Science in Architecture programme offered by Faculty of Civil Engineering and Built Environment (FKAAB) aims to produce inventive and creative graduates with good understanding and awareness on the technical aspects of construction within the architectural scope along with strong basic understanding on engineering aspects.

## **Programme Educational Objectives (PEO)**

The Bachelor of Science in Architecture programme prepares graduates who are capable to:

- PEO 1 Fulfill architectural industrial requirements based on the knowledge and skills acquired.
- PEO 2 Propose ideas on architectural issues effectively and display good leadership quality.
- PEO 3 Design marketable architectural ideas creatively and innovatively.
- PEO 4 Practice professional responsibilities ethically through the engagement of lifelong learning.

# **Programme Learning Outcomes (PLO)**

By the time of graduations, students of the Bachelor of Science in Architecture programme are expected to know and be able to:

PLO	Key Idea	Description	Primary domain
1	Architectural <u>K</u> nowledge (K)	Demonstrate understanding on cultural, historical and theories of architecture, philosophical and contextual elements in various architectural scenarios and community scale.	Cognitive
2	Practical / Technical Skills/ Modern Tool Usage (PS)	Produce comprehensive solution to various types of practical problems in architecture by performing appropriate analysis, investigation and design process.	Cognitive
3	<u>Critical Thinking</u> and <u>Problem</u> <u>Solving /</u> Investigation (CTPS)	Demonstrate creativity, innovation and imagination in addressing specific issues or problems in planning or obtaining a feasible solution	Psychomotor
4	Individual / <u>T</u> eam <u>W</u> ork (TW)	Work and function effectively in any social structure and able to take part in carrying out tasks in a team.	Affective
5	Communication Skills (CS)	Use effective visual, verbal, and written communication media to communicate convincing design solutions using appropriate architectural approaches.	Affective
6	<u>Digital Skills (DS)</u>	Appropriately access, apply and integrate digital facilities and resources; to construct new knowledge as well as design media presentation skills	Psychomotor
7	Numerical Skills (NS)	Demonstrate ability to express ideas and situations using numerical information.	Psychomotor
8	Leadership Skills / Project Management and Finance (LS)	Manage a working team in delivering architectural tasks efficiently.	Affective
9	<u>L</u> ife Long <u>L</u> earning (LL)	Continuous and voluntarily engage and motivated to keep abreast in knowledge with the latest developments in the field of architecture	Affective
10	Entrepreneurship Skills (ES)	Look for opportunities and use appropriate skills towards self-sustainability.	Psychomotor
11	<u>Et</u> hics and Professionalism Values (ET)	Portray appropriate character according to the ethical, professionalism and moral value in performing a sustainable environment of architectural industrial practice for social benefit.	Affective

# **Study Plan**

Table 1. Study Plan for Bachelor of Science in Architecture (BFR)

		Code of Course	Courses	Credit	Total
			Contint for Higher Education		
		UHB 10102	English for Higher Education  * Islamic Studies /	2	
	I	UQI 10102 / UQI 10202	**Moral Studies	2	19
		BFR 10106	Architecture Studio 1	6	
		UQ* 1xxx2	Foreign Language	2	
		UQ* 1xxx1	Co-Curriculum I	1	
		BFR 10203	Basic Principle of Architecture and Presentation Technique	3	
		BFR 21003	History and Theory of Architecture	3	
		BFR 10306	Architecture Studio 2	6	
1		BFR 10402	Architectural Profession and Construction Industry	2	
		BFR 10503	Architectural Working Drawing I (CAD)	3	20
	II	BFR 21103	Sustainability in Architecture	3	
		BFR 21203	Building Construction I (Material and Construction)	3	
		UQ* 1xxx1	Co-Curriculum II	1	
		UHB 20102	Essential Academic English	2	
		BFR 10703	Appreciation of Cities	3	
	III	BFR 10803	Site Appraisal and Planning	3	8
		BFR 11702	Community Engagement	2	
	ı	BFR 20906	Architecture Studio 3	6	20
		BFR 32003	Building Construction II (Design and Detailing)	3	
		BFR 12702	Creativity and Innovation	2	
		BFR 21503	Construction Engineering	3	
		BFR 22802	Built and Natural Heritage	2	
		UHB 30102	English for Technical Purpose	2	
2		UQU 1xxx2	Appreciation for Ethics and Civilisation	2	
		BFR 21306	Architecture Studio 4	6	20
		BFR 21403	Architectural Working Drawing II (BIM Authoring)	3	
	ll ll	BFR 22503	Landscape Architecture	3	
	11	UQI 10302	Islamic and Asian Civilization	2	
		BFR 32103	Building Services Technology	3	
		UQU 10103	Nationhood and Current Development of Malaysia	3	
		BFR 31808	Architecture Studio 5	8	
		BFR 21603	Architectural Measured Drawing	3	
	I	BFR 23102	Geomatic for Built Environment	2	20
		BFR XXXX3	(Elective)	3	
		BFR 32902	Entrepreneurship	2	
		UHB 40102	English for Occupational Purposes	2	
		BFR 32208	Architecture Studio 6	8	
3		BFR 32302	Architectural Project Management	2	
3	II	BFR 32403	Building Laws and Legislation	3	18
		BFR 31903	Building Infrastructure	3	
		BFC 43502	Occupational Safety and Health	2	
Total Credit Hours					

## **Synopsis of Programme Courses – University Common Courses**

## **UHB10102** English For Higher Education

#### Synopsis

This course exposes students to English language learning in higher education and enhances their study skills. Students have oppoturnities to learn about using technological affordances in listening to lectures, note taking, library and internet research, conducting academic group discussions, preparing and delivering presentations, and writing an academic report. The course also provides oppoturnities for students to acquire learning skills that facilitate the transition to tertiary education. Aspects of English language oral and written skills that are most relevant to students in their academic work will be reinforced.

#### References

- Agosti, M. (2008). Information access through search engines and digital libraries. Berlin: Springer, Z699 .1534 2008
- Galanes, G. J. (2013). Effective group discussion: Theory and practice (14th ed.). New York: McGraw-Hill. HM736. G34 2013
- 3. Greasley, P. (2011). Doing essays and assignments. Essential tips for students. Thousand Oaks, CA: Sage Publication. LB1047.4 .G73 2011
- Lim, P. L. (2014). Listening & notetaking skills 2 (4th ed.). Boston: National Geographic learning, PE1128 .L55 2014
- 5. Van Blerkom, D.L. (2005). College reading and study strategies. Belmont, CA: Wadsworth. LB2395. 3 . V36 2005
- 6. Wong, L. (2012). Essential study skills (7th ed.). Boston, MA: Wadsworth Cengage Learning. LB1049, W66 2012
- 7. Zhang, F. (2012). Computer-enhanced and mobile assisted language learning: Emerging issues and trends, hershey, PA:Information Science Reference. P53.28 . C65 2012

## UHB 20102/UHB 20202 Essential Academic English

#### Synopsis

This course enhances students' English language skills, emphasising listening and reading skills necessary for academic contexts. The course provides opporturnities for students to learn the strategies to help them understand information from documentaries, lectures and paper presentations and develop analytical listening to differentiate between facts and opinions. This course also provides opporturnities for students to develop skills to critically respond to academic materials such as journal articles.

## References

- Bowen, E. (2010). Listening in: Broadcasts, speachesand interviews. Edinburgh: Edinburgh University Press
- 2. Fairbairn, G.J (2011). Reading, writing and reasoning: A guide for students. Maidenhead: Open University Press. LB2395 .F34 2011
- 3. Lewis, J. (2002). Reading for academic success: Reading and startegies. Boston: Houghton Mifflin. LB2395.3 .L48 2002
- 4. Metcalfe, M. (2006). Reading critically at university. Los Angeles: Sage. LB2395.3 .M47 2006
- 5. Shipside, S. (2007). Effective communication: get your message across and learn how to listen. London: Dorling Kindersley. HF5718 .S54 2007
- 6. Smith, L. C. (2005). Exploring content I: Reading for academic success. White Plains, NY: Longman. PE1122 .S64 2004
- 7. Wright, L. (2001). Critical thinking: An introduction to analytical reading and reasoning. Oxford: Oxford University Press. B809.2 .W74 2001.

#### UHB 30102/UHB 30202 English For Technical Purposes

## **Synopsis**

This course aims to prepare students with the skills to wirte reports and express ideas or opinions competently. Students will be equipped with persuasive strategies that can be applied to writing technical reports. The course will also enable them to practice these techniques by drafting and collaborating to produce assigned tasks. The students are also expected to orally present their proposals and written reports befre an audience or a panel examiners.

#### References

1. Bogdan, R. C. (2007). Qualitative research for education: An introduction to theory and methods (5th ed.). Boston, MA: Pearson. LB1028 .B63 2007

- Chandra, S. (2013). Research methodology. Oxford, U.K: Alpha Science Intl Ltd. H62. C42 2013
- 3. Grix, J (2010). Informations skills: Finding and using the right resources. New York: Palgrave Macmillan.
- 4. Farquhar, J. (2012). Case study research for business. London, England:Sage. HD30.4 .F37 2012.
- 5. Hittleman, D. R. (2006). Interpreting educational research: An introduction for consumers of research (4th ed.). Upper Saddle River, NJ:Pearson. LB1028. H57 2006.
- Newby, P. (2014). Research methods for education (2nd ed.). Abingdon: Routledge. LB1028. N48 2014
- 7. Neville, C. (2010). The complete guide to referencing and avoiding plagiarsm. Maidenhead: Open University Press. PN171.F56 .N48 2010
- 8. Scruggs, T.E. (2006). Applications of research methodology. Oxford: Elsevier. LC4704 .A66 2006
- 9. Sekaran, U. (2013). Research methods for business: A skill-building approach (6th ed.). Chichester, West Sussex: Wiley. HD30.4 .S44 2013.
- 10. Somekh, B. (2006). Action research: a methodology for change and development. Bershire: Open University Press. LB1028.24 .S65 2006

## UHB 40102/ UHB 40202 English for Occupational Purposes

## Synopsis

This course employs a task-based learning approach and focuses on developing students' delivery of speech in oral interactions, job interviews and presentations. Particular emphasis will be given to promote the mastery of self-directed learning, team-work, research, oral presentations, reasoning and creativity. This course also enables students to acquire the knowledge and skills necessary for conducting and participating in meetings, which includes writing meeting documents and event proposals based on specific themes. Students will also be exposed to interview techniques.

### References

- 1. Haynes, Marion E. (2009). Meeting skills for Leaders: Make Meetings more Productive (4th ed.). Rochester, NY: Axzo Press. HD30.3 .H39 2009
- 2. Leigh, Judith, (2004). Cv's and Job Application. New York: Oxford university Press. HF5383 .L44 2004.
- 3. Molinsky, Steven J, & bliss, Bill. (1994). Day by Day. English for Employment Communication (1st ed.): Longman. PE1128 . M67 1994
- 4. Peberdy, Duncan. (2009). Brilliant Meetings: What to Know, Do and Say to Have Fewer, Better Meetings. Harlow: Prentice Hill. HF5734.5 .P42 2009
- 5. Wendleton, Kate. (2014). Mastering the Job Interview and Winning the Game (5th ed.). Boston: Cengage Learning. HF5549.5.16 . W46 2014.
- 6. Wrathall, Jeff, (2011). Event Management: Theory and Practice. North Ryde, N.S.W: McGraw-hill, GT3405, W72 2011

## **UQI10102 Islamic Studies**

#### **Synopsis**

This course explains about Islamic concept as ad-deen. It discusses the study of al-Quran and al-Hadith, Sunnism, schools of Islamic theology, development of schools of Fiqh, principles of muamalat, Islamic Criminal Law, Islamic work ethics, issues in Islamic family law and current issues.

#### References

- 1. Harun Din (2001), Manusia dan Islam. Kuala Lumpur: Dewan Bahasa dan Pustaka. (BP174. M36 1990)
- 2. Ismail Haji Ali, (1995), Pengertian dan Pegangan Iktikad yang Benar: Ahli Sunnah Wal Jamaah: Kuala Lumpur: Al-Hidayah. (BP166.78. P46 1995)
- 3. Mustafa Abdul Rahman (1998), Hadith 40, Kuala Lumpur: Dewan Pustaka Fajar. (BP135. A2 M87 1998)
- 4. Mustafa Haji Daud (1989), Institusi Kekeluargaan Islam, Kuala Lumpur: Dewan Pustaka dan Bahasa. (BP188.3. F3.M87 1989)
- 5. Paizah Haji Ismail (1991), Undang-undang Jenayah Islam, Kuala Lumpur: Dewan Pustaka Islam, Angkatan Belia Islam Malaysia. (BP144. P35 1991)

#### **UQI10202 Moral Studies**

#### **Synopsis**

This course explains on concepts of moral, aspects of moral and its importance in daily lives, Western moral theories and moral values of great religions of the world, moral values in work and current moral issues.

#### References

- 1. Ahmad Khamis. (1999). Etika untuk Institusi Pengajian Tinggi. Kuala Lumpur. Kumpulan Budiman. (LC 315 .M3 .A35 1999)
- 2. Eow Boon Hin. (2002). Moral Education. Longman. (LC 268 .E48 2008)
- 3. Hussain Othman, S.M. Dawilah Al-Edrus, Berhannudin M. Salleh, Abdullah Sulaiman, (2009). PBL untuk Pembangunan Komuniti Lestari. Batu Pahat: Penerbit UTHM. (LB 1027.42 P76 2009a)
- 4. Hussain Othman. (2009). Wacana Asasi Agama dan Sains. Batu Pahat: Penerbit UTHM. (BL 240.3 H87 2009a)
- Mohd Nasir Omar (1986). Falsafah Akhlak. Bangi: Penerbit UKM. (BJ 1291 .M524 2010)

#### **UQ\*1xxx1 Co-Curriculum I**

#### **Synopsis**

This course is offered in the form of multiple choice of activities for Diploma students and undergraduates. Three categories of activities offered are Sports and Recreational, Club/ Associations and Uniform Bodies.

#### **UQ\*1xxx1 Co-Curriculum II**

#### Synopsis

This course is offered in the form of multiple choice of activities for Diploma students and undergraduates. Three categories of activities offered are Sports and Recreational, Club/ Associations and Uniform Bodies.

## **UWB 10602 French Language**

#### **Synopsis**

This course is designed for students to learn the basic of French. Students are exposed to the skills of listening, reading, speaking and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using French.

#### References

- 1. Booth, Trudie Maria, 2008. French Verbs Tenses. McGraw-Hill. Call no.: PC 2271, U66 2008.
- 2. Heminway, Annie, 2008. Complete French Grammar. McGraw-Hill. Call no.: PC2112, H45 2008
- 3. Price, Glanville, 2003. A Comprehensive French Grammar. Blacwell Publishing. Call no.: PC2112. P74, 2003.
- 4. Hatier, 1995. Le Nouveau Bescherelle Complete Guide 12 000 French Verbs. Paris: Librairie Hatier.
- 5. Kaneman-Pougatch, Massia et al, 1997. Méthod de français: Café Crème 1. Paris: Hachette F.L.E.

## **UWB10702 German Language**

#### Synopsis

This course is designed for students to learn the basic German language. Students are exposed to the skills of listening, reading, speaking, and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using German language.

#### References

- 1. Astrid Henschel, 2006. German Verb Tenses. New York: McGraw-Hill. [PF3301. H46 2006]
- 2. Gabriele Kopp, Siegfried Büttner, 2004. Planet 1: Deutsch für Jugendliche: Kursbuch. Ismaning: Germany: Hueber Verlag. [PF3129. K664 2004]
- 3. Gabriele Kopp, Siegfried Büttner, 2004. Planet 1: Deutsch für Jugendliche: Arbeitsbuch. Ismaning: Germany: Hueber Verlag. [PF3129. K664 2004)]
- 4. Heiner Schenke, 2004. Basic German: a grammar and workbook. London: Routledge. [PF3112.5. 35 2004]
- Robert Di Donato 2004. Deutsch, Na Klar! Boston: McGraw-Hill. [PF3112. D36 2004]

### **UWB10802 Japanese Language**

## **Synopsis**

This course is designed for students to learn the basic Japanese language. Students are exposed to the skills of listening, reading, speaking, and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using Japanese language.

## References

- 1. M. Rajendran, (1991). Malay Japanese English Dictionary, Petaling Jaya: Pelanduk Publications. [PL5125 .R34 1991rd]
- 2. Rosmahalil Azrol Abdullah, (2008): Bahasa Jepun (UMJ 1312): Learning Module (2<sup>nd</sup> Edition), Batu Pahat: Penerbit UTHM. [PL539.3 .R67 2008a]
- 3. Surie Network, (2000). Minna no Nihongo: Kaite Oboeru, Tokyo: 3A Corporation. [PL539.3 .M56 2000].
- 4. Surie Network, (1998). Minna no Nihongo: Main Textbook Shokyu 1, Tokyo: 3A Corporation. [PL539.3 .M574 1998]
- 5. Surie, Network (2010). AE Minna no Nihongo 1-1 Elementary: Main Textbook, Tokyo: 3A Corporation. [TK7885.7 .V44 2000r]

### **UWB10902 Mandarin Language**

#### Synopsis

This course is designed for students to learn the basic of Mandarin. Students are exposed to the skills of listening, reading, speaking and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using Mandarin Language.

### References

- 1. Lim Hong Swan, Yeoh Li Cheng, 2010. Mandarin Made Easy Through English. Batu Pahat: Penerbit UTHM. [PL1129.E5 .L554 2009 a]
- 2. Liping Jiang (2006). Experiencing Chinese. China: Higher Education Press. [PL1129.E5 .T59 2006]
- 3. Kang Yuhua (2007). Conversational Chinese 301:Vol. 2. China: Beijing Language and Culture University Press. [PL1121.C5 .K364 2007]
- 4. Liu Xun (2010). New Practical Chinese Reader: textbook. China: Beijng Language and Culture University Press. [PL1129.E5 .L58 2010]

### **UWB11002 Malay Language**

# **Synopsis**

This course is designed for students to learn the basic Malay language. Students are exposed to the skills of listening, reading, speaking, and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using Malay language.

#### References

- 1. Asmah Hj. Omar (1985). Kamus Ayat .Eastview. PL5091 .A85 1985 rd
- 2. Asmah Hj. Omar. (1993). Susur Galur Bahasa Melayu. DBP: KL. PL5127 .A85 1993N1
- 3. Asmah Hj. Omar. (1993). Nahu Melayu Mutakhir. DBP: KL. PL5137 .A85 1993
- 4. Ainun Mohd.(2011). Tesaurus Bahasa Melayu. PTS Professional Publishing. PL5123. A364 2011
- 5. Nik Safiah Karim (2008). Tatabahasa Dewan. DBP. PL5108 .T37 2008 r
- Kamaruddin Saad (2009).105 Karangan Bahasa Melayu UPSR. Minerva Publishing. PL 5108 KAM 2009

# **UWB11102 Spanish Language**

# Synopsis

This course is designed for students to learn basic Spanish language. Students are exposed to the skills of listening, reading, speaking, and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using Spanish language.

- Nurul Sabrina Zan, (2010). Hola! Hablo español. First Edition Batu Pahat: Penerbit UTHM. PC4445 .N72 2010 a
- 2. Salina Husain, (2005). Vamos a aprender español lengua extranjera. Batu Pahat: Penerbit UTHM. PC4121 .S24 2005 a
- 3. Bey, Vivienne (2004). Spanish verbs drills. Mc. Graw Hill. PC4271 .B49 2004
- 4. Terrell, Tracy D. (2003). Dos mundos. Mc. Graw Hill. PC4129.E5 .D67 2003
- 5. O'Connor, Niobe (2002). Caminos 1. Nelson Thornes. PC4121 .O36 2002

### **UWB11202 Arabic Language**

### **Synopsis**

This course is designed for students to learn the basic of Arabic. Students are exposed to the skills of listening, reading, speaking and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using Arabic.

### References

- 1. Mohd Hisyam Abdul Rahim; Ahmad Sharifuddin Mustapha; Mohd Zain Mubarak. 2008.
- 2. Bahasa Arab UMR 1312. Batu Pahat: Penerbit UTHM. (Call no.: PJ6115 .M445 2008 a)
- 3. Mohd Hisyam bin Abdul Rahim. 2005. Senang Berbahasa Arab. Batu Pahat: Penerbit KUiTTHO. (Call no.: PJ6115 .M44 2005 a)
- 4. Ab. Halim Mohammed; Rabiyah Hajimaming; Wan Muhammad Wan Sulong. 2007. Bahasa Arab Permulaan. Serdang: Penerbit UPM. (Call no.: PJ6065 .A32 2007)
- 4. Fuad Ni'mat. 1973. Mulakhass qawa'id al-lughatul 'arabiyyah. Damsyik: Darul Hikmah. (Call no.: PJ5161 .F62 1973)

### **UWB11302 Javanese Language**

#### **Synopsis**

This course is designed for students to learn the basic Javanese language. Students are exposed to the skills of listening, reading, speaking, and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using Javanese language.

- 1. Majendra, Maheswara (2010). Kamus lengkap Indonesia-Jawa, Jawa-Indonesia/Majendra Maheswara. Pustaka Mahardika. XX(131732.1)
- 2. Yrama, Widya (2008). Cara belajar membaca dan menulis huruf jawa, jilid 1 . Yrama Widya. Publication info:, 2008 XX(131738.1)
- 3. Yrama, Widya (2008). Cara belajar membaca dan menulis huruf jawa, jilid2. Yrama Widya .Publication info:, 2008 XX(131739.1)
- 4. Budhi Santosa, Iman. (2010). Nguri-uri paribasan Jawi = Melestarikan peribahasa Jawa. Intan Pariwara. XX(131751.1)
- 5. Purwanto, Eko (2011). Pepah Bahasa Jawi. Cara mudah belajar cepat dan tuntas bahasa Jawa. Diva press. XX(131748.1)

# **Synopsis of Programme Courses – Architectural Courses**

### BFR 10203 Basic Principle of Architecture and Presentation Technique

## Synopsis

This course introduces students to all architectural presentation techniques using manual and modern digital approach. The course focuses on the knowledge and skill of basic design critique. It will be based on a set of basic design principles and theories including critical theory, knowledge and practice of visual acuity and literacy, as well as studies on architectural typology. The course also introduces the students to the architectural planning principles so they can correlate planning and concepts in the design proposal.

#### References

- 1. Paul Laseau. 2000. Architectural representation handbook: traditional and digital techniques for graphic communication. McGraw-Hill, New York. [Call Number: NA2714 .L37 2000]
- Tom Porter and Sue Goodman. 1991. Design drawing techniques: for architects, graphic designers and artists. Oxford: Architectural Press. [Call Number: NA2714.P67 1991] Smith, R. T., Minton, R. B. (2006). Calculus: Concept & Connection. New York: McGraw-Hill.
- 3. Albert O Halse. 1988. Architectural rendering: the techniques of contemporary presentation. McGraw-Hill, New York. [Call Number: NA2780 .H34 1988]
- 4. Thomas Forget. The construction of drawings and movies: models for architectural design and analysis.
- 5. Andrea Gleiniger and Georg Vrachliotis. 2008. Simulation: presentation technique and cognitive method. [Call Number: NA2750 .S55 2008]

## **BFR12702 Creativity and Innovation**

### **Synopsis**

This course focuses on developing a creative person who will eventually think strategically, creatively and critically. The knowledge and skills acquired throughout the course will later be applied by the students in creative problems solving (CPS) and making decisions in the future. In this course, students will be exposed to various creative thinking and problem solving techniques, creative and innovative skills.

#### References

- 1. Bernacki, E. 2002. Wow! That's a Great Idea! Singapore: Prentice Hall.
- 2. Ceserani, J. & Greatwood, P. 1995. Innovation and Creativity. London: Kogan Page.
- 3. Ceserani, J. & Greatwood, P. 2001. Innovation and Creativity. New Delhi: Creast Publishing House.
- 4. Clegg, B. & Birch, P. 2002. Crash Course in Creativity. London: Kogan Page.
- 5. De Bono, E. 1998. Edward De Bono Supermind Pack: Expand Your Thinking Power with Strategic & Mental Exercise. DK Publishing Incorporated.
- 6. De Bono, E. (2003). Serious Creativity 1: Lateral Thinking Tools, Techniques and Application. Singapore: Allscript Books.
- 7. De Bono, E. (2003). Serious Creativity 2: Lateral Thinking Tools, Techniques and Application. Singapore: Allscript Books.
- 8. Lumsdaine, E., Lumsdaine, M. & Shelnut, J. W. 1999. Creative Problem Solving and Engineering Design. USA: McGraw-Hill.
- 9. Tanner, D. 1997. Total Creativity. APTT Publications.

# BFR 10106 Architecture Studio 1

# **Synopsis**

Architectural Studio 1 is a fundamental studio based system in architectural studies. Students are exposed to the basic principles of architectural design through the exploration of surrounding case studies where the principles are to be identified. Students will therefore perform the application of the principles in given project tasks. Projects given are categories in series of short projects which to be handled in maximum 3 weeks and one final project which to be handled in maximum 4 weeks. Final project will required a final presentation which to be accessed by panels besides the studio masters. Students are expected to be able to develop their ideas along the architectural principles understanding which to be presented along with the design development process.

- 1. Anderson, Jane, 2011. Architectural Design, Lousanne: AVA Academy. Call No. NA 2750. A 52 2011.
- Fisher, Thomas, 2008. Architecture Design and Ethics, London: Elseiver. Call No.: NA2500 F 57 2008.

- Thompson, Arthur, 1999. Architecture Design Procedures, London: Arnold. Call No.: NA2520 T46 1999 N1
- 4. Crossbie, Micheal J., 1997. Time Saver Standards for Architectural Design Data, New York: Mc-Graww-Hill. Call No.: TH151 T45 1997.
- 5. Burden, Ernest E., 2000. Elements of Architectural Design, New York: John Willey. Call No.: NA 2750 B872 2000.

#### BFR 10306 Architecture Studio 2

# Pre-requisite: BFC10106 Architecture Studio I

## **Synopsis**

Architectural Studio 2 is the continuation of Architectural Studio 1. Upon understanding the architectural principle application in Studio 1, students are exposed to a bigger scale user. Although hypothetical site will be given for the projects, emphasize on green environmental surrounding will be the main type of site setting for the projects to create design awareness of environmental presevation. The understanding on the site condition will be integrated with a course on conservation and natural environment which the students will be taken concurrently in the same semester. Therefore, timber and simple brick and block will be focused as the materiality of the projects in this studio. Projects given are categories in series of projects which to be handled in maximum 3 weeks and one final project which to be handled in maximum 4 weeks. All projects required presentation session which to be accessed by panels besides the studio masters. Students are expected to perform the design process which to be presented along with the final project design outcome.

### References:

- 1. Fisher, Thomas, 2008. Architecture Design and Ethics, London: Elseiver. Call No.: NA2500 F 57 2008
- 2. Johnson, Paul Allan, 1994. Theory of Architecture. New York: John Willey. Call No.: NA2500 J66 1994Beer, Ferdinand P.; vector mechanics for engineers: static and dynamics, 9<sup>th</sup> Edition, McGrraw-Hill, 2009. (Call no. UTHM library: TA350. V42 2009)
- 3. Dangel, Ulrich, 2010. Sustainable Architecture: Energy Concept, Basel: Birkhauser. Call No.: NA1009 V6 D36 2010.
- 4. Anderson, Jane, 2011. Architectural Design, Lousanne: AVA Academy. Call No. NA 2750. A 52 2011.
- 5. Burden, Ernest E., 2000. Elements of Architectural Design, New York: John Willey. Call No.: NA 2750 B872 2000.

# **BFR 10402 Architectural Profession and Construction Industry**

#### Synopsis

This course covers the introduction to architectural profession, construction industry and other players involved in the construction industry.

### References

- Architect Act 1967. International Law Book Services (2007) call number: KPG1085.A31967.A4 2000 rw N1
- 2. Architect Rules 1996. Call Number KPG1085.A31967 .A4 1997 rw n.1
- 3. Architect (Scale of Minimum Fees) 2010.
- 4. Chappell, David. (2003). Standard Letters in Architectural Practice.Blackwell call number: NA2584 .C42 2003 Stroud, K. A., Booth, D. J. (2007). Engineering Mathematics. 6<sup>th</sup> Ed. USA: Palgrave Macmillan.
- 5. Joseph A. Demkin (2004). The Architect's Handbook of Professional Practice. John Wiley & Sons. Call Number: NA1996.A72 2008
- 6. Greenstreet, Bob (2005). Architect's Guide to Law and Practice. Elsevier. Call number: KF2925.G73 2005
- 7. James R. Franklin (2000). Architect's Professional Practice Manual. Mc Graw Hill. Call number : Call Number NA1996 .F72 2000 r

# BFR 10503 Architectural Working Drawing I (CAD)

# Synopsis

This subject is designed to improve the students' skill using the AutoCAD software and produce the working drawings. Topics covered include the overview of drawing preparation which is covered, structures or system drawings in the construction, Introduction to AutoCAD: main window and toolbars, title block, Architectural drawings: orthographic projection, elevation, building envelope elements, dimension, Structural Drawing: Types of structure / system drawings, intersection of structures and building, detailing, and Services schematic diagrams: mechanical and electrical services.

#### References

- 1. Liebing, Ralph W, 1999. Architectural working drawings. 4th Edision, New York: John Wiley. Call Number: NA2713 .L53 1999 N3
- 2. William P Spence, 1993. Architectural working drawings : residential and commercial buildings. New York : John Wiley. Call Number : NA2713 .S64 1993 r N2
- 3. Helper, Donald É, 1998. Architecture: drafting and design : student workbook. New York : McGraw Hill. Call Number : NA2700 .H44 1998

# **BFR 10703 Appreciation of Cities**

### Synopsis

Most settlement and physical development in developing countries occurs in cities. Understandably, the role of an architect is visible largely in projects within a city boundary. Hence, it is essential for students of architecture to be equipped with awareness and understanding of city development. This course provides students with opportunity to study and experience urban environment in selected cities.

#### References

- 1. Hutter, M. (2012). Experiencing Cities (Allyn & Bacon). HT151 .H87 2012
- 2. Amin, A. and Thrift, N. (2002). Cities: Reimagining the Urban. (Cambridge: Polity Press).
- 3. Donald, J. (1999). Imagining the modern City. (London: The Athlone Press)
- 4. Lefebvre, H. (1996). Writings on Cities. (Oxford: Blackwell).
- 5. Pile, S. (2005). Real cities: modernity, space and the phantasmagorias of city life. (London: Routledge). BF353.5.C53 .P54 2005

# BFR 10803 Site Appraisal and Planning

### **Synopsis**

This course equips students with site appreciation skills using reverse engineering skills. The use of SWOT analysis will provide an understanding of relationship between empty site and existing development, as well as the theoretical possibility should the student become part of the (future) development team. It also strengthen the students' precedent study methodology.

#### References

- 1. Kevin Lynch (1971), Site Planning, MIT Press.
- 2. Gordon Cullen (1971), Concise Townscape, Architectural Press.
- 3. Tohmas Russ (2009), Site Planning and Design Handbook, McGraw Hill professional.
- 4. Mark Karlen (2004), Space Planning Basics, New York: John Wiley. NA2765.K37 2004.

### **BFR 11702 Community Engagement**

# Synopsis

This course promotes students to become school ambassadors to promote architecture programme of UTHM to selected community. Each semester students will embark to the selected community in parallel with Architectural Measured Drawing course. Students are required to prepare engagement plan prior to the visit and document the whole engagement activities into a written report.

## References

- 1. Reena Tiwari, Marina Lommerse, Dianne Smith, 2014. M<sup>2</sup> Models and Methodologies for Community Engagement: Springer
- 2. Nancy Temple, 1996. Home space planning: a guide for achitects, designers, and home owners New York: McGraw-Hill TH4816. T45 1996.

## BFR 20906 Architecture Studio 3

# Pre-requisite: BFC10306 Architecture Studio 2

# **Synopsis**

Architectural Studio 3 is focusing on small organization architectural needs in the aspect of spaces and physical building. Consideration on the sustainable design is emphasized in this studio projects. Students are introduced to passive design approach. Actual site context is also introduced where students have to be critical in problem solving. Projects given are categories in series of projects which to be handled in maximum 4 weeks and one final project which to be handled in maximum 5 weeks. All projects required presentation session which to be accessed by panels besides the studio masters. Students are expected to perform the design process which to be presented along with the final project design outcome.

#### References

- Blundell-Jones, Peter, 2007. Peter Hubner: building as a social process. London: Edition Axel Menges. Call No.: NA1088.H84 .B58 2007.
- 2. Lindner, Christoph, 2006. Urban space and cityscapes: perspectives from modern and contemporary culture. London: Routledge. Call No.: NX650.C66 .U72 2006.
- 3. Forster, Wolfgang, 2002. Harry Seidler: Social Housing, Innovative Architecture. Munich: Prestel Verlag. Call No.: NA1605.S4 .F67 2002.
- 4. Anderson, Jane, 2011. Architectural Design, Lousanne: AVA Academy. Call No. NA 2750. A 52 2011.
- Burden, Ernest E., 2000. Elements of Architectural Design, New York: John Willey. Call No.: NA 2750 B872 2000.

# BFR 21003 History and Theory of Architecture

### Synopsis

The history of architecture traces the changes in architecture through various traditions, regions, overarching stylistic trends, and dates. This course examines architecture through time, beginning with First Societies and extending to the 15th century. Though the course is chronological, it is not intended as a linear narrative, but rather aims to provide a more global view, by focusing on different architectural moments.

#### References

- 1. Francis Ching, Mark Jarzombek, Vikram Prakash, A Global History of Architecture, Wiley, 2006.
- 2. Watkin, David (Sep 2005), A History of Western Architecture, Hali Publications, ISBN
- 3. Curtis, William J. R. (1987), Modern Architecture Since 1900, Phaidon Press, ISBN-X. Call Number: NA680 .C87 1996.
- 4. Kwinter, Sanford (2001). Architectures of time: toward a theory of the event in modernist culture. Cambridge, MA: MIT Press. NA682.M63. K84 2001
- Frampton, Kenneth (1992). Modern Architecture, a critical history. Thames & Hudson- Third Edition. ISBN
- 6. Jencks, Charles, (1993) Modern Movements in Architecture. Penguin Books Ltd second edition. ISBN-X
- 7. Curl, James Stevens (2006). The Egyptian revival: ancient Egypt as the inspiration for design motifs in the west. New York: Routledge. Call Number: N6351.2. E39 .C87 2005.

### **BFR 21103 Sustainability in Architecture**

# **Synopsis**

Construction industry has a significant impact to environment, social and economic to any countries, especially for a developing country like Malaysia. This course introduces students to various impacts of construction activities including its global warming, climatic changes and desertification. The principles of sustainable construction will be introduced and how the integration of these elements will be discussed in this subject. The assessment of indoor performance such as acoustic quality, ventilation and lighting will be explored in conjunction to green technologies. In addition, green building assessment will be introduced to students with several examples or case studies to develop understanding on this concept.

#### References

- Emmitt, Stephen; Architectural engineering and design management: design management for sustainability; Sterling, VA: Earthscan, 2009. Call number: NA2542.36 .E45 2009
- 2. Kopec, David Alan; Health, Sustainability, and the built environment; New York: Fairchild Books, 2009. Call nuber: TH880 .K66 2009.
- 3. Vallero, Daniel; Sustainable design: the science of sustainability and green engineering; Hoboken, NJ: John Wiley, 2008. Call number: TH880 .K66 2009.

# BFR 21203 Building Construction I (Material and Construction)

### **Synopsis**

Construction materials have an important role to play for sustainable construction. This course introduces students various types of construction materials including its classification, properties, laboratory testing, manufacturing process and applications in civil engineering. Scope of study includes cement, aggregates, concrete, bricks and masonry, timber, steel and other construction materials.

#### References

- 1. William P. Spence; Construction Materials, Methods and Techniques, Second Edition: Thomson 2007. Call number: TH145 .S64 1998
- 2. M. S. Mamlouk, J. P. Zaniewski; Materials for civil and construction engineers; Pearson Prentice Hall, 2006. Call number: TA403 .M36 2011
- 3. H. Zhang; Building Materials in Civil Engineering; Woodhead Publishing Limited, 2010. Call number: 131381.1
- 4. C. L. Page and M. M. Page; Durability of Concrete and Cement Composites; Woodhead Publishing Limited, 2007. Call number: TA440 .D87 2007
- 5. P. Kumar Mehta, Paulo J. M. Monteiro; Concrete: microstructure, properties, and materials; McGraw-Hill, 2006. Call number: TA439 .M43 2006

# BFR 22802 Built and Natural Heritage

# **Synopsis**

To generate knowledge on built and nature preserves in the conservation of architecture context. It introduces on the terminology, principles, techniques, technology and management after the state of the surrounding built environment, along with the development on heritage basis and historical protective recommendations, dissemination of built environmental awareness, methodology in the preparation of specialists in the field of protection of the surrounding built environment and heritage preservation.

#### References

- Forsyth, Michael; Understanding historic building conservation; Malden, MA: Blackwell, 2007. Call number: TH3301.U52 2007.
- 2. Harney, Marion; Gardens & landscapes in historic building conservationt; Oxford : Wiley Blackwell, 2014. Call nuber:SB451 .G37 2014.
- 3. Beckmann, Poul; Structural aspects of building conservation; Hoboken, NJ: John Wiley, 2008. Call number: TH3411 .B42 2004
- 4. Forsyth, Michael; Interior finishes & fittings for historic building conservation; New York :Hoboken : Wiley-Blackwell, 2012. Call number: TH6010 .I57 2012.
- 5. Rodwell, Dennis; Conservation and sustainability in historic cities; Oxford : Blackwell, 2007. Call number: NA105 .R62 2007.

### BFR 21306 Architecture Studio 4

Pre-requisite: BFC 20906 Architecture Studio 3

# **Synopsis**

Architectural Studio 4 emphasizes on the needs to comply the architectural requirements for small-medium community. Students are exposed to actual sub urban sites where the community issues have to be addressed. Wider scope of passive design approach is expected in the design development while structural sense and understanding of load distribution is also emphasized. Projects given are categories in series of projects which to be handled in maximum 4 weeks and one final project which to be handled in maximum 5 weeks. All projects required presentation session which to be accessed by panels besides the studio masters. Students are expected to perform the design process which to be presented along with the final project design outcome.

- 1. Blundell-Jones, Peter, 2007. Peter Hubner: building as a social process. London: Edition Axel Menges. Call No.: NA1088.H84 .B58 2007.
- 2. Lindner, Christoph, 2006. Urban space and cityscapes: perspectives from modern and contemporary culture. London: Routledge. Call No.: NX650.C66 .U72 2006
- 3. Forster, Wolfgang, 2002. Harry Seidler: Social Housing, Innovative Architecture. Munich: Prestel Verlag. Call No.: NA1605.S4 .F67 2002.
- 4. Malaysia, 2001. Undang-Undang Kecil Bangunan Seragam 1984. Petaling Jaya, International Law book Services. Call No.: KPG2590.A31984 .A4 2001
- 5. Anderson, Jane, 2011. Architectural Design, Lousanne: AVA Academy. Call No. NA 2750. A 52 2011.

# BFR 21403 Architectural Working Drawing II (BIM Authoring)

# **Synopsis**

This course provides a basic principle in Building Information Modelling (BIM) through theoretical and practical components. A BIM model will be developed and combined based on application of separate disciplines of architecture, construction and building services engineering, to create a common visualisation model for coordination.

#### References

- C. Eastman, P. Teicholz, R. Sacks, K. Liston; BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors, 2nd Edition: Wiley 2011. Call number: TH437 .B55 2008
- 2. R. Deutsch; BIM and Integrated Design: Strategies for Architectural Practice; Wiley, 2011. Call number: NA1996 .D48 2011
- 3. W. Kymmell; Building Information Modeling: Planning and Managing Construction Projects with 4D CAD and Simulations; McGraw-Hill Construction Series, 2008. Call number: TH437 .K95 2008

### **BFR 21503 Construction Engineering**

#### **Synopsis**

The construction industry is continually adopting new and improves technologies for increasing productivity and quality to meet present and future needs of human kind. Construction engineering addresses the needs of improving the technology through application of fundamental of science and engineering. This course introduces students to identify various types of construction components and method to lay a solid foundation in all areas of construction engineering. Scopes of study are building substructure, super structure, formwork, jointing in concrete structure, scaffolding and construction plant.

#### References

- 1. R.L. Peurifoy et al, Construction Planning, Equipment and Methods, 6th Edition. Mc Graw Hill, 2002.
- 2. S.W. Nunnally, Construction Methods and Management, 5th Edition, Prentice Hall, 2001.
- 3. J.W. Hinze, Construction Safety, Prentice Hall, 1997.
- 4. Roger Greeno (2004). Building Construction Handbook, 5th Edition; London: Butterworth-Heinemann.

# BFR 21603 Architectural Measured Drawing

## Synopsis

Students will conduct the Measured Drawing on existing buildings focusing on notable structural, construction and/or detailing under supervision of the respective supervisor. The course involves on-site data collection from pre-selected building in the form visual recording (measured drawing, photography, sketches) and survey using appropriate surveying tools. The data collected will be represented in Measured Drawing format and Written Report.

#### References

- 1. John A. Burns, Recording Historic Structures, Historic American Buildings Survey / Historic American Engineering Record, Historic American Landscape.
- 2. Measured and Drawn: Techniques and Practice for the Metric Survey of Historic Buildings.
- 3. Chen Voon Fee, Encyclopedia of Malaysia: Vol 5 Architecture. Editions Didier Millet.
- Panduan Penulisan Tesis, Universiti Tun Hussein Onn Malaysia, 2009, 1000251954.
- 5. Ranjit Kumar, Research Methodology: a step-by-step guide for beginners, Sage Publications 2011, 1000272491.
- 6. Donald H. McBurney and Theresa L. White, Research Methods, Thomson Learning 2007, 1000187873.
- 7. Richard Fellow and Anita Lui, Research method for construction, Wiley Blackwell, 2008. 1000242854.

## **BFR 22503 Landscape Architecture**

### **Synopsis**

This course introduces students to basic knowledge on landscape architecture. Overview of the importance of landscape architecture in complimenting the architecture projects towards balancing the environment. Study on the landscape design theory

#### References

1. Charles Ward Harris, Nicholas T Dines, Kyle D Brown. 1998. Time-saver standards for landscape architecture: design and construction data. McGraw-Hill, New York. [Call Number: SB475.9 .T55 1998]

- 2. Siobhan Vernon, Nicola Garmory, Rachel Tennant. 2009. Landscape architect's pocket book. Amsterdam: Elsevier. [Call Number: SB472.3. V47 2009]
- 3. Budhu, M. (2007), "Soil Mechanics & Foundations (2<sup>nd</sup>. Edition)", John Wiley & Sons, Inc., United States of America. (Library shelf number: TA 710.B83 2007)

### **BFR 23102 Geomatic for Built Environment**

## **Synopsis**

To generate knowledge on geomatic aspect in built environment. The course provides the student with basic understanding and technical skill in conducting field work surveying necessary for architectural work purposes. It covers the preparation of pre comp plan before the execution of design process and also on aspects of building survey using photogrametry.

#### References

- 1. Kavanagh, B.F. and Glenn Bird S.J.; Surveying: Principles & Applications, 6th Edition; Prentice Hall, USA; 2009. (TA545.K37 2009)
- 2. Kavanagh, B.F.; Surveying with construction application; Prentice Hall, USA; 2010. (TA625.K38 2010)
- 3. Paul R. Wolf and Charles D.G.; Elementary Surveying An Introduction to Geomatics; 10th Edition; Prentice Hall; 2002. (TA545.W64 2002)
- 4. Stephen V.E.; A guide to understanding land surveys, Hoboken, NJ: J. Wiley; 2009. (TA551.E87 2009)
- 5. Watson, P.; Surveying and Engineering: Principles and Practice; Francis 10th Edition, Addison Wesley; 2008. (TH438.S97 2008).

#### BFR 31808 Architecture Studio 5

### (Pre-requisite: BFR21306 Architecture Studio 4)

### **Synopsis**

Architectural Studio 5 emphasizes on the needs to comply the architectural requirements for medium sized community. Students are exposed to actual urban sites where the students have to respond theoretically to the community issues. Total planning and functionality is focused in the studio. Basic active approach of building services is expected to be applied by students. Projects given are categories in series of projects which to be handled in maximum 4 weeks and one final project which to be handled in maximum 5 weeks. All projects required presentation session which to be accessed by panels besides the studio masters. Students are expected to perform the design process which to be presented along with the final project design outcome.

## References

- Huth, Mark W., 2005. Understanding construction drawings. Clifton Park, NY: Thomson Learning. Call No.: T355.H87 2005
- 2. Blundell-Jones, Peter, 2007. Peter Hubner: building as a social process. London: Edition Axel Menges. Call No.: NA1088.H84.B58 2007.KUITTHO.
- 3. Forster, Wolfgang, 2002. Harry Seidler: Social Housing, Innovative Architecture. Munich: Prestel Verlag. Call No.: NA1605.S4 .F67 2002.
- 4. Malaysia, 2001. Undang-Undang Kecil Bangunan Seragam 1984. Petaling Jaya, International Law book Services. Call No.: KPG2590.A31984 .A4 2001
- 5. Anderson, Jane, 2011. Architectural Design, Lousanne: AVA Academy. Call No. NA 2750. A 52 2011.
- 6. Lindner, Christoph, 2006. Urban space and cityscapes: perspectives from modern and contemporary culture. London: Routledge. Call No.: NX650.C66 .U72 2006.

# BFR 31903 Building Infrastructure

#### **Synopsis**

Building construction consist several elements in order to function as the end user expected. The elements are including sub-structure, superstructure, finishes and infrastructure. This course introduces student to the infrastructure elements in a building. This course provides understanding on principles of building infrastructure, water supply infrastructure, sanitary discharge system, energy and water supply, communication infrastructure, and solid waste management infrastructure

- 1. Guy, Simon, 2001. Urban infrastructure in transition: networks, building, plans. London: Earthscan, Call Number: HT169.E8.G89 2001
- 2. Pearce, Annie R. Sustainable buildings and infrastructure: paths to the future. London; New York, NY: Routledge. TH880 .P42 2012.

3. McDonald, Patrick H. 2001. Fundamentals of infrastructure engineering: civil engineering systems, 2nd ed., rev. and expanded. New York: Marcel Dekker. Call Number: TA153 .M36 2001

# BFR 32003 Building Construction II (Design and Detailing)

### **Synopsis**

This subject will explain the architectural building construction industry that is continually adopting new and improves technologies for increasing productivity and quality to meet present and future needs of human kind. Construction engineering addresses the needs of improving the technology through application of fundamental of science and engineering. This course introduces students to various types of building construction components and method to lay a solid foundation in all areas of building construction engineering, which include site investigation, building setting out, earthwork, sub-structure, superstructure, finishing and infrastructure.

## References

- 1. William P. Spence; Construction Materials, Methods and Techniques, Second Edition: Thomson 2007. Call number: TH145 .S64 1998
- M. S. Mamlouk, J. P. Zaniewski; Materials for civil and construction engineers; Pearson Prentice Hall, 2006. Call number: TA403 .M36 2011
- 3. H. Zhang; Building Materials in Civil Engineering; Woodhead Publishing Limited, 2010. Call number: 131381.1

## BFR 32103 Building Services Technology

### **Synopsis**

This course covers the basic principles, types, and applications of mechanical, electrical systems in commercial construction. It introduces students to design, installation, operation and monitoring of the mechanical, electrical and public health systems required for the safe, comfortable and environmentally friendly operation of modern buildings. The scope of this course includes fundamental of building physic, ventilation system, fire safety, electrical and water supply.

### References

- 1. William K.Y. Tao. 2009. Mechanical and Electrical Systems in Buildings, 2nd Edition. Prentice Hall. New Jersey. Call Number: TH6010 .T36 2005.
- David V. Chadderton. 2000. Building Services Engineering, 3rd Edition. E & FN SPON. London. Call Number: TH6010 .C42 2000.
- 3. Roger Greeno. 2007. Building Services, Technology and Design. Pearson, London. Call Number: TX955 .G73 1997.

### BFR 32208 Architecture Studio 6

## (Pre-requisite: BFR 31808 Architecture Studio 5)

# Synopsis

Architectural Studio 6 is a comprehensive design studio which expect application of knowledge and skills acquired through out the programme. Students are exposed to actual urban sites where the students have to respond to current needs/issues related to surrounding community. The projects involve total planning and UBBL implementation. Projects given are categories in a projects which to be handled in maximum 4 weeks and one final project which to be handled in maximum 5 weeks. All projects required presentation session which to be accessed by panels besides the studio masters. Students are expected to perform the design process which to be presented along with the final project design outcome.

- Huth, Mark W., 2005. Understanding construction drawings. Clifton Park, NY: Thomson Learning. Call No.: T355 .H87 2005
- 2. Blundell-Jones, Peter, 2007. Peter Hubner: building as a social process. London: Edition Axel Menges. Call No.: NA1088.H84 .B58 20073.
- 3. Forster, Wolfgang, 2002. Harry Seidler: Social Housing, Innovative Architecture. Munich: Prestel Verlag. Call No.: NA1605.S4 .F67 2002.
- 4. Malaysia, 2001. Undang-Undang Kecil Bangunan Seragam 1984. Petaling Jaya, International Law Book Services. Call No.: KPG2590.A31984 .A4 2001
- 5. Anderson, Jane, 2011. Architectural Design, Lousanne: AVA Academy. Call No. NA 2750. A 52 2011.
- 6. Lindner, Christoph, 2006. Urban space and cityscapes: perspectives from modern and contemporary culture. London: Routledge. Call No.: NX650.C66 .U72 2006.

# **BFR 32302 Architectural Project Management**

## **Synopsis**

The construction industry is continually adopting new and improves technologies for increase the productivity and quality to meet present and future needs of human kind. Architectural project management addresses the needs of improving the technology through application of fundamental of science and engineering. This course introduces students to identify various types of management components and issues in all areas of architectural project management. Scopes of study are management in construction such as definition of project management, management functions, project management functions, building process, and project scheduling.

### References

- Brandon, P. S., Lombardi, Patrizia (2011); Evaluating sustainable development in the built environment. Hoboken, NJ: Wiley-Blackwell. Call number: HT241 .B72 2011
- 2. Charles J. Kibert (2008); Sustainable construction: green building design and delivery. Hoboken, NJ: John Wiley. Call number: TH880 .K52 2008
- 3. Thomas E. Glavinich (2008); Contractor's guide to green building construction: management, project delivery, documentation and risk reduction. Hoboken, NJ: John Wiley. Call number: TH880 .G52 2008
- M. Regina Leffers (2010); Sustainable construction and design. Boston: Prentice-Hall. Call Number: TH880 .L43 2010
- 5. Shirley J. Hansen, James W. Brown (2011); Sustainability management handbook. Lilburn, GA: Fairmont Press; Boca Raton, FL: Distributed by Taylor & Francis. Call number: TA190 .S97 2011
- 6. Sam Kubba (2010); Green construction project management and cost oversight. Burlington, MA: Architectural Press. Call number: TH880 .K824 2010
- 7. Daniel W. Halpin, Senior Bolivar (2011); Construction management. Hoboken, N.J.: Wiley. Call number: HD9715.U52 .H34 2011
- 8. L. Peurifoy et al (2002) Construction Planning, Equipment and Methods, 6th Edition. Mc Graw Hill, Call number: TH145.P48 2011 /2002

# BFR 32403 Building Law and Legislation

# Synopsis

Building laws and legislation are essential in project development process to ensure the project success according to the existing Uniform Building By-Laws (UBBL), 1984. This course introduces students to the common Malaysian building laws. The aim is to provide knowledge and understanding about legal and administration procedures in the process development of building projects. Scopes of study includes BuildingRegulation, fire safety regulation, submission for approval for planning and building, certification of completed building through the use of Certificate of completion and compliance (CCC) system.

### References

- 1. Uniform Building By Laws 1984, Selangor: International Law Book Services, 2010. Call Number: KPG2590 .A3 2000 rw N16.
- 2. Abd. Wahab, I. & Ismail, L. H., Undang-undangBangunanuntuk Pembangunan Perumahan, Batu Pahat, Johor: Penerbit UTHM, 2013. Call Number: HD7363.6.A3 .I98 2013 a
- 3. AktaHakMilik Strata 1985 (Akta 3I B), Kaedah-Kaedah&Perintah-Perintah, Selangor: International Law Book Services, 2010. Call Number: KPG677.A31985 .A4 2005 rw3.
- 4. Akta Pemajuan Perumahan (KawalandanPerlesenan) 1966 (Akta 118) & Peraturan-Peraturan, Selangor: International Law Book Services, 2009.
- 5. Akta Perancangan Bandar dan Desa 1976, Selangor: International Law Book Services, 2005. Call Number: KPG2578.A31976 .A4 2001 rw N1
- 6. David Chappell, Micheal Cowlin & Micheal Dunn, Building Law Encyclopedia, United Kingdom: Wiley-Biackwell, 2009. Call Number: KD1140.A68.C42 2009 re

### BFR 32902 Entrepreneurship

# **Synopsis**

This course cover various topics related to basic entrepreneurship including introduction to entrepreneurship, entrepreneur's characteristics and motivation, screening business environment and opportunity, formation of business and managing business. Students will also be exposed to real business.

#### References

1. Charles E. Bamford, Garry D. Bruton (2011). Entrepreneurship: a small business approach. New York: McGraw-Hill. Call number HD62.5 .B35 2011

- 2. Schaper M., Volery, T, Weber, P., Lewix, K., (2011). Entrepreneurship and small busiess; 3<sup>rd</sup> Asia-Pacific Edition. John Wiley & Son. Call number HD2341 .E57 2011
- 3. Hisrich, R.D., Peter, M.P., Shepherd, D.A., (2010). Entrepreneurship, 8th Edition. McGraw Hill. Call number HD62.5 .H57 2010
- 4. Donald F. Kuratko, Richard M. Hodgetts. (2007). Entrepreneurship: theory, process, practice, 7<sup>th</sup> Edition. Mason: Thomson South-Western. Call number HB615 .K87 2007
- John. B., Tidd. J., (2011). Innovation and entrepreneurship. 2<sup>nd</sup> Edition. Chichester, West Sussex, UK Call number HD53 .B48 2011

# **BFR 33002 Occupational Safety and Health**

## **Synopsis**

This course introduces students to knowledge and skills in occupational safety and health in workplace. Scopes of the study include: Health and Safety Management- OSHA 1994 (Act 514), construction regulation, safety and health management, and safety and health culture; Risk assessment- legal aspect of risk assessment, and risk assessment process; Safety hazards and controls- slips, trips, and falls, caught-in or –between objects, struck by objects, fire and explosions, transportation and vehicle related accidents, confined space, electrical hazards and mechanical handling; Health hazards- chemical hazards, physical hazards, biological hazards, and ergonomics and repetitive strain injuries; and Incident/Accident investigation and reporting- accident causation models, incident investigations, incident analysis and data collection, and incident reporting.

#### References

- 1. Occupational Safety and Health Act and Regulations. MDC Publishers Printer Sdn. Bhd. 2001. Call number: KPG1390.M34 2001 rw N2.
- 2. Factories and Machinery Act & Regulations. MDC Publishers Printer Sdn. Bhd. 2001. Call number: KPG1390.A31967 .A4 2001 rw N1.
- 3. Ismail Bahari (2006). Pengurusan Keselamatan dan Kesihatan Pekerjaan. Edisi ke-2.. McGraw Hill Education (Malaysia). Call number: T55.I85 2006.
- 4. Davies, V. J. and Tomasin K. (2006). Construction Safety Handbook. 2<sup>nd</sup> ed. London: Thomas Telford. Call number: TH443.R43 2006.
- 5. Anton, Thomas J. (2009). Occupational Safety and Health Management. 3<sup>rd</sup> ed. New York: McGraw-Hill. Call number: T55.A57 1989.

## **BFR 10603 Interior Architecture**

# **Synopsis**

The course prepares ground for the students to gain an understanding into the fundamental issues in building design on interior design problems solutions. Understanding various art forms, appreciation of art along with social and cultural influences on design. Knowledge required for specifying appropriate materials for various spaces in interiors of buildings and mass production of furniture for various classes of people with the parameters of economy and culture. Responsiveness that enables to deal effectively with specialists and consultants in acoustics, lighting and to predict climatic conditions in a given building and redesign for given parameters. Understanding into the practical design problems related to way finding and develop the knowledge with various types of signage and way finding systems in the built environment.

- 1. Karlen Mark, Space planning Basics (2004), Van Nostrand Reinhold, New York,. NA2765 .K37 2004
- 2. Joseph D Chiara, Julius Panero, & Martin Zelnick (2001), Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional,. NK2110 .D44 2001 N1
- Francis.D. Ching & Corky Bingelli, Interior Design Illustrared, 2nd edition, Wiley publishers, 2004. NA2850.C44 2012
- 4. Robert Rengel (2007), Shaping Interior Space, Fairchild Books & Visuals,. 9781563675188
- Neufert Ernest (2000), Architects Data, Granada pub. Ltd. London, TH151 .N48 2000 N1
- Maryrose McGowan & Kelsey Kruse 2004, Interior Graphic Standards, Wiley and Sons,. 9780071346160 4. Oliver Herwig & L. Bruce, 2008 Universal Design: Solutions for Barrier-free, Birkhäuser Basel; 1st edition, TA174 .K42 2008

MQF LEVEL	GRADUATING CREDIT	SECTOR		LIET CHO LEADHING	
		ACADEMIC	TVET*	LIFELONG LEARNING	
8	No credit rating	PhD by Research		Accreditation of Prior Experiential Learning (APEL)	
	80	Doctoral Degree by Coursework & Mixed Mode			
7	No credit rating	Master's Degree by Research			
	40	Master's Degree by Coursework & Mixed Mode			
	30	Postgraduate Diploma			
	20	Postgraduate Certificate			
6	120	Bachelor's Degree	Bachelor's Degree		
	64 **	Graduate Diploma	Graduate Diploma		
	34 **	Graduate Certificate	Graduate Certificate		
5	40	Advanced Diploma	Advanced Diploma		
4	90	Diploma	Diploma		
3	60	Certificate	Certificate		
2	30	Certificate	Certificate		
1	15	Certificate	Certificate		
* Technical and Voca	echnical and Vocational Education and Training ** Inclusive of 4 credits for U1 courses from general studies				

Source: Malaysian Qualifications Agency (MQA, 2021)

Center for Academic Development and Training Universiti Tun Hussein Onn Malaysia https://cad.uthm.edu.my/muat-turun/proforma-v3.html

Faculty of Civil Engineering and Built Environment Universiti Tun Hussein Onn Malaysia https://fkaab.uthm.edu.my/