



**Universiti Tun Hussein Onn Malaysia**  
**86400 Batu Pahat, Johor**



# **Academic Proforma**

## **2020/2021**

**Bachelor Degree in Vocational  
Education (Building  
Construction) with honours**  
**Faculty of Technical and Vocational  
Education**

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Universiti Tun Hussein Onn Malaysia  
September 2020

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## **Foreword from the Vice Chancellor**

Assalamualaikum Warahmatullahi Wabarakatuh and Warm Greetings

Our utmost gratitude to Allah the Almighty, I am able to share and pen down a couple of words and advices to readers of this proforma especially to new students of Universiti Tun Hussein Onn Malaysia (UTHM) whom had just enrolled in this 2020/2021 Academic Session.

Congratulations and welcome to the new students and thank you for believing in UTHM for your continuing endeavour in the search of knowledge towards the success in your future career and life betterment.

For your information, University leadership continues to strive in the search of, designing, and adapting the effective and efficient approaches that would able to produce the highest impact towards making UTHM a top Higher Education Institution. The success in obtaining "QS STARS RATED FOR EXCELLENCE 2015" and UTHM was recognized as the Top 300 in the QS World University Ranking by Subject 2015 for Mechanical, Aeronautical and Manufacturing Engineering, have proven that UTHM continues creating excellence. These successes have convinced the University that these are due to the alignment of University's vision and mission which are continually strengthen and improve.

As the Vice Chancellor, I gave full confidence that UTHM is currently on the right track in the effort towards the success of the 10 Shifts identified in the Malaysia Education Blueprint (Higher Education). Based on the details outlined in the Malaysia Education Blueprint (Higher Education), UTHM is committed in producing human capital and disseminating knowledge to meet the needs of the industry and the community as well as to nurture creative and innovative human capital.

Last but not least, I believe that you will become graduates of the University that will successfully continue the University excellence tradition. When you graduated, you will become the member of society that will not only be able to apply the knowledge gained but also be able to contribute service and expertise for the importance and the needs of Religion, Race and Nation.

**PROF. DATUK TS. DR. WAHID BIN RAZZALY**

Vice-Chancellor  
Universiti Tun Hussein Onn Malaysia

## **Foreword from the Deputy of Vice Chancellor (Academic and International)**

Assalamualaikum Warahmatullahi Wabarakatuh and Warm Greetings

I would like to take this opportunity to express the utmost congratulations and well done to you as the new students whom have been successfully been selected to pursue studies at Universiti Tun Hussein Onn Malaysia for this 2020/2021 session.

I would also like to congratulate Centre for Academic Development and Training that has successfully produced the proforma which will be used as a guide for students in planning the studies beginning from the first semester until the end of the studies at this University.

Detailed planning which is effectively implemented at every semester as well as early preparation of students before attending lectures is very important in ensuring the readiness of learning process. Apart from that, the preparation for co-curriculum program also is important in shaping the personality and social development of students.

I hope that the publication of this proforma can be fully utilized by you in planning your studies at the University and you are capable of obtaining the best results as well as attaining excellent success.

Last but not least, I would like to wish "All the Best" and I pray that you will achieve excellent success in your studies at UTHM and thus can contribute as the human capital towards religion, race and nation development.

Thank you.

**PROF. DR. ISMAIL BIN ABDUL RAHMAN**  
Deputy of Vice Chancellor (Academic and  
International)  
Universiti Tun Hussein Onn Malaysia

## **Foreword from the Dean of Faculty of Technical & Vocational Education**

Assalamualaikum Warahmatullahi Wabarakatuh dan Greetings

As the starting point, I would like to congratulate all new students at the Faculty of Technical and Vocational Education (FPTV) UTHM for the 2020/2021 academic session. All of you are very fortunate to be selected to enter this University compare to many other candidates who have submitted an application to enter to this university, and still seeking for the opportunity to persue their studies. Therefore, you should be grateful and remember that being selected to this university is a great privilege that should not be wasted.

In order to accomplish the University's and FPTV missions which are to produce and train competitive professionals and future teachers of high ethical values, you will be guided by qualified, committed, and responsible academic staff. FPTV offers academic programmes based on four major areas in the field of civil, electrical and mechanical engineering as well as hotel-catering programme. Various educational knowledge skills that will practice in technical and vocational education institutions, nationally and internationaly. Soft skills and gereric skills will be part of the trainings to ensure that students are fully responsible to their learning and instill with the high ethical and good values. To enhance students' understanding and creativity, the faculty provides laboratories equipped with the latest equipment and assisted by well-trained technicians. Students will also have to undergo practical work in the field relevant to the current technical and vocational education needs.

Therefore, you must take this opportunity to work extremely hard in order to achieve the aspirations of not only your parents but also the community and the country. Systematic planning of teaching and learning will produce outstanding and dedicated graduates.

Thank you.

**ASSOCIATE PROFESSOR TS. DR ABDUL RASID BIN ABDUL RAZZAQ**  
Dean  
Faculty of Technical & Vocational Education  
Universiti Tun Hussein Onn Malaysia



### **Vision**

Towards a world class university in engineering, science and technology for sustainable development

### **Mission**

UTHM is committed to generate and disseminate knowledge, to meet the needs of industry and community and nurturing creative and innovative human capital, based on tauhidic paradigm

### **University Education Philosophy**

The education and training in this university is a continuous effort to lead in the market oriented academic programmes. These programmes are student-focused and are conducted through experiential learning in order to produce well trained human resource and professionals who are catalysts for a sustainable development

### **University Logo**

The logo of Universiti Tun Hussein Onn Malaysia (UTHM) is the pride, identity and idealism of the members of UTHM community. UTHM logo displays a Proton, Book, Tiered Mortar Board, Book Rest and Shield.

The whole concept of the logo symbolises UTHM as an Institution of Higher Learning which supports the growth and development of knowledge at all levels in fields of Science and Technology.

**Blue** represents a close-knit circle of members of UTHM community which ensures the success and enhancement of its educational and research programmes and activities for the benefits of mankind.

**Red** symbolises the courage of UTHM in the exploration of new fields as the pioneer in science and technology applications, which reflects the spirit and self-esteem of the members of UTHM community.

Symbolism:

Red: Courage

Blue: Co-operation/Loyalty

Silver: Quality/Prestige

Book Rest: Repository of knowledge

Proton: Science and technology

Book: Knowledge

Mortar board: Levels of study

Shield: Confidence

**Chancellor**



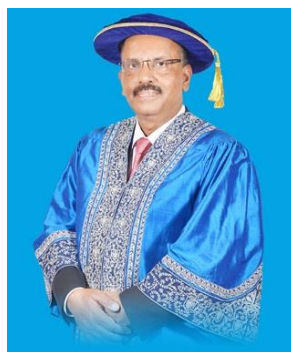
**Duli Yang Maha Mulia Sultan Ibrahim Ibni Almarhum Sultan Iskandar**  
Sultan of Johor  
D.K., D.K. (Pahang), SPMJ, SSIJ, S.M.N., S.P.M.T., S.M.P.K., P.I.S.

**Pro Chancellor I**



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

**Pro Chancellor II**



**YBhg. Tan Sri Dr. Ali Hamsa**  
Chief Secretary to the Government of Malaysia



## **University Board of Directors**

### **Chairman**

**Dato' Dr. Hj. Mohd. Sofi bin Hj. Osman**  
Managing Director & Vice President PEN Operations

### **Members**

**Prof. Datuk Ts. Dr. Wahid bin Razzaly**  
Vice-Chancellor  
Universiti Tun Hussein Onn Malaysia

**Tan Sri Dato' Sri Sufri Bin Hj Mohd Zin**  
Group Managing Director  
TRC Synergy Berhad

**Dato' Haji Nooh Bin Gadot**  
Advisor  
Majlis Agama Islam Johor

**Datuk Dr. Pang Chau Leong**  
Alumni Representative  
Universiti Tun Hussein Onn Malaysia

**Dato' Dr. Ir. Hj. Abdul Rashid bin Maidin**  
Akademi Profesional Koperasi Serbaguna Anak-anak  
Selangor Berhad (KOSAS)

**Ts. Dr. Mohammad Naim Bin Yaakub**  
Ministry of Education Malaysia

**Prof. Dr. Mohd Idrus bin Mohd Masirin**  
Universiti Tun Hussein Onn Malaysia

**Dr. Sharifah Adlina binti Syed Abdullah**  
Ministry of Finance Malaysia

**Mr. Ahmad Luqman bin Mohd. Azmi**  
Chief Operations Officer Malaysia Airlines Berhad

**Mr. Abdul Haris bin Hj. Lakar**  
Procurement Division Secretary  
Ministry of Education Malaysia

### **Secretary**

**Mr. Abdul Halim bin Abdul Rahman**  
Registrar  
Universiti Tun Hussein Onn Malaysia

## **Senate Members**

### **Chairman**

**Professor Datuk Ts. Dr. Wahid bin Razzaly**  
Vice-Chancellor

### **Members**

**Professor Dr. Ismail bin Abdul Rahman**  
Deputy Vice-Chancellor (Academic & International)

**Professor Dr. Mohd Shahir Shamsir Bin Omar**  
Deputy Vice-Chancellor (Research and Innovation)

**Associate Professor Dr. Afandi bin Ahmad**  
Deputy Vice-Chancellor (Student Affairs and Alumni)

**Associate Professor Ts. Dr. Mohd Kamarulzaki bin Mustafa**  
Provost  
UTHM Pagoh Branch Campus

**Professor Dr. Ahmad Tarmizi bin Abdul Karim**  
Assistant Vice-Chancellor (Strategic Planning and Corporate Relations)

**Associate Professor Dr. Wan Fauzi @ Fauziah binti Wan Yusoff**  
Assistant Vice-Chancellor (Financial Sustainability)

**Professor Dr. Azme bin Khamis**  
Dean, Centre for Graduate Studies

**Professor Ir. Ts. Dr. Mohd Irwan bin Juki**  
Dean Faculty of Civil Engineering and Built Environment

**Associate Professor Dr. Rosli bin Omar**  
Dean Faculty of Electrical and Electronic Engineering

**Professor Dr. Shahrudin bin Mahzan @ Mohd Zin**  
Dean Faculty of Mechanical and Manufacturing Engineering

**Associate Professor Dr. Mohd Lizam bin Mohd Diah**  
Dean Faculty of Technology Management and Business

**Associate Professor 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

**Associate Professor Dr. Mohd Kamarulzaki bin Mustafa**  
Dean Faculty of Applied Sciences and Technology

**Associate Professor Amran Bin Mohd Zaid**

Dean Faculty of Engineering Technology

**Associate Professor Dr. Mohamad Zaky bin Noh**  
Dean Centre for Diploma Studies

**Associate Professor Dr. Khairul Azman bin Mohamad Suhaimy**  
Dean Centre for General Studies and Co-curricular

**Dr. Zailin Shah binti Yusoff**  
Dean Centre for Language Studies

**Associate Professor Ts. Dr. Ishak bin Baba**  
Director Centre for Academic Development and Training

**Associate Professor Ts. Dr. Razali bin Hassan**  
Director Malaysia Research Institute for Vocational Education and Training

**Professor Dr. Rosman bin Md. Yusoff**  
Director Institute for Social Transformation and Regional Development

**Professor Ir. Dr. Abdul Aziz bin Abdul Samad**  
Faculty of Civil Engineering and Built Environment

**Professor Dr. Mohd. Idrus bin Mohd. Masirin**  
Faculty of Civil Engineering and Built Environment

**Professor Dr. Mohammad Faiz Liew bin Abdullah**  
Faculty of Electrical and Electronic Engineering

**Professor Ir. Dr. Md Saidin bin Wahab**  
Faculty of Mechanical and Manufacturing Engineering

**Professor Dr. Mohd Amri bin Lajis**  
Faculty of Mechanical and Manufacturing Engineering

**Professor Sr. Dr. David Martin @ Daud Juanil**  
Faculty of Technology Management and Business

**Professor Datin Ts. Dr. Noraini binti Kaprawi**  
Faculty of Technical and Vocational Education

**Professor Dr. Rosziati binti Ibrahim**  
Faculty of Computer Science and Information Technology

**Professor Dr. Rozaini bin Roslan**  
Faculty of Applied Sciences and Technology

**Professor Dr. Khalid bin Hasnan**  
Faculty of Engineering Technology

**Ir. Ts. Shamrul-Mar bin Shamsuddin**  
Director Development and Maintenance Office

**Associate Professor Ts. Dr. Mohd Farhan bin Md. Fudzee**  
Director Centre Information Technology

**Mr. Abdul Halim bin Abdul Rahman**  
Registrar / Senate Secretary

**Mr. Norzaimi bin Hamisan**  
Bursar (Acting)

**Mdm. Zaharah binti Abd Samad**  
Chief Librarian (Acting)

**Mdm. Norliah binti Yaakub**  
Head of Legal Advisor Office



### **Faculty Vision**

To become a world class resource and referral centre on Technical and Vocational Education Training through research, continuous development as well as technological based teaching and learning processes, in line with the Philosophy of the National Education system to realize the Vision 2020.

### **Faculty Mission**

To educate and train world class, competitive professional human capital in the various discipline, within the technical and vocational education, to explore, expand and apply knowledge and modern technologies, based on the concept of Tauhid.

### **Faculty Background**

The Faculty of Technical and Vocational Education (FPTV) of the Universiti Tun Hussein Onn Malaysia (UTHM), was formally known as the Faculty of Technical Education (FTE). Our inception began in September 27<sup>th</sup>, 2000, as the Department of Technical and Vocational Education (DTVE) under the auspices of the Faculty of Engineering Technology, Kolej Universiti Teknologi Tun Hussein Onn (KUiTTHO).

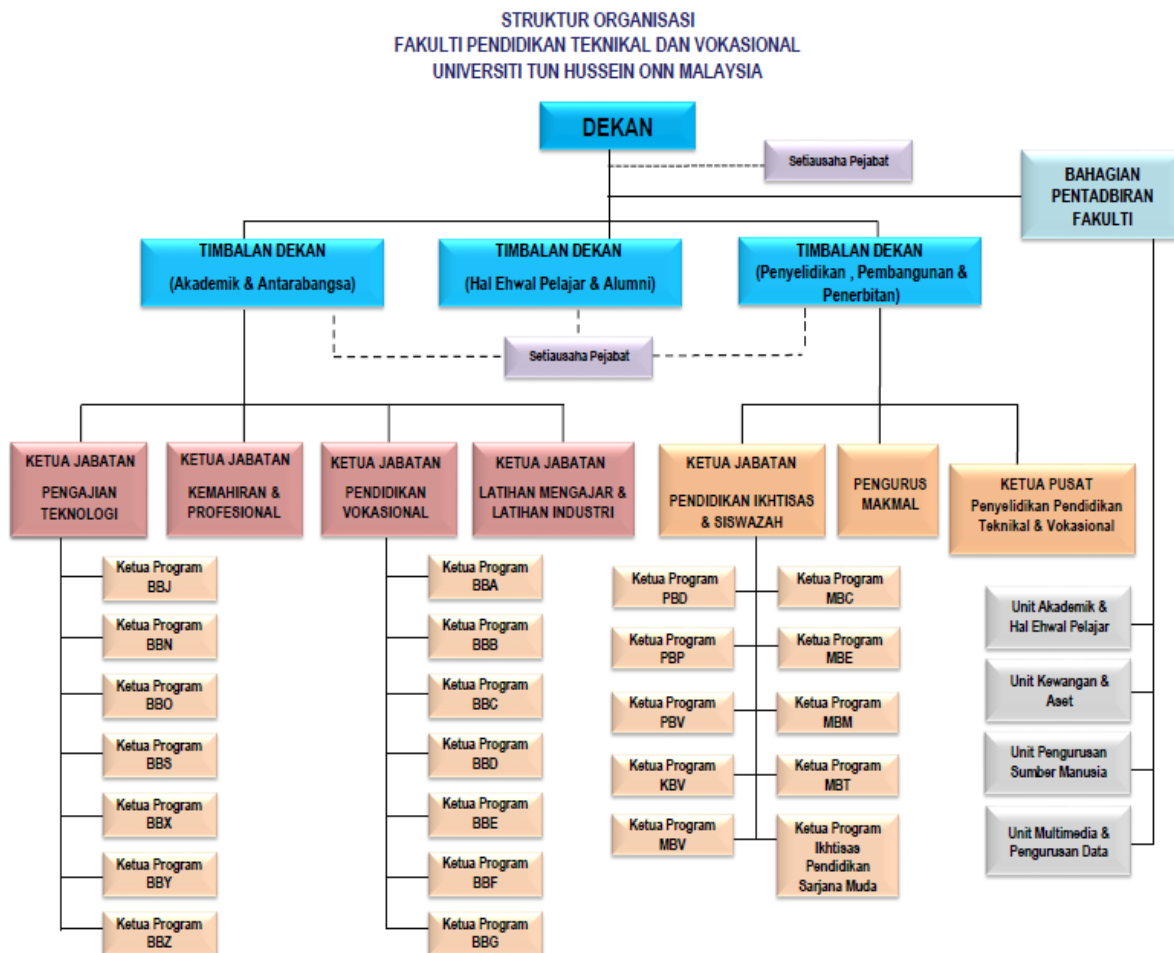
Our renowned excellences in Teachers Training in Technical and Vocational Education and Training (TT-TVET) niche areas is traceable back to the year 1993 when we started as one of the core departments of the Polytechnics Staff Training Centre (PSTC) that produced qualified polytechnics lecturers and instructors. PSTC was upgraded and renamed as Kolej Universiti Teknologi Tun Hussein Onn (KUiTTHO) on May 1998. On May 27<sup>th</sup>, 2000, the department was restructured and renamed as the Department of Technical and Vocational Education (DTVE) under the auspices of the Faculty of Engineering Technology, KUiTTHO. On May 1<sup>st</sup>, 2004, the department was upgraded as the Faculty of Technical Education with the dissolution of Department of Engineering Technology. The rebranding of the faculty to the present new name, is endorsed by the Ministry of Higher Education on June 23<sup>rd</sup>, 2011, to reflect our continuous and significant contributions to the rapid changes and transformation of the Technical and Vocational Education (TVET) Systems, both locally and abroad.

Today, FPTV has developed to become the major provider and referral centre of high quality TT-TVET programmes, researches and consultancies. Since

2002, UNESCO-UNEVOC Bonn entrusted the faculty to carry the role as UNESCO -UNEVOC Associate Centre and ultimately in 2005, the faculty has become UNESCO-UNEVOC centre in Malaysia. FPTV does not stand alone in making reputation to its credentials. Collaborations and networking with regional and international organizations such as Southeast Asian Ministers of Education Organization Regional Centre for Vocational and Technical Education and Training (SEAMEO VOCTECH), Korea Research Institute for Vocational Education and Training (KRIVET), Colombo Plan Staff College for Technician Education Philippines (CPSC), The National Centre for Career and Technical Education USA (NCCTE), European Centre for the Development of Vocational Training (CEDEFOP) and others have been made as initiatives to upgrade the quality and credibility of technical and vocational education for the benefit of all.

FPTV is the professional faculty with niche in TT-TVET. The faculty offers a range of quality academically balanced and practical-oriented programmes to meet the changing needs of the teaching and training sectors of the economy. Our programmes of study are dynamics that leads the rapidly transformation of TVET both regional and worldwide. Our qualified and experienced academics and supporting staffs are dedicated to providing a high standard and *state-of-the-art* theoretical and practical knowledge in a stimulating and innovative learning atmosphere.

The faculty, consisted of four (5) departments and a research center that is led by a Dean and assisted by three (3) Deputy Deans. Organisation chart of FPTV is depicted the diagram overleaf.





UNESCO-UNEVOC International Centre  
for Technical and Vocational Education and Training  
Bonn, Germany

presents this


## UNEVOC CENTRE AWARD

to

Universiti Tun Hussein Onn Malaysia

in recognition of being a UNEVOC Centre  
dedicated to furthering UNESCO goals  
in the area of technical and vocational education and training

Presented this 25th day of November 2007

  
L. Efison Munjanganja  
Head  
UNEVOC Networks, Bonn

  
Rupert Maclean  
Director  
UNESCO-UNEVOC International Centre, Bonn

## **Faculty Staff Directory**

### **Administrative**

#### **Dean**

##### **Associate Prof. Ts Dr. Abdul Rasid Bin Abdul Razzaq**

Ph.D (Town & Regional Planning) (UTM), Master of Tourism Planning (UTM), Bachelor of Business Management (UUM), Dip. (Maktab Perguruan Teknik, KL)

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

##### **Ts Dr. Mohd Hasril Bin Amiruddin**

Ph.D (Technical & Vocational Education) (UKM), Master (Technology Education) (UPM), Bachelor (Technical & Vocational Education) (UTHM), Diploma (PSA)

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

##### **Associate Prof. Ts Dr. Badaruddin Bin Ibrahim**

Ph.D (Colorado State Uni.), Master (Technical Education) (UTM), Bachelor (Mechanical Engineering) (ITTHO)

#### **Deputy Dean Student Affairs & Alumni**

##### **Associate Prof. Ts Dr. Azman Bin Hasan**

Ph.D (Technical & Vocational Education) (UTM), Master (Technical Education) (KUiTTHO), Bachelor (Civil Engineering) (ITTHO)

#### **Office Secretary**

##### **Mrs. Mollyza Binti Abd Majid**

Diploma (UiTM)

#### **Office Secretary**

##### **Mrs. Zarina Binti Atan**

Diploma (UiTM)

#### **Senior Asst. Registrar**

##### **Miss Rohana binti Dollah**

Sarjana Muda Pentadbiran Korporat (Setiausaha Syarikat)

#### **Asst. Admin. Officer (Finance & Asset)**

##### **Mrs. Suzana Binti Ojudah**

Bachelor (OUM), Diploma (UiTM)

#### **Asst. Admin. Officer (Academic & Student Affairs)**

##### **Mrs. Norina Binti Alwee**

Diploma (UiTM)

#### **Senior Asst. IT Officer (Multimedi & Data Management)**

##### **Mrs. Farizah Binti Sudin**

Diploma (Information Tech.) (UiTM)

#### **Senior Clerk**

##### **Mr. Hazni Bin Md Harith**

SPM (SM Dato Onn, Batu Pahat)

#### **Senior Clerk**

##### **Mrs. Ruzehan Binti Md. Shah**

Cert. (Kolej Komuniti Yayasan Pelajaran Johor), STPM (SM Tun Sardon), SPM (SM Tun Sardon)



**Clerk**

**Mrs. Nor Afizah Binti Omar**

STPM (SM (P) Temenggong Ibrahim), SPM (SM (P) Temenggong Ibrahim)

**Clerk**

**Mrs. Hernany binti Abd Kadir**

Certificate/Sijil Komunikasi (Institut Perdagangan Mara)

**Clerk**

**Mr. Mohd Nazri bin Md Sapi @ Safri**

SPM (Sek. Men. Keb. Munshi Sulaiman)

**General Office Asst.**

**Mr. Haszizan Bin Hasbullah**

SPM (Smk Pt Haji Hassan)

**Professional Education Department**

***Academic Staff***

**Head of Professional Education Department**

**Ts. Dr. Marina Binti Ibrahim Mukhtar**

Ph.D (Evaluation and Assessment) (UKM), Master (Technical & Vocational Education) (KUiTTHO), Bachelor (Civil Eng.) (KUiTTHO)

**Prof. Ts. Datuk Dr. Wahid Bin Razzaly**

Ph.D (Engineering Education) (Univ. Manchester), Master (Highway & Transport) (UTM), Bachelor (Civil Engineering) (Univ. College Swansea), Diploma (Education) (UKM)

**Prof. Datin Ts. Dr. Noraini Binti Kaprawi**

Ph.D (Higher Education) (Univ. Manchester), Master (Technology Management) (UTM), Bachelor (Physic) (Univ. of Aston)

**Prof. Emeritus Dr. Jailani Bin Md Yunos**

Ph.D (Education) (Univ. Sheffield), Master (Education) (Univ. Wisconsin-Stout), Bachelor (Industrial Technology) (Univ. Wisconsin-Stout)

**Associate Prof. Dr. Asri Bin Selamat**

Ph.D (Evaluation and Assessment) (UTM), Master (Evaluation and Assessment) (UTM), Bachelor (Sastera) (USM), Cert. (Maktab Perguruan Bahasa, KL)

**Associate Prof. Ts. Dr. Abdul Rasid Bin Abdul Razzaq**

Ph.D (Town & Regional Planning) (UTM), Master of Tourism Planning (UTM), Bachelor of Business Management (UUM), Dip. (Maktab Perguruan Teknik, KL)

**Associate Prof. Ts. Dr. Lee Ming Foong**

Ph.D (Technical & Vocational Education) (UTM), Master (Technical & Vocational Education) (UTM), Bachelor (Technology Education) (UTM)

**Associate Prof. Ts. Dr. Halizah Binti Awang**

Ph.D (Curriculum) (USM), Master (Education) (ITTHO), Bachelor (Civil Engineering) (UTM), Cert.(PPD)

**Associate Prof. Dr. Kahirol Bin Mohd. Salleh**

PhD (Education & Human Resource) (Colorado State University), Master (Technical Education) (UTM), Bachelor (Mechanical Engineering) (UTM), Cert.(POLIMAS)

**Ts. Dr. D'oria Islamiah Binti Rosli**

Ph.D (Computer Science) (UTM), Master (Computer Science) (Univ. of Western Australia), Bachelor (Science) (UMS)

**Dr. Wan Hanim Nadrah Binti Wan Muda**

Ph.D (Technical & Vocational Education) (UTM), Master (Technical & Vocational Education) (UTHM), Bachelor (Computer Mathematic) (UMT)

**Dr. Nur Sofurah Binti Mohd Faiz**

Ph.D (Education) (Univ.Of South Australian), Master (Technical & Vocational Education) (KUiTTTHO), Bachelor (Material Engineering) (USM)

**Ts. Dr. Fadzlinda Binti Ab. Halim**

Ph.D (Technical & Vocational Education) (UPM), (Technical & Vocational Education) Master (UTHM), Bachelor (Information Technology & Communication) (UiTM), Diploma (UiTM)

**Ts. Dr. Alias Bin Masek**

Ph.D (Technical & Vocational Education) (UTHM), Master (Technical & Vocational Education) (UTHM), Bachelor (Electrical Engineering) (KUiTTTHO)

**Dr. Norhasyimah Binti Hamzah**

Ph.D (Education Technology) (UTM), Bachelor (Computer Science with Mathematic Education) (UTM), Diploma (Computer Science) (UTM)

**Dr. Hashima Binti Hamid**

Ph.D (Technology Management) (UTHM), Master (Technical & Vocational Education) (UTHM), Bachelor (Information Technology) (UM)

**Ts. Dr. Tee Tzee Kiong**

Ph.D (Technical & Vocational Education) (UTHM), Master (Technical & Vocational Education) (UTM), Bachelor (Civil Engineering Education) (UTM)

**Dr. Nurul Hidayah Liew Binti Abdullah**

Ph.D (Technology Management) (UTHM), Master (Environmental Management) (UKM), Bachelor (Arts) (UKM)

**Dr. Suhaizal Bin Hashim**

Ph.D (Technology Education) (UTM), Master (Technology Education) (UTM), Bachelor (Mathematic) (UTM)

**Dr. Zanariah Binti Ahmad**

Ph.D (Teaching & Curriculum) Master (Technical & Vocational Education) (UTHM), Bachelor (Technical & Vocational Education) (UTHM)

**Ts. Dr. Yusmarwati Binti Yusof**

Ph.D (Education) (Uni. of East London), Master (Education) (ITTHO), Bachelor (Civil Engineering) (ITTHO), Cert (Civil Engineering) (POLISAS)

**Dr. Noorazman Bin Abd. Samad**

Ph.D (Technical & Vocational Education) (UTHM), Master (Curriculum & Pedagogy) (UKM), Bachelor (Public Management) (UUM), Diploma (Edu. Management) (UM)

**Ts. Dr. Yee Mei Heong**

Ph.D (Technical & Vocational Education) (UTHM), Master (Technical & Vocational Education) (UTM), Bachelor (Technology with Education) (UTM)

**Dr. Nur Syamimi Binti Mohd Razali**

Ph.D (Education Technology) (UTM), Bachelor (Education & Science) (UTM).

**Dr. Mohd Zufadli Bin Rozali**

Ph.D (Education) (UTHM), Master (Technical & Vocational Education) (UKM), Bachelor (Technology Management) (UTHM).

***Asst. Engineer***

**Mr. Daud Bin Ahmad**

Cert.of Elect. Communication (Politeknik Ungku Omar, Ipoh).

**Mr. Natijau @ Mohd Hazizul Bin Silam**

Cert.of Elect.Power (Politeknik Batu Pahat).

**Mrs. Noor Hayati Binti Mustafa**

Cert.of Elect. Communication (Politeknik Sultan Haji Ahmad Shah, Kuantan).

**Mr. Omar Bin Motaji**

Cert.of Elect. Communication (Politeknik Ungku Omar, Ipoh).

**Mr. Mansor Bin Mordi**

Cert.of Elect. Communication (Politeknik Sultan Haji Ahmad Shah, Kuantan).

**Mr. Yushadi Bin Muslim**

Cert.of Elect. Communication (Politeknik Sultan Haji Ahmad Shah, Kuantan).

**Mrs. Zanariah Binti Ahmad**

Cert.of Elect. Communication (Politeknik Sultan Ahmad Shah).

**Vocational Education Department**

***Academic staff***

**Head of Vocational Education Department**

**Ts. Dr. Faizal Amin Nur Bin Yunus**

Ph.D (Technical & Vocational Education) (UKM), Master (Technical Education) (UTHM), Bachelor (Mechanical Engineering) (UTHM)

**Associate Prof. Ts. Dr. Ahmad Rizal Bin Madar**

Ph.D (Technical & Vocational Education) (UTM), Master (Education) (KUiTTTHO), Bachelor (Elect. Engineering), (KUiTTTHO), Diploma (UTM)

**Associate Prof. Ts. Dr. Razali Bin Hassan**

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**Associate Prof. Ts. Dr. Mohamad Hisyam Bin Mohd Hashim**

Ph.D (Technology Education) (UPSI), Master (UTM), Bachelor (Elect. Eng.) (UTM), Cert.(POLIMAS)

**Associate Prof. Ts. Dr. Badaruddin Bin Ibrahim**

Ph.D (Colorado State Uni.), Master (Technical Education) (UTM), Bachelor (Mechanical Engineering) (ITTHO)

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**Associate Prof. Ts. Dr. Azman Bin Hasan**

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**Ts. Dr. Johnson Lim Soon Chong**

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**Ts. Dr. Rohayu Binti Roddin**

Ph.D (Town & Regional Planning) (UTM), Master (Tourism Planning) (UTM), Bachelor (Town & Regional Planning) (UTM)

**Ts. Dr. Marlina Binti Mohamad**

Ph.D (Business-Instructional Design) (Melbourne Royal Institute of Technology University), Master (Information Technology) (UTM), Bachelor (Computer) (UTM), Diploma (UTM)

**Dr. Lutfiah Natrah Binti Abbas @ Ahmad**

Ph.D (Education) (Nova Southeastern University), Master (Technical & Vocational Education ) (UTHM), Bachelor (Technology Management) (UiTM), Diploma (UiTM)

**Ts. Dr. Tamil Selvan A/L Subramaniam**

Ph.D (Resource & Information Technology) (UKM), Master (Instructional Design & Technology) (UTHM), Bachelor (Technical & Vocational Education) (UTHM)

**Ts. Dr. Affero Bin Ismail**

Ph.D (Technical & Vocational Education) (UTHM), Master (Human Resource Dev.) (UPM), Bachelor (Computer System & Communication) (UPM)

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Ph.D (Education), Master (Mechanical Engineering) (UTHM), Bachelor (Mechanical Engineering) (UniMAP)

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Ph.D (Education Technology & Multimedia) (USM), Master (Technical Education) (UTHM), Bachelor (Electric & Electronic Engineering) (UMP)

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Ph. D (Education) (UM) Master (Food Services Management) (UiTM), Bachelor (Food Services Management) (UiTM)

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PhD (Measurement & Assessment) Master (Vocational Education) (UTM), Bachelor (Electrical Engineering) (UTM)

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Ph.D (Technical & Vocational Education) (UTM), Master (Technical & Vocational Education) (UTHM), Bachelor (Komunikasi Data dan Perangkaian Maklumat) (UiTM), Diploma (UiTM)

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Ph.D (Education Technology) (USM), Master (Instructional Design and Technology) (UTHM), Bachelor (Technical & Vocational Education) (UTHM)

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Master (Education) (UTM), Bachelor (Electrical Engineering) (ITTTHO)

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Master (Education) (UTM), Bachelor (Electrical Engineering) (UTM)

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Master (Education) (UTM), Bachelor (Hospitality Management) (The Ohio State University)

**Asst. Engineer**

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Dip. (Politeknik Johor Bharu), Cert. (Politeknik Ungku Omar).

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Dip. (Politeknik Johor Bharu), Cert.of Mech. Eng (Politeknik Port Dickson)

**Mr. Aminuddin Bin Abas**

Dip. (Politeknik Johor Bharu), Cert.of Mech. Eng (Politeknik Port Dickson)

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Cert.of Elec. Power (Politeknik Port Dickson)

**Mr. Muhammad Muzammil Bin Noruddin**

Dip. (Politeknik Merlimau), Cert.of Mech. Eng (Politeknik Merlimau).

**Mr. Mohd Razali Bin Mohd Muksin**

Cert. (Politeknik Sultan Salahudin Abdul Aziz Shah, Shah Alam).

**Mr. Mohd Syah Hafiz Bin Masrol**

Cert. (Electric & Electronic) (Politeknik Johor Bharu)

**Mrs. Maizathul Sahida Binti Othman**

Dip. (Electronic Computer), Cert. (Electric & Electronic Eng.) (Politeknik Johor Bharu)

**Mrs. Manisah Binti Suriati @ Suriat**

Dip. (Electronic ), Cert. (Electric & Electronic Eng) (Politeknik Johor Bharu)

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Cert. (Mechanical Eng.) (Politeknik Kota Melaka).

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Dip. (Civil Engineering) (Politeknik Port Dickson), Cert. (Civil Eng.) (Politeknik Merlimau).

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##### **Ts. Saiful Hadi Bin Masran**

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Ph.D (Technical & Vocational Education) (UKM), Master (Technical Education) (UTHM), Bachelor (Refrigeration Technology And Air Conditioning) (UniKL/MFI)

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Ph.D (Technical & Vocational Education) (UTM), Master (Technical Education) (UTM), Bachelor (Manufacturing Engineering) (ITTHO)

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**Mr. Mohd Akmal Bin Rohiat**

Master (Tourism Planning) (UTM), Bachelor (Hospitality Management) (UNITAR) Diploma (Hotel Management) (UNITAR)

**Ts. Mohd Fairuz Bin Marian**

Master (Mechanical Engineering) (UTHM), Bachelor (Mechanical Engineering) (KUiTTTHO)

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Master (Vocational Education) (KUiTTTHO), Bachelor (Civil Engineering) (USM)

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**Head of Teching Practice and Industrial Training Department**

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Ph.D (Technical & Vocational Education) (UTM), Master (Technical & Vocational Education) (UTM), Bachelor (Technical & Education) (UTM)

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**Academic Staff**

**Head of ACTIVE**

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PhD (Education & Human Resource) (Colorado State University), Master (Education) (UTM), Bachelor (Electrical Engineering) (UTM), Cert. (PPD)

### **Programme Name**

Bachelor Degree in Vocational Education (Building Construction) with Honours

### **Programme Aims**

The program is designed to be in line with the vision and mission of the University. Through this program, graduates are expected to become part of the educator in TVET and skilled worker which is capable in driving the growth of the country accordance with the aspirations of Vision 2020. This program also to produce skilled educators who are able to confront challenges faced during their experiences in teaching, managing and supervising students, by familiarising them with relevant, appropriate and significant research-based knowledge in different areas of education. This will be done with the course emphasizing new technologies, which also include theoretical and practical skills. In addition, this program will also expose students to a variety of activities that can increase the generic skills and personality.

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

These are the PEOs for Bachelor Degree in Vocational Education (Building Construction) with Honours is to produce professional instructors in the field of TVET that who are:

- PEO 1 : Knowledgeable and skilled in the field of vocational education (Building Construction) in line with the needs of the national education industry.
- PEO 2 : Able to communicate effectively and have a high quality of professional leadership in line with the responsibilities given across the diversity of community background, personality, complexity of the educational process in the field of vocational education from primary to tertiary level.
- PEO 3 : Able to solve problems creatively and innovatively in the field of vocational education (Building Construction) and subsequently constantly display, strengthen, appreciate the ethics and professional code of practice as well as the values of the teaching profession in educational practice.
- PEO 4 : Able and wise in strengthening positive and productive relationships with family and community as well as engaging in lifelong learning and contributing to life.
- PEO 5 : Competent in applying technology to improve efficiency and training skills according to the needs of the country's vocational education.
- PEO 6 : Demonstrate high competencies in entrepreneurial skills, the ability to enhance personal knowledge, talents and personalities gradually and continuously in the field of Building Construction.



## **Programme Learning Outcomes (PLO)**

These are the PLOs for Bachelor Degree in Vocational Education (Building Construction) with Honours:

- PLO 1 : Analyze and develop students' knowledge and understanding of (student learning) in certain subjects, across curriculum activities and programs to achieve the entire curriculum of educational institutions that will be provided services.
- PLO 2 : Apply various philosophies and effective practical skills to educational situations both in terms of different levels of education and educational settings.
- PLO 3 : Creative and innovative promote the use of the corpus of knowledge of the teaching profession and quality practice protocols in the educational environment as well as address the context of students' cultural diversity in a sensitive, effective and prudent manner to foster learning, and competent student talents and potential.
- PLO 4 : Meet the requirements of professional teaching standards embedded at all levels (schools, colleges, universities and other learning organizations).
- PLO 5 : Apply knowledge of interpersonal skills, communication skills and be able to work collaboratively and independently to solve problems in different educational environments.
- PLO 6 : Exhibit and demonstrate professional leadership characteristics appropriate to the given responsibilities.
- PLO 7 : Prudently apply problem-solving skills and scientific skills as well as awareness of the role of research through mastery of knowledge and understanding in their ever-evolving professional practice.
- PLO 8 : Reflect and learn from their own experiences in order to advance and drive their learning forward, for example, by using the theory of constructivism for universal benefit.
- PLO 9 : Practicing and demonstrating management, entrepreneurship and ICT skills as well as being responsive to changes in education as an academic and professional discipline.
- PLO 10: Develops encyclopedic general knowledge and diverse individual talents and potential to the highest level continuously and incrementally.
- PLO 11: Contribute to community development through professional organizations or voluntary organizations through active involvement in social responsibility.
- PLO 12: Exhibit and demonstrate research, creativity, innovation and design capabilities.

## Curriculum Structure

Table 1: Summary of curriculum for the Bachelor Degree in Vocational Education (Building Construction) with Honours

COURSE COMPONENT	BIL	COURSE CODE	COURSE	CREDIT
<b>Compulsory University Courses</b>	1	UHB10102	English for Higher Education	2
	2	UHB20102	Essential Academic English	2
	3	UHB30102	English for Technical Purposes	2
	4	UHB40102	English for Occupational Purposes	2
	5	UQI10102/ UQI10202	Islamic Studies/ Moral Studies	2
	6	UQ*1xx02	Foreign Language	2
	7	UQU10103	Nationhood and Current Development of Malaysia	3
	8	UQI11202	Philosophy and Current Issues	2
	9	UQU10702	Appreciation, Ethics and Civilization	2
	10	UQ* 1XXX1	Cocurriculum 1	1
	11	UQ* 1XXX1	Cocurriculum 2	1
<b>Core Faculty Courses (Education Foundation Course)</b>	1	BBD 10102	Philosophy of Education	2
	2	BBD 10202	Educational Psychology	2
	3	BBD 10302	Pedagogy	2
	4	BBD 10803	Information Technology in Education	3
	5	BBD 20202	Educational Technology	2
	6	BBD 20403	Micro Teaching	3
	7	BBD20603	Education Management	3
	8	BBD20703	Measurement and Evaluation in Education	3
	9	BBD 20802	Technical Vocational Education and Planning	2
	10	BBD 30302	Guidance and Counselling	2
	11	BBD 30402	Educational Data Reasoning	2
	12	BBD 30502	Sociology in Education	2
<b>Core Faculty Course (Vocational Education Course)</b>	1	BBP 10603	Mathematics I	3
	2	BBP 10403	Mathematics II	3
	3	BBP 10502	Creativity And Innovation In TVE	2
	4	BBP40302	Entrepreneurship	2
	5	BBP 20203	Engineering Graphics	3
	6	BBP 20202	Occupational Safety and Health	2
	7	BBP 30403	Research Methodology in TVE	3
	8	BBP 20402	Project Management	2
	9	BBP 30103	Laboratory and Workshop Management	3
	10	BBP 30102	Industrial Design	2
	11	BBB 40302	Contract and Estimation	2
	12	BBB 30103	Mechanic Structure	3
	13	BBP 40102	Final Year Project 1	2
	14	BBP 40204	Final Year Project 2	4

<b>Core Faculty Course (Professional Practice Course)</b>	1	BBD 10500	School Orientation Training - ROS (2w)	0
	2	BBP40408	Teaching Training	8
	3	BBP 30404	Industrial Training	4
<b>Discipline Courses</b>	1	BBB 10102	Construction Material	2
	2	BBB 10202	Building Construction	2
	3	BBB 20403	Construction Technology 1	3
	4	BBB 20203	Engineering Survey	3
	5	BBB 20503	Construction Technology 2	3
	6	BBB 30503	Construction Technology 3	3
	7	BBB 30302	Water Supply and Sewerage System	2
	8	BBB 30603	Carpentry 1	3
	9	BBB 40803	Carpentry 2	3
<b>Elective Courses</b>	10	BBB 40703	Building Maintenance and Services	3
	11	BBA 40203	Services and Maintenance Domestic Refrigeration and Air Conditioning System	
	12	BBB 40103	Building Drawing	3
	13	BBP 10703	Fundamental of Electrical Technology	
	14	BBB 40203	Domestic Plumbing Laboratory	3
	15	BBV 40203	Electrical and Electronic Drawing	
	16	UQU40103	Professional At Work	3
<b>JUMLAH</b>				<b>130</b>

## University Course Synopsis

### UQ\* 10602 French Language

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**Prerequisite Course: None**

#### 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. Blackwell Publishing. Call no.: [PC2112. P74, 2003].
4. Hatier. (2002). Le Nouveau Bescherelle 12,000 French Verbs. English Edition. Paris: Librairie Hatier.
5. Hatier, (1995). Le Nouveau Bescherelle Complete Guide 12 000 French Verbs. Paris: Librairie Hatier.
6. Kaneman-Pougatch, Massia et al, (1997). Méthod de français: Café Crème 1. Paris: Hachette F.L.E.
7. Grégoir, Maïa et al, (1995). Grammaire Progressive du Français avec 500 exercices. Paris: CLE International.
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10. French Dictionary (1999). The New Collins Robert 5th Edition. Paris: Harper Collins Publishers.

### UQ\*10902 Mandarin Language

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**Prerequisite Course: None**

#### 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. Liu Xun (2010). *New Practical Chinese Reader: Textbook*. China: Beijing Language and Culture University Press. [PL1129.E5 .L58 2010]
3. Kang Yuhua (2007). *Conversational Chinese 301:Vol. 2*. China:Beijing Language and Culture University Press. [PL1121.C5 .K364 2007]
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5. Kang Yuhua (2005). *Conversational Chinese 301*. China: Beijing Language and Culture University Press. [PL1121.C5 .K36 2005]

## UQ\*11002 Malay Language

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**Prerequisite Course: None**

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

## UQB11202 Arabic Language

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**Prerequisite Course: None**

### 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). *Bahasa Arab UMR 1312*. Batu Pahat: Penerbit UTHM. [PJ6115 .M445 2008 a]
2. Abu 'Amiir 'Izzat. (2008). *Kamus adik: bahasa Melayu-bahasa Inggeris-bahasa Arab*. Kuala Terengganu: Pustaka Darul Iman. [PJ6640 ABU 2008]
3. Ab. Halim Mohammed; Rabiyyah Hajimaming; Wan Muhammad Wan Sulong. (2007). *Bahasa Arab Permulaan*. Serdang: Penerbit UPM. [PJ6065 .A32 2007]
4. Abdullah, Mustaffa Siti Rohaya Sarnap Siti Sujinah Sarnap. (2006). *Cara mudah belajar Bahasa Arab*.Singapore: Jahabersa. [PJ6106 .A22 2006]
5. Mohd Hisyam bin Abdul Rahim. (2005). *Senang Berbahasa Arab*. Batu Pahat: Penerbit KUiTTHO. [PJ6115 .M44 2005 a]
6. Mohd Azani Ghazali, Abdul Aziz Hassan @ Yahya. (2000). *Kamus ringkas Bahasa Melayu- Bahasa Arab*. Johor Bahru: Jahabersa. [PL5091.8 .A7 .M393 2000 rd]
7. Fuad Ni'mat. (1973). *Mulakhas qawa'id al-lughatul 'arabiyyah*. Damsyik: Darul

## UQB10802 Japanese Language

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**Prerequisite Course: None**

### 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. Surie, Network (2010). *AE Minna no Nihongo 1-2 Elementary: Translation and Grammatical Notes*, Tokyo: 3A Corporation. [PL539.3 .M57 2010]
2. Surie, Network (2010). *AE Minna no Nihongo 1-1 Elementary: Main Textbook*, Tokyo: 3A Corporation. [TK7885.7 .V44 2000r]
3. Surie, Network (2009). *AE Minna no Nihongo 1-1 Elementary: Translation and Grammatical Notes*, Tokyo: 3A Corporation. [PL539.3 .M567 2009]
4. Surie, Network (2009). *AE Minna no Nihongo 1-2 Elementary: Main Textbook*, Tokyo: 3A Corporation. [PL539.3 .M569 2009]
5. Rosmahalil Azrol Abdullah, (2008) : *Bahasa Jepun (UMJ 1312): Learning Module (2nd Edition)*, Batu Pahat. Penerbit UTHM. [PL539.3 .R67 2008a].
6. Surie Network, (2000). *Minna no Nihongo: Kaite Oboeru*, Tokyo: 3A Corporation. [PL539.3 .M56 2000]
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8. Surie Network, (1998). *Minna no Nihongo: Main Textbook - Shokyu 1*, Tokyo: 3A Corporation. [PL539.3 .M574 1998]
9. Yoshida, Masatoshi Nakamura, Yoshikatsu, (1996). *Kodansha's Furigana English-Japanese dictionary: the essential dictionary for all students of Japanese*, Tokyo: Kodansha International. [PL679. Y67 2006rd]
10. The AOTS, (1977). *Shin Nihongo no Kiso: Japanese Kana Workbook*, Tokyo: 3A Corporation. [PL539.3 .S54 1977]

### UQB10702 German Language

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**Prerequisite Course: None**

#### 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]
5. Robert Di Donato (2004). *Deutsch, Na Klar!* Boston: McGraw-Hill. [PF3112.

### UQB 11102 Spanish Language

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**Prerequisite Course: None**

#### 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. Nurul Sabrina Zan, (2010). *Hola! Hablo español* First Edition Batu Pahat: Penerbit UTHM. [PC4445 .N72 2010a]
2. Salina Husain, (2005). *Vamos a aprender español lengua extranjera* Batu Pahat: Penerbit UTHM. [PC4121 .S24 2005a]
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]
6. Vox modern Spanish and English dictionary: English-Spanish/Spanish-English (1986) National Textbook. Co. XX(131882.1)

### UQB11302 Javanese Language

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**Prerequisite Course: None**

### 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.

### References

1. Purwanto, Eko (2011). *Pepah Bahasa Jawi. Cara mudah belajar cepat dan tuntas bahasa Jawa*. Diva press. XX(131748.1)
2. Majendra, Maheswara (2010). *Kamus lengkap Indonesia-Jawa, Jawa-Indonesia/ Majendra Maheswara*. Pustaka Mahardika. XX(131732.1)
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4. Yrama, Widya (2008). *Cara belajar membaca dan menulis huruf jawa, jilid 1*. Yrama Widya. Publication info:, 2008 XX(131738.1)
5. Yrama, Widya (2008). *Cara belajar membaca dan menulis huruf jawa, jilid*

### UHB 10102 English for Higher Education

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**Prerequisite Course(s): None**

### Synopsis

This course exposes students to English language learning in higher education and enhances their study skills. Students have opportunities to learn about using technological affordance in listening to lectures, note taking, library and internet research, conducting academic group discussions, preparing and delivering presentations and writing academic report. The course also provides opportunities for student 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

1. Agosti, M. (2008). *Information Access through Search Engines and Digital Libraries*. Berlin : Springer Science & Business Media. Z699. I534 2008.
2. Galanes, G.J. (2013). *Effective group discussion: Theory and Practice* (14th edition). New York : Mc Graw Hill. HM736. G34 2013.
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4. Wong, L. (2012). *Essential study skills* (7th edition). Boston, MA: Wadsworth Cengage Learning. LB1049. W66 2012.
5. 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 Essential Academic English**

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### **Prerequisite Course: English for Higher Education**

#### **Synopsis:**

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

#### **References:**

1. Bowen, E. (2010). *Listening In: Broadcasts, Speeches, and 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. Shipside, S (2007). *Effective communication: Get your message across and learn how to listen*. London : Dorling Kindersley. HF5718. S4 2007.
4. Smith, L.C (2005). *Exploring content 1: Reading for Academic Success*. White Plains, NY: Longman. PE1122. S64 2004
5. Kaur, H.(2005). *Explore MUET*. Kuala Lumpur: Fajar Bakti Sdn. Bhd.
6. Koh, S.L. (2005). *MUET Moments: Malaysia University English Test*. Selangor: Pearson. PE1128 .K63 2005
7. Richards,C. (2009). *Longman Text MUET : A Strategic Approach*. Petaling Jaya: Pearson Malaysia. PE1128 .K97 2009

## **UHB 30102 English for Technical Purposes**

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### **Pre-requisite Course(s): UHB 20102 Essential Academic English**

#### **Synopsis**

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



## References

1. Chandra, S. (2013). *Research methodology*. Oxford U.K. : Alpha Science Int. Ltd. H62. C42 2013.
2. Newby, P. (2014). *Research methods for education*. Abingdon: Routledge. LB1028. N48 2014.
3. Sekaran, U. (2013). *Research methods for business: A Skill Building Approach*. Chichester. HD30.4. S44 2013
4. Joan van Emden, L. (2004). *Presentation skills for students*. New York: Palgrave Macmillan.

## **UHB 40102 English for Occupational Purposes**

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### **Prerequisite Course(s): UHB 30102 English for Technical Purposes**

#### **Synopsis**

This course employs a task-based learning approach and focuses on developing student's delivery of speech in oral interactions and job interviews and presentations. Particular emphasis will be given to promote mastery of self-directed learning, teamwork, research, oral presentations, reasoning and creativity. This course also enable students to acquire 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. F (2009). *Meeting Skills for Leaders: Make Meetings More Productive*. Rochester, NY: Axzo Press. HD30.3. H39 2009.
2. Peberdy, Duncan (2009). *Brilliant Meetings: What to know, say and do to have fewer, better meetings*. Harlow: Prentice Hill. HF5734.5. P42 2009
3. Wendleton, Kate. (2014). *Mastering the Job Interview: And Winning the Money Game*. Boston: Cengage Learning. HF5549.5. I6. W46 2014.
4. Wrathall, Jeff (2011). *Event Management: Theory and Practice*. North Ryde, N.S.W: McGraw-Hill. GT3405. W72 2011.

## **UQI 10702 Appreciation, Ethics and Civilization**

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### **Prerequisite Course(s): None**

#### **Synopsis**

Students should be exposed civilizations and its values as it is the basis for learning of science, technology and engineering. This course is a compulsory course stipulated by the Ministry of Higher Education and UTHM to fulfil MQA requirement.

#### **References**

1. Mohd Taib Osman (1997). *Islam In The Malay World*. Kuala Lumpur: Dewan Bahasa Dan Pustaka. DS36.86.M63 1997
2. Al-Attas, Syed Muhammad Naquib (2011). *Historical Fact and Fiction*. Kuala Lumpur, Malaysia: UTM Press. BP50.S93 2011 N.S.W: McGraw-Hill. GT3405. W72 2011.
3. Barbara A. West (2009). *Encyclopedia of the Peoples of Asia and Oceania (2 Vols.)*. New York: Facts of Life Inc. GN625.W47 2009 v.2
4. Andrew Gordon (2003). *A Modern History of Japan: From Tokugawa Times to the Present*. New York: Oxford University Press. DS881.9.G67 2003

5. John Keay (2010) 2nd. Edition. India: A History, From the Earliest Civilisations to the Boom of the Twenty-First Century. New York: Grove Press. PS374.N65 2000

### **UQI 11202 Philosophy and Current Issues**

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**Prerequisite Course(s): None**

#### **Synopsis**

This course focuses on the conceptual and practicality of the ethnic relation in the Malaysian context. The discussions comprise of fundamental concepts of ethnic relation and the history of the construction of a plural society, constitution as the core of the societal life, relationship between development and the ethnicity in the aspects of economy, politics and social based on the government and society top-down and bottom-up approaches.

Students

#### **References**

1. Shamsul Amri Baharuddin. (2012). Modul Hubungan Etnik g Edisi Dua. Bangi: Institut Kajian Etnik. Universiti Kebangsaan Malaysia.
2. [DS595 .M62 2007].
3. Dworkin, A.G. (1999). The minority report: An introduction to racial, ethnic and gender relations. Fort Worth: Harcourt Barce College Pub. [E184.A1 .M56 1999].
4. Holst, F. (2012). Ethnicization and identity construction in Malaysia. New York: Routledge. [DS595 .H64 2012 v. 12].
6. Wan Hashim Wan Teh. (2011). Hubungan Etnik di Malaysia. Kuala Lumpur: ITNM. [DS595.W36 2011].
7. Zaid Ahmad. (2010). Hubungan Etnik di Malaysia. Oxford Fajar: Shah Alam. [DS595 .H822010].

### **UQ\* 1\*\*01 Cocurriculum 1 & 2**

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**Prerequisite Course(s): None**

#### **Synopsis**

This course is offered in various forms of activity options for students of Bachelor and Diploma level. Eight of the activities offered are Public Speaking, Entrepreneurship, Sports, Community Service, Volunteerism, Leadership, Culture and Innovation.

#### **References**

1. Ab. Alim Abd Rahim (2004). Pengurusan gerak kerja kokurikulum. Shah Alam : Penerbit Fajar Bakti. No. Panggilan : LB3605 .A44 2004.
2. Abu Bakar Nordin dan Ikhsan Othman (2008). Falsafah pendidikan dan kurikulum. Perak: Quantum Books. No. Panggilan : LB1570 .A22 2008.
3. Saifullizam Puteh (2006). Pengurusan Kokurikulum: Modul Pengajaran. Batu Pahat: Universiti Tun Hussein Onn Malaysia. No Panggilan : LB3605 .S24 2006 a.
4. Mohd Sofian Omar Fauzee, Aminuddin Yusof dan Borhan Yusof (2002). Kokurikulum : peranan dan implikasi. Kuala Lumpur : Utusan Pub.. No panggilan : LB3605 .M76 2002.

5. Mok, Soon Sang (2008). *Pengurusan Kokurikulum dan Pendidikan Sukan*. Puchong : Penerbitan Multimedia. No panggilan : LB3605 .M64 2008.

### **UQI10102 Islamic Studies**

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**Prerequisite Course(s):** None

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

### **UQI 10202 Moral Studies**

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**Prerequisite:** None

**Prerequisite Course(s):** None

#### **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. Mohd Nasir Omar. (2010). *Falsafah Akhlak*, Penerbit Universiti Kebangsaan Malaysia, Bangi. [BJ1291 .M524 2010].
2. Hussain Othman. (2009). *Wacana Asasi Agama dan Sains*. Batu Pahat: Penerbit UTHM. [BL 240.3 H87 2009a].
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. Eow Boon Hin. (2002). *Moral Education*. Longman. [LC268 .E48 2008].
5. Ahmad Khamis. (1999). *Etika Untuk Institusi Pengajian Tinggi*. Kuala Lumpur: Kumpulan Budiman. [LC315.M3 .A35 1999].

## **UQI 10302 Islamic and Asian Civilisations**

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**Prerequisite Course(s):** None

### **Synopsis**

This course discusses on the civilization, its development, interaction between civilizations, the Islamic civilization, Islam in Malay civilization; contemporary civilization issues and the principles of Islam Hadhari.

### **References**

1. Saifullah Mohd Sawi (2009), *Sejarah dan tamadun Islam di Asia Tenggara*, Shah Alam. Karisma Publications, [BP63.A785 .S24 2009]
2. Sazelin Arif, (2007), *Tamadun Islam dan tamadun Asia*, Shah Alam, Selangor: McGraw Hill. [BP190.5 .T35 2007]
3. Abu al-Fida al Hafiz Ismail ibn Kathir ; penterjemah Zaidah Mohd Nor ... [et al.],
4. (2005), *Sejarah tamadun Islam Ibn Kathir*, Kuala Lumpur : Dewan Bahasa dan Pustaka. [DS36.85.I32 2005 v.1]
5. Mohd Liki Hamid, (2003), *Pengajian tamadun Islam*, Bentong : PTS Publications and Distributors. [DS36.85 .P46 2003]
6. Lok, Chong Hoe, (1998), *Tamadun Cina : falsafah, pandangan hidup dan aspek-aspek kesenian*, Kuala Lumpur : Pusat pembangunan dan Pendidikan Komuniti (CEDC) dan Sekretariat Falsafah dan Sains Islam. Universiti Sains Malaysia. [DS721 .L64 1998]
7. Rajakrishnan Ramasamy, M Rajantheran, (1994), *Pengantar tamadun India*, Kuala Lumpur : Penerbit Fajar Bakti. [DS425 .R34 1994]

## **UQU 10103 Nationhood and Recent Development in Malaysia**

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**Prerequisite Course(s):** None

### **Synopsis**

This course will provide students a fundamental concept, the processes of formation and development of Malaysia. The topics covered include the concept of state, Malacca Kingdom, implication of imperialism and colonization, spirit of patriotism and nationalism, independence and formation of Malaysia. Besides, students will also be exposed to the constitution of Malaysia, Malaysian Government System, Economic and Social Development Policy as the main policy in the national development. At the end of the course students will able to appreciate the roles and responsibilities of a good citizen to the country.

### **References**

1. Zahrul Akmal Damin, Fauziah Ani, Lutfan Jaes, Khairunesa Isa, Siti Sarawati Johar, Harliana Halim, Khairul Azman Mohd Suhaimy, Shamsaadal Sholeh Saad, Ku Hasnan Ku Halim dan Mohd Akbal Abdullah (2009). *Kenegaraan & Pembangunan Malaysia*. Batu Pahat: Penerbit UTHM.
2. Ruslan Zainudin, Mohd Mahadee Ismail & Zaini Othman. (2005). *Kenegaraan Malaysia*. Shah Alam: Fajar Bakti. [JQ715 .R87 2005].
3. Nazaruddin Mohd Jali, Ma'rof Redzuan, Asnarulkhadi Abu Samah & Ismail Mohd Rashid. (2005). *Pengajian Malaysia*. Petaling Jaya: Prentice Hall. [DS596.6 .P46 2001 N2].
4. Mohd Ashraf Ibrahim. (2004). *Gagasan Bangsa Malayan yang Bersatu 1945-57*. Bangi: Penerbit UKM. [DS597 .M37 2004].
5. Noor Aziah Mohd Awal. (2003). *Pengenalan kepada Sistem Perundangan di Malaysia*. Petaling Jaya: International Law Book Services. [KPG68 .N66 2003]

## Faculty Course Synopsis

### BBP 10102 Philosophy Education

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**Prerequisite Course(s): None**

#### Synopsis

This course focuses on understanding of philosophy: general philosophy, what is philosophy, what is education. Branches of philosophy: the concept and function, metaphysics, epistemology, axiology, and logic. Mainstreams of western philosophies: idealism, realism, pragmatism, existentialism. Western educational philosophy: essentialism, perennials, progressivism, reconstructionist. The philosophy of Islamic education: policy and objectives, scope and field of Islamic education, Islamic education curriculum. The National Education Philosophy (FPN): the descriptions of FPN, a brief history of the formation of FPN, the elements and the role of FPN, the National Education Philosophy (FPK): the concepts, values in FPK, the importance of the application of values in the education system, the implications FPK for the country's education system, the development of policy and the national education system. Teacher Education Philosophy (FPG): insights on education, the development of teacher education and training, the ethics of teaching profession through FPG. Teachers and the Environmental Education: teaching scenario in Malaysia, professionalism: the concept and needs, ethics and responsibility of teachers, motivation, job satisfaction and teacher performance.

#### References

1. Abd Rahim Abd Rashid (2003). Falsafah Budaya Dalam Pendidikan. Kuala Lumpur: Penerbit Universiti Malaya.. No. Panggilan : LA132 .F34 2003
2. Abu Bakar Nordin dan Ikhsan Othman (2008). Falsafah pendidikan dan kurikulum. Perak: Quantum Books. No. Panggilan : LB1570 .A22 2008
3. Abdul Fatah Hasan (2001). Pengenalan Falsafah Pendidikan. . Kuala Lumpur: PTS Publications & Distributors Sdn. Bhd. No. Panggilan : LA21 .A32 2001
4. Sufean Hussin (2004). Pendidikan di Malaysia: sejarah, sistem dan falsafah. Kuala Lumpur: Dewan Bahasa dan Pustaka. No.Panggilan : LA1236 .S93 2004
5. Abdul Rahman Arof & Zakaria Kasa (1995). Falsafah dan Konsep Pendidikan. . Kuala Lumpur: Fajar Bakti. No. Panggilan : LB19 .A72 1995.

### BBD 20202 Educational Technology

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**Prerequisite Course(s): None**

#### Synopsis

This course focuses on Introduction to educational technology: the definition of "technology" and "education", educational technology and teaching technology. Design and teaching model: learning theory, teaching model, Dick & Carey model, ADDIE model, ASSURE model, teaching design, teaching strategy, motivational aspect (ARCS), 9 learning stages (Gagne). The effectiveness and selection of teaching materials: The use of tools in Teaching, the selection of teaching materials. Spacing: showroom, presentation tool, presentation strategy. Visuals are not impressions: natural objects, models, photos and graphics. Visual Impressions: slides, movies, multimedia systems. Photography: Original format, digital format, presentation from a computer. Audio media: audio and audio audio, analog and digital audio concepts,

audio use as teaching materials, examples of audio use in education. Video Use in Education: Basic video concept, camera handling, script writing, video role in education, the benefits of video use in education, classroom use of video use. Computer In Education: the primary role of a computer, a computer in teaching and learning a computer in management and management. Learning education through web and tele trial: definition of learning through the web, web usage as a teaching medium, computer video search telesidang. Resource center: School Resource Center, Teacher Activity Center, Electronic Resource Center. Telecommunication systems: applications in education, educational communication functions, Current Communication Technology in Education.

## References

1. Heinich, R., Molenda M., Russell, J.D., & Smaldino, S.E. (2002). *Instructional Media and Technologies for Learning: 7th Edition*. New Jersey: Merrill Prentice Hall. No panggilan: LB1028.3 .H44 2002.
2. Smaldino, Sharon E. (2005). *Instructional technology and media for learning*. New Jersey: Pearson. No panggilan: LB1028.3 .I57 2005.
3. Januszewski, Alan (2008). *Educational technology : a definition with commentary*. Mahwah, NJ : L. Erlbaum Associates. No panggilan: LB1028.3 .J36 2008.
4. Kemp, J.E. & Smellie, D.C (1994). *Planning, Producing and Using Instructional Technologies: 7th Edition*. New York: Harper Collins College Publishers. No panggilan:
5. Zol Azlan Hamidin (2000). *Strategi Pengajaran : Pendekatan sains teknologi masyarakat*. Selangor : Pearson. No

## **BBD 10302 Pedagogy**

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**Prerequisite Course(s): None**

### **Synopsis**

This course focuses on the understanding of teaching and learning: definition of teaching, the differences between pedagogy and andragogy, teaching as an art and science, and reflection on teaching and learning insight. Teacher: Who teacher, the role of teachers, teacher personality, ethics of teaching profession, teachers and the community. Brief description on Models of Teaching: The Sim, Glaser, Taba, Suchmen, Systems Approach, Classroom Teaching, Laboratory and workshop Teaching Models. Teaching approaches: the teacher-centered, student-centered, content, tools & teaching materials-centered, inductive and deductive teaching. Science Process Skills Education, Technical and Vocational Education: the scientific method, science process skills, manipulative skills, thinking skills, reflective skills, behaviorism, objectivism and constructivism, Learning Skills: reading and communication, concept mapping, using journal and portfolio, develop teaching modules, individual learning , Teaching methods: selecting teaching methods, the diversity of teaching methods, The lectures, practical methods, demonstration workshops , project method, problem-based teaching methods, teaching computerized, andragogy teaching, simulation methods, interactive methods (discussions, brainstorming, buzz group) , schools and sites visits, teaching strategies and collaborative techniques in vocational teaching and training. Teaching skills: proficiency in questioning and answering skills, set induction skills, closing skills, strengthening skills, practices in learning outcomes, various stimulus skills, skillful in selecting media and teaching aids. Instructional design: effective teaching, teaching planning definition, curriculum and syllabus, Determining specification for teaching schedules, Planning semester teaching, teaching planning weekly, daily lesson plan, teaching assessment: assessment through reflections, supervision, clinical supervision,

teaching assessment instruments, peer-assessment.

## References

1. Barell, John (2007) Problem-Based Learning: An Inquiry Approach. Corwin Press, Thousand Oaks. No ISBN:141295004X, 9781412950046.
2. Joel Spring, (2006). Pedagogies of globalization: the rise of the educational security state. Mahway, NJ: L. Erlbaum. No.Panggilan: LC71 .S67 2006.
3. Shahabuddin Hashim, Rohizani Yaakub dan Mohd. Zohir Ahmad (2003). Pedagogi: Strategi dan Teknik Mengajar Dengan Berkesan. Pahang: PTS Publications. No.Panggilan LB1775.2 .S52 2003.
4. Mok Soon Sang (2002). Pedagogi: Untuk Kursus Diploma Perguruan Semester 3, Kuala Lumpur: Kumpulan Budiman. No.Panggilan: LB1025.3 .M65 2002.
5. Abd Aziz Abd Talib (2000). Pedagogi Bahasa Melayu: Prinsip, Kaedah dan Teknik. Kuala Lumpur: Utusan Publications and Distributors. No.Panggilan: PL5105 .A29 2000 n.5.

## **BBD 10202 Psychology Education**

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**Prerequisite Course(s): None**

### **Synopsis**

This course focuses on the Introduction to Psychology and Educational Psychology: What is psychology?, What is educational psychology?. Why study psychology, understanding the basic concepts of psychology, fields of psychology. Human nature: the meaning of human needs, various kinds of needs, motivation and relevance to the needs, behavior problems that arise when the requirements are not met, the potential, strength and human weakness. Theories of development: the notion of growth, meanings of development, development theory, the implications of the concept of growth and development of teaching and learning in the classroom, growth theory, the implications of the growth and development of teaching and learning in the classroom. Individual differences: understanding individual differences, aspects of individual differences, the factors that cause individual differences in terms of cognitive, social, emotional and psychomotor effects of individual differences on schooling progress of students, teachers face the problem of how individual differences of students in school. Personality: the difference between the personality, character and traits, the classification of personality, factors that influence personality and learning style. Self-Concept: Ideas about self-concept, types of self-concept, the factors that cause a negative self-concept, self-defense tricks, how teachers help children form a positive self-concept, behavior problems and behavior modification. Behavioral psychology: understanding developmental tasks, the main features of the development task, the task of development in Havighurst, the problems in the achievement of developmental tasks, how teachers help children cope and achieve developmental tasks in accordance with the ranking, behavioral modification. Teaching and Learning: the definition of teaching, teaching models, a definition of learning, types of learning, learning styles, learning style model, the relationship between teaching and learning styles, learning process: the willingness, motivation, perception and responsiveness, memory and forgetting, transfer of learning, learning styles, learning styles implications in the teaching and learning process. Learning theories: cognitive learning theory, behaviorism learning theory, social learning theory, learning theory humanist. Thinking: the concept and process of thinking, reflective thinking, relationships with educational psychology and teaching supplies.

## References

1. Sahizan Hasan, Tsai Chen Chien dan Saw Hooi Chin. (2004). Intrapersonal dan Interpersonal Untuk Remaja. Bentong: Publications and Distributors. No. Panggilan: BF637.C45 .S52 2003.
2. Mohamed Hatta Shaharom. (2003). Psikologi dan Kaunseling Remaja. Bentong Publications and Distributors. No. Panggilan: HV1421 .M42 2003.
3. Noraini Ahmad. (2003). Kaunseling Remaja. Selangor: Utusan Publication and Distributors Sdn. Bhd. No. Panggilan: BF637.C6 N67 2003.
4. Corbin, Barry. (2008). Unleashing the potential of thr teenage brain: 10 powerful ideas. Thousand Oaks, CA: Corwin Press. No. Panggilan: LB1060 .C68 2008.
5. Metcalf, Linda. (2008). Counseling Toward Solutions : A Practical Solution-Focused Program for Working With Students, Teachers and Parents. 2<sup>nd</sup> ed. San Francisco, CA: Jossey-Bass. No. Panggilan: LB1027.5 .M47 2008.

## **BBD 20403 Micro Teaching**

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**Prerequisite Course(s): BBD20102 Pedagogy**

### **Synopsis**

This course focuses on micro-teaching. Curriculum Analysis, Planning, Teachings Aids /Tools, Documentation, Micro Teaching Theory and Practice (Specialization). Induction Skills, Teaching Skills, Skills in closing / ending the teaching sessions, and reflecting skills.

### **References**

1. Zol Azlan Hamidin (2000). Strategi Pengajaran : Pendekatan sains teknologi masyarakat. Selangor : Pearson. No panggilan: LB1532.M3 .Z64 2000.
2. Castaeda, Carmelita Rosie (2004). Teaching and Learning in Divers Classrooms, New York: Routledge Flamer. No panggilan: LC1099.3 .C37 2004.
3. Siow Heng Loke (2005). Pedagogi Merentas Kurikulum. Kuala Lumpur:Universiti Malaya. No panggilan:LB1025.3 .P42 2005.
4. Walker, Melaine (2006). Higher Education Pedagogies: A capabilities approach. New York: Open University Press. No panggilan: LB2322.2 .W34 2006.
5. Spring, Joel (2006). Pedagogies of Globalization:Tthe rise of the educational security state. Mahway, NJ: Erlbaum. No panggilan: LC71 .S67 2006

## **BBD 20703 Measurement and Evaluation in Education**

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**Prerequisite Course(s): None**

### **Synopsis**

This course focuses on the concept of testing, measurement, evaluation and assessment. Its covers type of evaluation; classification of test; characteristics of test; item skill level; development of objective and subjective item; planning of test; scoring scheme; administration of test; analysis and interpretation of the question; basic statistical evaluation; current issues of educational evaluation.



## References

1. Bhasah Abu Bakar (2003). Asas Pengukuran Bilik Darjah. Tanjung Malim: Quantum Books Perak.
2. Mohd Isha Awang (2005). Pengujian, Pengukuran dan Penilaian. Sintok: Azizi Publicist.
3. Kubiszyn, T dan Borich (2007). Educational Testing And Measurement: Classroom Application and Practice. 8<sup>th</sup> ed. Hoboken, NJ : John Wiley. No. Panggilan: LB3051.K82 2007.
4. Anderson, Lorin W. (2003). Classroom Assessment: Enhancing the Quality of Teacher Decision New Jersey: Lawrence Erlbaum Associates. No. Panggilan: LB3051 .A52 2003.
5. Linn, R and Gronlund, N. E (2000). Measurement and Assessment in Teaching. 8<sup>th</sup> ed. New Jersey: Prentice Hall. No. Panggilan: LB3051 .L54 2000.

## **BBD 30302 Guidance and Counseling**

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**Prerequisite Course(s): None**

### **Synopsis**

This course focuses on the basic concept of guidance and counseling: What is counseling, the development of guidance and counseling services in Malaysian schools. The philosophy of guidance and counseling services: the need for rational guidance and counseling services in the context of national education philosophy and technical and vocational education for the school and the community and the country. The qualities of a counselor: acceptance and warmth, do not punish (non-judgmental), the authenticity, accuracy (specificity). Procedure counseling processes: provide sessions, building relationships, exploring the problem, identify the cause of the problem, seeking and discussing alternatives for action, and ending the session. Basic counseling skills: listening, empathy: to understand the emotions and feelings, reflecting, explaining and paraphrasing, questioning and confronting, formulating and roll, counseling theories: comparison of western and Islamic counseling, psychoanalytic theory, the theory of convergence of the client (Client -Centered Therapy), Alfred Adler's theory, theory of behavior, theory of reality. Counseling services in schools: individual inventory, providing information, guidance / counseling groups, individual counseling, placement, drug use prevention, consultation and referral sources, subject areas: education counseling, career guidance, personal and social counseling. The use of tests in the guidance: the selection and administration of the tests, the validity of the tests, reliability tests, advantages and limitations in the use of the test, a sample-exam tests such as intelligence, aptitude test (talent and inclination), interest test, personality test. Ethics Counseling: Counseling ethical concepts, ethical counseling in Malaysia by Malaysia Counselor Association (PERKAMA).

## References

1. Ainon Mohd dan Abdullah Hassan (2002). Guru Sebagai Pendorong Dalam Bilik Darjah. Bentong, Pahang: PTS Publication & Distributors.
2. Jensen, Eric. (2008). Brain-Based Learning. 2<sup>nd</sup> Ed. Thousand Oaks, CA : Corwin. No Panggilan: LB1060 .J46 2008
3. Parsons, R.D. Hinson, S.L & Sardo-Brown, D. (2001). Educational Psychology: A Practitioner-Research Model of Teaching. Victoria : Thomson Learning. No Panggilan: LB1051 .P37 2001
4. Saedah Siraj, Zainun Ishak dan Tunku Mohani Tunku Mokhtar. (1996). Motivasi

- Dalam Pendidikan: Siri Pengajian dan Pendidikan Utusan. Kuala Lumpur: Utusan Malaysia Publication & Distributors.
5. Santrock, John, W. (2011). Educational Psychology. New York: McGraw Hill. No Panggilan: LB1051 .S26 2011

### **BBD 30402 Educational Data Reasoning**

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**Prerequisite Course(s): None**

#### **Synopsis**

This course focuses on the basics statistics: measuring nominal, ordinal and interval, descriptive statistics: mean, median and mode, standard deviation, population and sampling, distributions: normal, skewed, graphs and charts. Application statistics: an introduction to test significant, probability and significance, the general procedure is a significant test, chi-square test, Mann-Whitney U, correlation, statistical software: interface design and data input, data manipulation, data display: table, histogram, graphs, pie charts, commentary and interpretation of data: data, analyze data, formulate findings, the findings justify.

#### **References**

1. Latifah Mohd. Nor(2005). Statistics Made Simple (2<sup>nd</sup> Ed.). Kuala Lumpur: International
2. Islamic University. No. Panggilan: HA29 .L37 2005.
3. Marija,J.N.(2002).SPSS 11.0 Guide to Data Analysis: SPSS Inc..New Jersey:Prentice Hall.
4. Huck,S.(2000).Reading Statistics and Research. Needham Heights: Allyn and Bacon. No. Panggilan: QA276 .H82 2008.
5. Levin,J.,Fox,J.(2007).Elementary Statistics in Social Research. Needham Heights:Allyn And Bacon. No Panggilan: HA29 .L494 2007.
6. Mohd.Salleh Abudan Zaidatun Tasir.(2001). Pengenalan Kepada Analisis Data Berkomputer SPSS10.1 for Windows. Kuala Lumpur:Venton Pub. No. Panggilan: HA32 .M64 2001

### **BBD 30502 Sociology in Educational**

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**Prerequisite Course(s): None**

#### **Synopsis**

This course exposes students to the Introduction to Sociology, Definition of sociology, sociology as a discipline and its importance, development sociology. Prominent sociologist and its contribution: Auguste Comte, Herbert Spenser, Durkheim, Spenser, Lester. Theories of Sociology, theory of functionalism, conflict theory, interactionism theory. Sociology in the context of Malaysia's education system, the sociological role of Technical Education. Sociology as a means of social control. Cultural dissemination tools, Tools and ideological unity of the State, social stratification tool, Education System as Social Institutions. Structure and organization of educational institutions. Educational institutions and the community. Interaction in the education system. Community Services. And the difference equation. Differences and similarities in education. Education as a national ideology developer, Technical Education and Social Mobility. Factors of social mobility, the Technical Education and social impact on the socio-economic status, Social Effects of Technical Education Achievement. Environmental factors, socioeconomic status, values and culture of the school, Aspirations school, peer group and social opportunities, education system in Malaysia. The historicalperspectives and development of education in Malaysia. State education

system evolution patterns before and after the British occupation: the vernacular Chinese, Indian and English. National education policy, development of technical and vocational education, university education, Technical Education and National Development, Role of technical education in the national aspiration. Development of Technical Education in Malaysia, System of Higher Education, higher education functions, theory approach to higher education, Reform and Planning In the education system, dynamics change, perspectives change, strategies for school changes. Roles played by sociologists in education and changes in educational policies. Reform as a natural progression in education, liberalization and corporatization of liberalization and corporatization of education, education administration system: central, state and district levels.

## References

1. Ellen Brantlinger(2003). *Dividing classes: how the middle class negotiates and rationalizes school advantage*. London: RoutledgeFalmer. No. Panggilan: LC205 .B72 2003.
2. Jeanne H. Ballantine & Joan Z. Spade (2004), *Schools and society : A sociological approach to education*, 2nd ed. Belmont, CA: Wadsworth/Thomson. No Panggilan: LC191 .S33 2004.
3. Walter Feinberg, Jonas F. Soltis (2004), *School and society*. 4th ed. New York: Teachers College Press. No Panggilan: LC191 .F44 2004.
4. Alex Moore (2006). *Schooling, society and curriculum*. London: Taylor and Francis. No Panggilan: LC191.8.G7 .S33 2006.
5. Alan R. Sadovnik (2007). *Sociology of education: A critical reader*. New York: Routledge. No. Panggilan: LC191.2 .S52 2007.

## **BBD 20802 Technical Vocational Education and Planning**

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**Prerequisite Course(s): None**

### Synopsis

This course provides knowledge and concept in human resource management, development and organize in strengthen the human capital for organization. TVET planning including training and development involved by training provider, partnership between government and private also how the concept of workplace training applied. This course will provide an overview of how management concepts and training are needed in strengthening the role of TVET.

### References

1. Chris Brewster, Elizabeth Houldsworth, Paul Sparrow and Guy Vernon (2016). *International Human Resource Management*. Fourth edition. eBook ISBN97818439844184
2. DECenzo, David A.(2013). *Human Resource Management*. Singapore:John Wiley. (H5549.D42.2013)
3. Nocolescu, Ovidiu (2016). *Challenges, performance and tendencies in organization*. New Jersey: World Scientific. .(HD31 .C49 2016)
4. Noe,Raymond (20130). *Employee Training and Development*. New York: McGraw-Hill/Irwin.[HF5549.5.T7 .N63 2013]
5. Phillips, Jean M (2014). *Human Resource Management*. Mason, Ohio: South-Western. [HF5549.P444 2014]

## **BBP 10803 Information Technology in Education**

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**Prerequisite Course(s): None**

### **Synopsis**

Introduction to Information Technology; Information Age, Principles of Information Technology, Function And Benefits Information Technology, Multimedia Super Corridor (MSC), Cyber Law, Computer Software; Software, Software Applications, Software Type Basic, Word Processing; Basic Word Processor, Supporting Reading, type format and graphics, Listing Mel And Penggunannya, Publishing Desk, construction Test E-Form, Performance Electronics; Introduction, Multimedia Presentation, Construction Slides, Spreadsheet; Introduction, Features Basic Spreadsheet, Spreadsheet Integration in Teaching and Learning, Database; Type Database, usu- Organization, Servers, Features Basic Database, Editing Software: Adobe Photoshop; Introduction to Photoshop Interface, Functionality Each icon, Basic use of Adobe Photoshop, Basic Concept And Production Text, Basic Concepts Using Layer, Basic Concepts Using Channels and History, Basic Use Filter, Internet; Definitions, Basic Internet, Computer Internet, Basic Internet service, use of the Internet in Education, Communication Data; Key Elements of Communication, Signal Type, Transmission Mode, Trend Data, Shipping Rates, Issues and Opportunities of Information Technology; Professionalism, Ethics and Society, Issues Safety and Control Computer Systems, Health and Ergonomics, Opportunities in IT, Information Technology and the Future.

### **References**

1. Abdul Razak Hamdan, Yazrina Yahya, Muhd Shanudin Zakaria dan Mohd Zamri Murah.2000. Teknologi Maklumat. Kuala Lumpur:McGraw Hill T58.5 .T44 .A22 2000
2. Stallings, W. and Van Slyke,R.2001. Business Data Communications. Upper Sydel River, New Jersey: Prentice Hall. Edisi ke 4. HF5548.2 .S83 1994
3. Panko, R. R. 2001. Business Data Communications and Networking. Upper Sydel River, New Jersey: Prentice Hall. Edisi ke 3. HD30.37 .P36 2001
4. Stamper, D.A. 2001. Local Area Networks. Upper Sydel River, New Jersey: Prentice Hall. Edisi ke 3. TK5105.7 .S73 2001 N1
5. Stephen Doyle (2001). Information and communication technology : vocational A level. UK: Stanley Thornes.

## **BBD 20603 Educational Management**

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**Prerequisite Course(s): None**

### **Synopsis**

This course focuses on the concepts, principles and theories of management education in Malaysia: concepts of management, principles and theories of education management, educational management practices. Introduction of management education: history of education in Malaysia, the role of Institut Aminuddin Baki in the management and administration of the school. Administration of the public education system: the administrative system of public education and its rationale, role and contribution to teaching and learning in schools, private education administration system: the administrative system of private education and the rationale, role and contribution to teaching and learning in schools. The organization and administrative structure: the concept of organization, school organization, the administrative hierarchy and relationship with the school organization, administration and management of schools: office, curriculum and co-curriculum and school finance., Vision Education: unity, perkhidmatan penyayang, empowerment, knowledge culture, science, caring

school , budayacemerlang, skills as a manager and administrators in education: responsibility, tasks and role of the headmaster, accountability and leadership styles of headmaster, skills and competencies of headmastersas administrators and managers. Reflection: effectiveness and challenges in the management and administration of education in Malaysia: issues management and administration of education: past, present and future.

## References

1. Hoy,W.K.& Miskel,C.G.(2008).Educational Administration:Teory,Research and Practice.8th.Edition.Boston: McGraw-Hill. No Panggilan: LB2805 .H69 2008.
2. Lunnenburg,F.C. & Ornstein,A.C.(2004).Educational Administration:Concept and Practices. 4th.Edition.Belmont, CA : Thomson Learning. Call no: LB2805 .L86 2004.
3. Robbins,S. & Decenzo, D.(2004). Fundamentals of Management-Essential Concept And Applications.4th.Edition.Upper Saddle River: NJ: Pearson Education. Call no: HD31 .R63 2004
4. Carayannis,E.G.(2001).Strategic Management of Technological Learning. Boca Raton, FL: CRC Press. Call no: HD58.82 .C37 2001 n.1.
5. Ahmad Kilani Mohamed (2003).Pengurusan Pendidikan Di Sekolah:Huraian Menurut Perspektif Islam.Skudai:PenerbitUTM. Call no: LB2831.8 .A35 2003.

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## BBP 10603 Mathematics I

**Prerequisite course (s): none**

### Synopsis

This course introduces students to mathematical knowledge needed in the technology field. The topics discussed are Cartesian Coordinate: Distance between two points, slopes and line equations. Perpendicular distance from a point to a line and bisect of two lines. Quadratic equations: Quadratic equations with single variable, properties of the quadratic equations. Inequalities: solving inequalities, partial fractions. Trigonometry: trigonometric identities, addition and subtraction formulas, double-angle formulas and factor formulas, general solution of trigonometric equation. Solution of system of linear equation: Determinants and cofactor, inverse matrices, Cramer's rule, Gauss elimination method. Complex numbers: polar form, Euler's form, De Moivre's theorem, nth root of complex numbers. Vectors: operations including dot product and cross product in 2 and 3 dimensions. Planes and lines equation. Conic section: circle, parabola, ellipse, hyperbola.

### References

1. Nafisah@Kamariah Md Kamaruddin & Norhaidah Mohd Asrah (2006). Modul Pengajaran: Algebra. UTHM.
2. R. N. Aufmann, V. C. Barker & R. D. Nation (2005), College Algebra and Trigonometry. 5<sup>th</sup>. Ed. Houghton Mifflin Company, New York. No. Panggilan: QA154.3 .A93 2005.
3. Dwyer, David & Gruenwald, Mark (2000). Algebra for College Students, 2<sup>nd</sup>. Ed. Pacific Grove, CA : Brooks/Cole. No. Panggilan: QA152.2 .D89 2000.
4. R. Larson et. al. (2008) Algebra and Trigonometry: A graphical Approach, Houghton Mifflin Company, New York. No. Panggilan: QA154.3 .L37 2008.
5. Stewart, J., Redlin, L. and Watson, S. (2004). College Algebra, 4<sup>th</sup> Ed. Belmont, CA : Brooks/Cole. No. Panggilan: QA152 .S73 2004.

## **BBP 10403 Mathematics II**

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### **Prerequisite Course(s): BBP 10603 Mathematic I**

#### **Synopsis**

Function: Graph of algebraic, trigonometric, exponent, logarithm and hyperbolic functions with its inverse, composite function, inverse function. Limits and Continuity: Concept and definition, one-side limits, limit at infinity, infinite limits, computing limits, continuity. Differentiation: Definition, techniques of differentiation, higher order differentiation, application of differentiation. Integration: Basic of integration, technique of integration: substitution, integration by part, partial fraction, definite integral, application of integration. Sequences and Series: Definition of sequence and series, convergence test for sequence and series.

#### **References**

1. Anton, Howard, Bivens, Irl C. Davis, Stephen (2010), Calculus, 7<sup>th</sup> Edition, Hoboken, NJ : Wiley. No. Panggilan: QA303.2 .A57 2010
2. Peng, Yee Hock (2007). Kalkulus Permulaan. Serdang : Universiti Putra Malaysia. No Panggilan: QA300 .P46 2003.
3. Abd Wahid Md Raji *et. al*, (2002), Matematik Asas. Skudai: Penerbit UTM. No. Panggilan: QA37.2 .M37 2002 N1
4. Abu Bakar Musa, (2001), Kalkulus awalan: untuk pelajar-pelajar sains dan kejuruteraan, Serdang : Universiti Putra Malaysia. No Panggilan: QA303 .A28 2001.
5. Smith R. T. and Minton R.B. (2006), Calculus: Concepts and Connections. Boston: McGraw Hill. No Panggilan: QA303.2 .S64 2006.

## **BBP 10502 Creativity and Innovation in TVE**

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### **Prerequisite Course(s): None**

#### **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 solving problems and making decisions in the future. In this course, students will be exposed to various creativity and problem solving techniques. Some of the skills to be covered throughout the course are problem solving, techniques in creativity and techniques in innovation. Students will also be participating in exhibition and competition.

#### **References**

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

## **BBP 40302 Entrepreneurship**

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**Prerequisite Course(s): None**

### **Synopsis**

This course exposes students to the basic aspects of entrepreneurship. This course includes four modules, namely fostering an entrepreneurial culture, opportunities and business plans, practical entrepreneurship and entrepreneurial activity report presentation.

### **References**

1. Kementerian Pengajian Tinggi (2007) 'Asas Pembudayaan Keusahawanan'. Penerbit UUM;
2. Marc J. Dollinger. – 3<sup>rd</sup> ed. (2003), 'Entrepreneurship; Strategic and Resources'. Prentice Hall Pearson Malaysia Sdn. Bhd.
3. UiTM Entrepreneurship Study Group (2004), 'Fundamentals of Entrepreneurship' Prentice Hall Pearson Malaysia Sdn. Bhd.
4. Carol Yip (2007) 'Smart Money-User' Kanyin Publication.
5. Agensi Kaunseling and Pengurusan Kredit (2009) 'Money Sense-Getting Smart with Your Money. 2<sup>nd</sup> Edition
6. Agensi Kaunseling and Pengurusan Kredit (2009) 'Celik Wang-Pengurusan Wang secara Bijak

## **BBP 20203 Engineering Graphics**

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**Prerequisite Course(s): None**

### **Synopsis**

This course encompasses the topics of introduction to engineering drawing, the use of drafting tools, lettering and lines, dimension, scale and size of paper. Geometrical drawing; the constructions of geometry, polygon and eclipse. Projection drawing: projection, orthographic, isometric, oblique. Additional projection drawing: additional, axis and elevations in additional drawings, curves, circles and sectional in additional drawings. Computer aided drawing: introduction to computer aided drawing, basics operations in instruction system, the use of CAD LI, printing and plotting machines operation.

### **References**

1. Atan Hj Hussein, Jailani Mohd Yunos & Saifullizam Puteh (2007). Grafik Kejuruteraan, Batu Pahat: Penerbit UTHM. No Panggilan: T353.A82 2007a.
2. Bertoline G.R (2000). Engineering Drawing Workbook. Boston: McGraw Hill. No. Panggilan: T385. B473 2000 ca.
3. Kirkpatrick, James N (2004). The AutoCAD book: Drawing, Modeling and Applications Using AutoCAD 2004. Upper Saddle River, NJ: Prentice Hall. No. Panggilan: T385. K57 2004.
4. Siddiquee, Arshad N, Zahid Akhtar Khan and Mukhtar Ahmad (2004). Engineering Drawing with a Primer on AutoCAD. New Delhi, Prentice Hall. No. Panggilan: TA174.S52 2004.
5. Spencer, Henry Cecil (2000). Basic Technical Drawing. 7<sup>th</sup> Ed. New York, Mc Graw Hill No.Panggilan T353.S63 2000 N1.

## **BBP 20202 Occupational Safety and Health (OSH)**

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**Prerequisite Course(s): None**

### **Synopsis**

This course introduces students to the knowledge and skills in occupational safety and health (OSH) in the workplace. The scope of study includes the management of Health, Safety and Environment: Introduction to OSH, OSHA, 1994 (Act 514), FMA 1967, EQA 1974, the safety management system and occupational health, safety culture, health and the environment; Management and Risk Assessment: introduction to risk management, risk assessment techniques, HIRARC; Physical injury and Controls: introduction to physical injury, construction works, electrical, mechanical, and that involves chemicals; Health hazards: an introduction to health and hygiene, the dangers of chemical, physical, biological, and hygiene; Accident Investigation and Reporting: identification, accident investigation, the cause of the incident, incident analysis and data collection methods.

### **References**

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

## **BBP 30403 Research Methodology in TVE**

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**Prerequisite Course(s): None**

### **Synopsis**

This course focuses on the basics of Research. Why carry out research in education? Research in technical and vocational education. Scientific methods in research. Determining the best criteria in research. Ethics in research. Preparing a research proposal. How to write research proposal? How to write a research proposal content. How to determine research problems, motivation in research, understanding the field of research, objective of research, literature, concept, model or theory. Review the findings of previous studies, review past studies methods, research methods, survey design, survey instruments and data analysis.

### **References**

1. *Methods in educational research : from theory to practice* / Marguerite G. Ladico, Dean T. Spaulding and Katherine H. Voegtly by Lodico, Marguerite LB1028 .L62 2006
2. *Educational research* / K. Swarna Jyothi ; editor Digumarti Bhaskara Rao LB1028 .J96 2007
3. *Educational research in practice : making sense of methodology* /edited by Joanna Swann and John Pratt LB1028 .E38 2003
4. *Understanding and Evaluating qualitative educational research* / editor, Marilyn Lichtman LB1028 .U52 2011
5. *Introduction to educational research* / Craig A. Mertler, C.M. Charles LB1028 .M46 2008



## **BBP 20402 Project Management**

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**Prerequisite Course(s): None**

### **Synopsis**

This course is to equip students with the knowledge and project management skills to enhance teaching and learning in providing human capital development at par with global technological developments. This course exposes students to the planning and control cycle in project management, project plan development, project plan execution, monitoring project progress, project control, integration costs, scheduling information and the findings and make a report and briefing.

### **References**

1. James P. L. (2008). Fundamental of Project Management. 2<sup>nd</sup>. Edition. O'Reilly Media, Inc. HD69.P75 .L485 2007
2. Sunny Baker, Kim Baker, & G. Michale (2008). The Complete Idiot's Guide to Project Management,.3<sup>rd</sup>. Edition. O'Reilly Media, Inc. HD69 T54 . B34 1992
3. Scott. B. (2008). Making Things Happen: Mastering Project Management. 1<sup>st</sup>. Edition. O'Reilly Media, Inc. BF774 .B37 2007

## **BBP 30103 Laboratory and Workshop Management**

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**Prerequisite Course(s): None**

### **Synopsis**

This course will introduce pre service instructors in the field of Technical Education to management perspective. Introduction to Industry Management; introduction, definitions of management, approach to management, total quality management (TQM), legislation under the act, Lab and Workshop Safety; Review of health, early detection of disease at work, industry safety of act, OSHA Regulations Act 1996 and 1997, Safety measures, installation; The design and layout of the plant, contract specifications, Industrial Organization, Management; Functions and objectives of management, personnel management, staff management, Disciplining staff, handling plant, Inspection and air pollution, preparation of equipment and materials; Identification, preparation of equipment and materials, workshops, laboratories and field, storage of chemicals, environmental safety, Organization and Management Workshop; The meaning and purpose of the organization, scope of the organization and management workshops, workshop layout according to the needs and safety, storage and handling; Storage of materials and equipment, equipment and material concepts, techniques of quantitative management, operation, maintenance; Maintenance management, maintenance categories, implementation of maintenance, asset management; Procurement procedures (see related circulars), asset management procedures and disposal procedures.

### **References**

1. C.Ray Asfahl (2003) Industrial Safety and Health Management (5th Edition) :Amazon. T55 .A83 2004
2. Kamal Halili Hassan (2001) Undang-undang Keselamatan Industri di Malaysia.Kuala Lumpur : Dewan Bahasa dan Pustaka. HD7262.5.M3 .K35 2001
3. Manuele, Fred A (2003) On The practice of Safety 3rd Edition : Hoboken John Wilet. T55 .M36 2003
4. Mohamad Khan Jamal Khan (200 5) Keselamatan dan Kesehatan Pekerjaan dalam Organisasi. Petaling Jaya : Prentice Hall/Pearson. T55 .M53 2005

5. Aldershot : Ashgate (2004) Teaming up : Components of Safety Under High Risk : Industrial Safety Congress.

### **BBP 30102 Industrial Design**

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**Prerequisite Course(s): None**

#### **Synopsis**

This course focuses on history of the development design and human needs, research and development based on ergonomic factors, functions of design, aesthetics and materials. Design of the project is to identify the problems involved, situation, description, classification, solutions, validity of the design and testing involved. The assessment of goal achievement, seminars, reports presentations and proposal design.

#### **References**

1. Ulrich, K.T., Eppinger, S.D., 2003, *Product Design and Development*, Third Edition, New York, Mc Graw Hill International
2. Ullman, D.G. 1997. *The Mechanical Design Process*. 2nd ed. New York: McGraw-Hill International.
3. Pugh, S. 1990. *Total Design: Integrated Methods for Successful Product Engineering*. Cornwall UK: Addison Wesley.
4. Cross, N. 1994. *Engineering Design Methods: Strategies for Product Design*, 2nd ed. West Sussex UK: John Wiley and Sons.
5. Dieter, G.E. 1991. *Engineering Design: A Materials And Processing Approach*. New York: McGraw-Hill International.

### **BBB 30103 Mechanic Structure**

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**Prerequisite Course(s): None**

#### **Synopsis**

This course is designed to provide students with basic theory of structural analysis that comprises five topics which are Force and Moment: Types of force, Equation of Equilibrium, Support Connections, Loads, Types of beam, Shear force, bending moment. Stress and Strain: Normal stress, shear stress and bearing stress, Normal and shear strain, Normal stress and strain relationship, Hooke Law, Poisson Ratio, Axial stress and strain relationship for an element subjected to bi-axial stress, working stress, permissible stress and temperature stress. Shear force and bending moment of Statically determinate structure: Analysis of shear and moment for beam, shear and moment diagrams for beam. Stress in Beams: Normal Strain in Beams, Normal Stress-Bending Beam, Bending Stress in Rectangular Beams, Bending Stress for Beams (Flange and Web), Bending Stress Distribution. Slope and Deflection: Double Integration Method, Mac Caulay Method. Statically determinate Trusses: Method of Joints, Method of Sections.

#### **References**

1. Hibbeler, R. C. (2012). Structural analysis. Prentice Hall. XX(125754.1).
2. Kassimali, A. (2011). Structural analysis. Cengage. TA645..K37 2011.
3. Leet, K. M. (2011). Fundamentals of structural analysis. McGraw-Hill. TA645 .L43 2011.
4. Al Nageim, H. (2010). Structural mechanics: loads, analysis, materials, and design of structural elements. Harlow, England, New York: Longman. LC Call Number: TA633 .S77 2010.

- Williams, A. (2009). Structural analysis: in theory and practice. London: Butterworth-Heinemann. LC Call Number: TA645.W55 2009.

### **BBB 40302 Contract and Estimation**

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**Prerequisite Course(s): None**

#### **Synopsis**

This course explains the procedures and Contract Law; general principles of contract law, contract for building, a standard contract for the building. Tender and Contract Documents; types and purpose, drawing and contract specifications, list of materials, order for pre-tender, contract forms and agreement. Civil Engineering Contracts; major principles of civil engineering contracts, types of tenders, types of contract, tender table document, tender documents and contract documents. Conditions of Contract Civil Engineering; contents of the contract conditions, direction of change, addition and reduction, measurement, and verification of progress payments, certificates and additional time delay. Safety and Welfare; accidents and prevent accident for manpower, materials and machineries, costs and claims for accidents, safety laws, supervisors duties and responsibilities. Estimation, unit price and cost control, the principles of estimating, materials price and labor costs, quantity and list items measured. Practice of taking off and bill of quantities, estimating cost for completed project.

#### **References**

- Ashworth, A. (2002). Pre-contract studies : development economics, tendering and estimating. Oxford,UK : Blackwell Science. LC Call Number: HD1390 .A83 2002.
- Angley, S. (2002). Landscape estimating and contract administration. Albany, NY : Delmar. LC Call Number: SB472.55 .A53 2002.
- Dagostino, F. R. (2011). Estimating in building construction. Upper Saddle River, New Jersey : Prentice Hall. XX(109512.1).
- DelPico, W. J. (2004). Estimating building costs : for the residential and light commercial contractor. Kingston, MA : Reed Construction Data. LC Call Number: TH435 .D44 2004
- Dagostino, F. R. (2011). Estimating in building construction. Upper Saddle River, New Jersey : Prentice Hall. XX(109512.3)

### **BBP 40102 Final Year Project 1**

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**Prerequisite Course(s):** BBP30403 Research Methodology

#### **Synopsis**

This module consist of:

Introduction: Introduction, background of study, statement of problem, purpose of study, objective of study, question of study,concept framework of study,importance of study, scope of study, limitation of study, operational definition, summary.

Literature: Introduction, related literature (concept/theory/model), related research (Related findings of previous studies) and summary.

Methodology: introduction, design of study, chronological study of product development (analyze project need, design selection, analysis and modification, testing and evaluation, design spesification, material selection, tool and material for the project, installation process), and summary

Presentation: Assessment and reflection of proposal report Degree Project 1, verbal feedback about Degree Project 1 from supervisor/assessor, feedback about instruments from supervisor/ assessor.

### **References**

1. Module Implementation Final Year Project (university and Faculty).
2. University Academic Regulations
3. University Thesis Writing Guide

### **BBP 40204 Final Year Project 2**

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**Prerequisite Course(s):** BBP40102 Final Year Project 1

### **Synopsis**

Chapter 1: Introduction (Introduction, Background of study, Statement of problem, Purpose of study, Objective of study, Question of study, Concept framework of study, Importance of study, Scope of study, Limitation of study, operational definition, summary.

Chapter 2: Literature Review (Introduction, Related literature (concept/theory/model), Related research (Related findings of previous studies), Summary). Chapter 3: Methodology (Introduction, Design of study/project, chronological study of product development (analyze project need, design selection, analysis and modification, testing and evaluation, Population /respondent/ design specification, Material selection (material for the casing, the material for the operations), Research instrument / Equipment and Materials Used (Project development and costs), Installation Process, Analysis item / process testing, Expectations Finding, Summary. Chapter 4: Analysis Engineering / Product / research (Introduction, Research finding, Material design analysis (Implementation of components and materials testing), Product design analysis (Implementation and testing) and Summary. Chapter 5: Discussion, Conclusion and Recommendation (Introduction, Discussion (Materials design and product design), Conclusion, Recommendation (Proposed findings and further study recommendations) and Summary. Assessment and Reflection Research Report (Degree Project II), (Verbal feedback from supervisor and assessor and Feedback from supervisor and assessor through assessment instruments Degree Project II.

### **References**

1. Module Implementation Final Year Project (university and Faculty).
2. University Academic Regulations
3. University Thesis Writing Guide

### **BBD 10500 School Orientation Planning**

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**Prerequisite Course(s):** None

### **Synopsis**

School History : administration , building , department , public relations . School : school location , school plans , infrastructure and school facilities . Vision and mission of the school : the vision , mission , charter , pledge , song , badge . School's administrative organization : organizational , administrative , academic organization , curricular organization . School activities : academic , co-curricular activities , activities hem , Textbook Loan Scheme , projects of excellence , ICT , special program . School and community : Parents and Teachers Association (PIBG) , school council consensus , the board of management of the school , the teachers council / council school principals , National Union of Teaching Profession ( NUTP ) .

## References

1. David Hopkins. (2008). A teacher's guide to classroom research. Maidenhead: Open University Press. No. Panggilan: LB1028.24 .H66 2008
2. Zol Azlan Hamidin (2000). Strategi Pengajaran : pendekatan sains teknologi masyarakat. Selangor: Pearson. No. Panggilan: LB1532.M3 .Z64 2000
3. James Nolan, Jr. , Linda A. Hoover. (2011). Teacher supervision and evaluation: theory into practice. Hoboken, NJ: John Wiley. No. Panggilan: LB2838 .N64 2011
4. James Rath and Amy C. McAninch. (2003). Teacher beliefs and classroom performance: the impact of teacher education. Greenwich, CT: Information Age Publishing. No. Panggilan: LB1775.2 .T43 2003
5. John C.Daresh. (2002). Teachers mentoring teachers: a practical approach to helping new and experienced staff. Thousand Oaks, CA: Corwin Press. No ISBN: 0761945768, 9780761945765.

## **BBP 40408 Teaching Training**

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**Prerequisite Course(s):** Pedagogy (BBD10302), Micro Teaching (BBD20403)

### **Synopsis**

This course focuses on Teaching Preparation: writing teaching schedule, annual teaching plan, weekly teaching plan, daily lesson plan. Implementation of teaching plans: Teaching: pre-teaching skills, induction set skills, presentation skills, questioning skills and assessments, teaching using teaching aids, classroom control, cover. Reflection: oral feedback from instructors / supervisors, supervisor / supervisor feedback through evaluation instruments, teaching, reflection writing in teaching planning books. Routine work: management and administration, job examinations / student assignments, continuous assessment, lab management and workshops, other instructional tasks, preparation of teaching training portfolios.

### **References**

1. Emmer, Edmund T (2015) Handbook of classroom management, New York : Routledge, Taylor & Francis Group [LB3013 .H36 2015]
2. Lyons, Gordon (2014) Classroom management : creating positive learning environments, South Melbourne : Cengage Learning [LB3013 .L96 2014]
3. Senior, Lynn (2017) A teacher's guide to 14-19 policy and practice. New York, NY : Routledge [LC1047.G7 .S46 2017]
4. Weinstein, Carol Simon(2015) Middle and secondary classroom management : lessons from research and practice , New York, NY : McGraw-Hill Education [LB3013 .W44 2015]
5. FPTV Practical Teaching Guide 2020

## **BBP 30404 Industrial Training**

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**Prerequisite Course(s):** Students need to complete the all related core courses

### **Synopsis**

This course focuses on the planning. Throughout planning Period of Industrial Training. Monthly Planning. Weekly planning. Project planning. Daily Duties. Briefing Supervisors. Implementation Assignment. Communication. Log book. The scope of the

project. Task Completion. Learning. Reflection. Studies Organization. Organisational structure. Communication Channels. Climate Organization. Current development of Organization. Practices and Work Procedure. Report Writing. Writing format. Presentation. Documents Attachment and Presentation Materials.

### References

1. *Panduan Latihan Industri Universiti*
2. *Panduan Latihan Industri Fakultas*
3. *Peraturan Akademik Universiti*

### BBB 10102 Construction Materials

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**Prerequisite Course(s): None**

### Synopsis

This course explains the building materials used in civil engineering. Learning scope including: concrete, concrete materials, concrete strengthen and design, concrete mixture, concrete test, formwork, and standard concrete. Brickworks: production method, types, brickwork test, bonding, standard procedure. Timber: Types, Defect, production process, timber drying, preservation, finishing, test, standard. Metal: types, ferrus, non-ferrus, other metal. Steel: types, carbon steel, stainless steel, characteristic, application in civil engineering industry. Other materials: rubber, plastic, glass, fiber.

### References

1. Dvorkin, L.I (2010). Construction materials. New York: Biva Science Publishers. LC Call Number: TA403.D87 2010
2. Mamlouk, M.S. (2011). Materials for Civil and Construction Engineers. Upper Saddle River: Prentice Hall. LC Call Number: TA403.M36 2011
3. Spence, W.P. (2011). Construction Materials, Methods, and Techniques: building for a sustainable future. Clifton Park, NY: Delmar, Cengage Learning. LC Call Number: TH145.S63 2011
4. Allen, E. (2009). Fundamentals of building construction: materials and methods. Hoboken, NJ: Wiley. LC Call Number: TH145. A 44 2009
5. Neville, A.M (2010). Concrete Technology. Harlow, England; New York: Prentice Hall. LC Call Number: TA439.N46 2010

### BBB 10202 Building Construction

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**Prerequisite Course(s): None**

### Synopsis

This course explains the procedures in building construction. The including excavation: trenches, sub structure, building foundation, types and functions of building foundations. Superstructure; column, beam, roof, staircase, doors & window, ceiling, utility, finishing, building temporary support, shoring, scaffolding, and machineries.

### References

1. Dvorkin, L.I (2010). Construction materials. New York: Biva Science Publishers. LC Call Number: TA403.D87 2010
2. Mamlouk, M.S. (2011). Materials for Civil and Construction Engineers. Upper Saddle River: Prentice Hall. LC Call Number: TA403.M36 2011

3. Spence, W.P. (2011). Construction Materials, Methods, and Techniques: building for a sustainable future. Clifton Park, NY: Delmar, Cengage Learning. LC Call Number: TH145.S63 2011
4. Allen, E. (2009). Fundamentals of building construction: materials and methods. Hoboken, NJ: Wiley. LC Call Number: TH145. A 44 2009
5. Neville, A.M (2010). Concrete Technology. Harlow, England; New York: Prentice Hall. LC Call Number: TA439.N46 2010

### **BBB 20203 Engineering Survey**

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**Prerequisite Course(s): None**

#### **Synopsis**

This course is designed to explicate the basic surveying principles by conducting fieldwork according to the standard procedure of surveying. It comprises few topics namely Introduction to engineering survey: purpose, types of survey, map and plan in surveying. Compass survey: magnetic concepts, procedure of compass surveying, bearing, traversing, conducting compass fieldwork, booking of field data, plotting. Levelling survey: principles and definition, setting up equipment, levelling survey fieldwork, booking, plotting, the rise and collimation height method. Theodolite survey: types, principles of theodolite survey, adjustment of theodolite, setting up, conducting fieldwork according to standard procedure of theodolite survey: local attraction method, booking and calculating angles, plotting. Area and Volume: Calculation of area using trapezoidal method, simpson rule and mechanical method, Calculation of volume by contours and spot height. Tachimetry: types, stadia system, fieldwork according to standard procedure, booking and plotting, CDS software, New technologies in engineering surveying.

#### **References**

1. Kavanagh, B. F. (2010). Surveying with construction applications. Boston : Prentice-Hall LC Call Number: TA625 .K38 2010
2. Kavanagh, B. F. (2009). Surveying: principles and applications. Kuala Lumpur: Pearson/Prentice Hall. LC Call Number: TA545 .K37 2009
3. Watson, P. (2008). Surveying and engineering: principles and practice. Oxford: Blackwell. LC Call Number: TH438 .S97 2008
4. Dewberry, Sidney O. (2008). Land development handbook: planning, engineering and surveying. McGraw-Hill. TA549 .L36 2008.
5. Subramanian, R. (2007). Surveying and leveling. Oxford University. TA606 .S92 2007

### **BBB 30302 Water Supply And Sewerage System**

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**Prerequisite Course(s): None**

#### **Synopsis**

This course explains the sources of water supply, the use and importance of water supply, hydrology cycle, and the sources of water supply. Water quality, the physical, chemical, biological characteristics of water, standard of water quality. Water treatment, raw water intake, screening process, water treatment process, water treatment technology. Collection and loss in pipes, the main components of pipe and valve fittings, serial and parallel flow in piping systems, rain water piping systems, rain water piping system for building usage. Sewerage system, sewerage system, the type of sewer, the design and maintenance of sewer system. Wastewater treatment, the characteristic of domestic wastewater, pre-processed level: screening, grit chambers,

nominator and balance tank, primer treatment level, secondary treatment level, activated sludge, oxidation ponds, biological treatment, filtration, septic tank.

### References

1. Findikakis, Angelos N. (2011). Groundwater management practices. London; Boca Raton, Fla. : CRC Press/Balkema. LC Call Number: TD403 .F45 2011
2. Cameron, J. (2011). Valuing water, valuing livelihoods: guidance on social cost-benefit analysis of drinking-water interventions, with special reference to small community water supplies. [S.l]: IWA Publishing. LC Call Number: TD327 .V34.2011
3. Manuele, Fred A (2003) On The practice of Safety 3rd Edition: Hoboken John Wiley. T55 .M36 2003
4. Jha, K. K. (2009). Environmental and water resource management. Jaipur: Oxford Book. LC Call Number:TC401.E61 .J42 2009
5. Alan C. Twort, Don D. Ratnayaka and Malcolm J. Brandt (2000) Water Supply. TC405 .T96 2000 N1

### **BBB 20403 Construction Technology 1**

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**Prerequisite Course(s): None**

#### **Synopsis**

This course is designed to expose students with basic knowledge and skills on building construction. Topics includes in this course are site building construction preparation; foundation activities, temporary work. This course also explain about concreting work, precast concrete, and building reinforcement work and door and window installation.

#### **References**

1. Chudley.R (2016). Building Construction Handbook. New York: Routledge. LC Call Number: TH151.C58.2016
2. Durkin, J. (2011). Brickwork and blockwork. Chichester, West Sussex, U.K.; Ames, Iowa: Wiley Blackwell. LC Call Number:TH5311 .D87 2011
3. Hodge, J. C. (2006). Brickwork for apprentices. New York: Elsevier. LC Call Number: TH5511 .H62 2006
4. Pellicer, Eugenio (2014). Construction Management.Chichestar:Wiley-Blackwell. Call Number:HD9715.E82.C662014
5. Sivakugan, Nagaratnam (2018). Civil Engineering Materials. Australia: Cengage Learning. Call Number: TA403.6.S582018

### **BBB 20503 Construction Technology 2**

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**Prerequisite Course(s): BBB 20403 Construction Technology 1**

#### **Synopsis**

This course is designed to expose students with basic knowledge and skill on brickwork. Topics included in this course are Bricks Laying According to Specification; materials preparation for brickwork, prepare mortar according to required proportion. Construction of openings on brick wall; brick bonding: Stretcher, and installation of damp-proof layer. Construction of arches; construct axe arches and rough arches. Construction of columns; construct isolated piers, attached piers and reinforced brickwork. This course explain about installation of building framing and roof system, also Mechanical and Electrical work in building.



## References

1. Carruthers, J. (2000). Brickwork. Oxford: Butterworth Heinemann. LC Call Number:TH5313 .C37 2000
2. Durkin, J. (2011). Brickwork and blockwork. Chichester, West Sussex, U.K.; Ames, Iowa : Wiley Blackwell. LC Call Number: TH5311 .D87 2011
3. Durkin, J. (2006). Brickwork: a practical guide for level 1.Cheltenham : Nelson Thornes. LC Call Number: TH5501 .D87 2006
4. Durkin, J. (2005). Brickwork: A practical guide for level 2. Cheltenham: Nelson Thornes. LC Call Number: TH5501.D87 2005
5. Hodge, J. C. (2006). Brickwork for apprentices. New York: Elsevier. LC Call Number: TH5511 .H62 2006

## BBB 30503 Construction Technology 3

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**Prerequisite Course(s):** BBB 20503 Construction Technology 2

### Synopsis

This course is designed to expose students with basic knowledge and skill in construction work. It comprises topics on Perform Plastering and Rendering Works: prepare plain vertical surface, perform plastering on plain vertical surfaces with finishers, perform rough cast finish on plastered works, curve wall construction, perform plastering on curve vertical surfaces with finishers, perform 'Shanghai' and special finishes on plastered works. Wall and Floor finishing; installation of floor finishing, marble and broken marble tile, mosaic, terrazzo and parquet, installation of tile finishing on ceiling. Install drainage and sewerage system: external work and demolition.

### References

1. Carruthers, J. (2000). Brickwork. Oxford: Butterworth Heinemann. LC Call Number:TH5313 .C37 2000
2. Durkin, J. (2011). Brickwork and blockwork. Chichester, West Sussex, U.K.; Ames, Iowa : Wiley Blackwell. LC Call Number: TH5311 .D87 2011
3. Durkin, J. (2006). Brickwork: a practical guide for level 1.Cheltenham : Nelson Thornes. LC Call Number: TH5501 .D87 2006
4. Durkin, J. (2005). Brickwork: A practical guide for level 2. Cheltenham: Nelson Thornes. LC Call Number: TH5501.D87 2005
5. Hodge, J. C. (2006). Brickwork for apprentices. New York: Elsevier. LC Call Number: TH5511 .H62 2006

## BBB 30603 Carpentry 1

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**Prerequisite Course(s):** None

### Synopsis

This course focuses on a strong knowledge and practical skills in the field of wood-based construction (project-based) comprising tools and equipment precaution; Practice safety precaution, identify tools and equipment, use tools and equipment. Wood materials preparation; Draw the details drawing, identify wood work requirements, identify raw materials, carry out thicknessing, ripping and profiling process. Wood components preparation; Carry out shaping and forming process, carry out mortising and tenoning process, carry out drilling process, carry out sanding process. Joinery works; Designing and building edge joint, designing and building halving joint, designing and building housing joint, designing and building finger and

comb joint. Metal fittings; installing metal fittings that are appropriate to the wood structure, installing metal moving parts, installing security metal work.

### References

1. NCCER Contren learning series (2006). Carpentry fundamentals: level one: trainee guide. Upper Saddle River, NJ: Pearson. LC Call Number: TH5604.C38 2006
2. McDonnell, L. P. (1978). The use of hand woodworking tools. Albany, NY: Delmar Publishers. LC Call Number: TH5618.M193 1978
3. Koel, L. (2004). Carpentry: workbook. Homewood, IL: American Technical Publishers. LC Call Number: TH5604.K633 2004 ca
4. Miller, M. R. (2010). Carpentry and construction. McGraw-Hill. TH5606.M54 2010

### **BBB 40803 Carpentry 2**

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**Prerequisite Course(s):** BBB 30603 Carpentry 1

### Synopsis

This course focuses on knowledge and practical skills in the field of wood-based builder including the construction of roof structures; single roof construction, the construction work of two layer of roof, run the installation of roof, installation process of fixed ceiling. Steps for staircase construction; the construction of staircase structures according to the specification and suitability of the building. Creating finishes on wood structure; carrying out painting work, producing transparent finishing 1, producing transparent finishing 2, the process of installing decorative materials as finishing. Maintenance work for wood structure, windows, doors, walls, floors, roof finishes and ceiling.

### References

1. NCCER Contren learning series (2006). Carpentry fundamentals: level one: trainee guide. Upper Saddle River, NJ: Pearson. LC Call Number: TH5604.C38 2006
2. McDonnell, L. P. (1978). The use of hand woodworking tools. Albany, NY: Delmar Publishers. LC Call Number: TH5618.M193 1978
3. Koel, L. (2004). Carpentry: workbook. Homewood, IL: American Technical Publishers. LC Call Number: TH5604.K633 2004 ca
4. Miller, M. R. (2010). Carpentry and construction. McGraw-Hill. TH5606.M54 2010

### **BBA 40203 Service and Maintenance Domestic Refrigeration and Air Conditioning System**

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**Prerequisite Course(s):** None

### Synopsis

This subject provides the skills and knowledge of students to the management & training of service personnel (Career development training program for service technician and training and imparts of knowledge and skill); air cooled split unit installation and maintenance (Perform air cooled split unit servicing ,Charging, vacuum, leak test and perform air cooled split unit installation); window unit installation & maintenance (perform window unit servicing ,Charging, vacuum, leak test and perform air window unit installation); refrigeration handling (perform types of system approach identification, perform refrigerant recovery for the specific service and prepare refrigerant handling records); Ventilation fan (1ph) installation & maintenance (perform ventilation fan installation, perform ventilation fan servicing and perform

ventilation fan repairing); car air conditioning system (perform car air conditioning unit servicing , Charging, vacuum, leak test and refrigerant recovery for vehicle unit system).

### References

1. Gupta, H. C (2016). Comprehensive HVAC System Design: A Handbook on Practical Approach to Air Conditioning, Heating and Ventilation System: New Delhi : MV Learning.
2. Kaushik, S.C (2016). Alternatives in Refrigeration and Air Conditioning: I K International Publish.
3. Kleinert, Eric (2015). HVAC and refrigeration preventive maintenance: New York : McGraw-Hill.
4. Rex Miller, Mark R Miller. (2006). Air Conditioning & Refrigeration, Texas McGraw-Hill TH7687 .M54 2006
5. Whitman, Johnson and Tomczyk. (2000). Refrigeration & Air Conditioning TP492 .W55 2000 N1 Technology. 5th ed. Thompson Delmar Learning.
6. Mohamed Rashid Embi Sulaiman Shariff. (1996). Pengudaraan dan Sistem Penyejukan Udara.Kuala Lumpur Dewan Bahasa Pustaka. TH7325 .D64 2005 a

### BBB 40103 Building Drawing

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**Prerequisite Course(s):** BBP 20203 Engineering Graphic

#### Synopsis

Building drawing course covers; Introduction; types of drawing, floor plan, roof plan, symbols in building standard; Single storey elevation drawing, plan drawing, front elevation, side elevation, sectional drawing, detail drawing. Sectional and detail drawing; single storey, double storey. Perspective drawing; one point perspective, two point perspective, three point perspective. Plumbing and schematic drawing; piping symbol in drawing, piping system.

#### References

1. Bielefeld, B. (2007). Basics technical drawing. London: Birkhauser. LC Call Number: NA2708 .B53 2007
2. Giesecke, F. E. (2012). Technical drawing with engineering graphics. Boston: Prentice Hall. LC Call Number: T353 .T28 2012
3. Mott, L. C. (1984). Lukisan geometri dan teknik. Petaling Jaya: Penerbit Fajar Bakti. LC Call Number: T353 .M67 1984
4. Ezeji, S.C.O.A. (1992). Technical drawing 3: building drawing. England: Longman. LC Call Number: T353 .E93 1992
5. Driscoll, T. (1985). Technical drawing for today: book 2. London: Macmillan. LC Call Number: T351.5 .D74 1977

### BBB 40203 Domestic Plumbing Laboratory

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**Prerequisite Course(s):** None

#### Synopsis

This course expose knowledge and skills related to hand tools and machineries; types hand tools and machineries, hand tools usage for work purposes, flexible machineries and fixed machineries, hand tools and machineries maintenance. Pipe installations, pipe fittings; types, class and size of pipe, functions and valve usage. Piping drawing;

Drawing and interpretation of symbols, isometric drawing, schematic drawing, drawing preparation based on specification, preparing as-built drawing. Pipe installation of cold and hot water system; prepare pipes and fittings, measuring, marking, cutting of pipe, threading process based on specification, pipe bending based on specification, pipe installation, pipe fitting, valve and stopcock installation, pipe alignment, pressure test. Installation pipe and sanitary fittings; prepare for pipe materials: pipe, sanitary installation and joinery based on standard and specification, pipe alignment, pressure test.

### References

1. Woods, G. E. (2000). ASME B31.3 process piping : governing the 1999 code edition. New York : McGraw-Hill. LC Call Number: TJ930.A85 2000
2. Silowash, B. (2010). Piping systems manual. McGraw-Hill. TJ930 .S54 2010
3. Escoe, A. K. (2006). Piping and pipeline assessment guide. Amsterdam : Elsevier. LC Call Number: TJ930 .E82 2006
4. Antaki, G. A. (2003). Piping and pipeline engineering : design, construction, maintenance, integrity and repair. Marcel Dekker. TJ930.A67 2003
5. Frankel, M. (2010). Facility piping systems handbook : for industrial, commercial and healthcare facilities. McGraw-Hill. TJ930 .F73 2010

### **BBB 40703 Building Maintenance and Services**

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**Prerequisite Course(s): None**

#### **Synopsis**

This course focuses on introduction of building maintenance: Maintenance Management and Planning: Mechanical, electrical and plumbing services: Building Maintenance and Services Investigation.

#### **References**

1. Chew, M.Y.L (2010). Maintainability of facilities: for building professionals. World Scientific, Singapore. LC Call Number: TH3351.C432010
2. Bijen (2003). Durability of engineering structures: design, repair and maintenance. CRC Press, New York. LC Call Number: TA405.B542003
3. Brian, W (2009). Building Maintenance. Ames, IA:Blackwell. LC Call Number: TH3351.W664 2009
4. Kelly, S.J. (2000). Wood Structures: a global forum on the treatment, conservation and repair of cultural heritage. West Conshohocken,PA:ASTM. TH3301.W662000

### **BBV 40203 Electrical and Electronic Drawings**

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**Prerequisite Course(s): None**

#### **Synopsis**

This course involves the use of drafting as a tool of technical communication and for solving graphical problems in Electrical and Electronic Discipline. This lecture-lab course emphasizes on drafting skills by manually and computer-aided software to produce Single Phase Electrical Drawing, Three Phase Electrical Drawing, Electric Machinery Drawing, Electronic Drawing, and Pneumatic & Hydraulic Drawing. Upon completion of this course, students are able to relate the knowledge, Electrical Act & Regulation and Standard in designing electrical & electronic drawings, perform electrical & electronic drawings by manual drafting and computer-aided software, as

well as to prepare the report related to electrical & electronic drawing in accordance with the drawing specifications and requirement.

## References

1. Abd Samad Hj Hanif. (2000) Pemasangan dan Penyelenggaraan Elektrik (2nd Edisi). Dewan Bahasa dan Pustaka
2. Md. Nasir Abd Manan. (2007). Panduan Pendawaian Elektrik Domestik: IEE Edisi 16. IBS BUKU Sdn Bhd.
3. British Standard (2011) BS 7671:2008 Requirements for Electrical Installation. (IET Wiring Regulation 17th Edition) The Institution of Engineering & Technology London
4. Herman, S.L. (2010). Electric Motor Control (9th Edition). DELMAR Cengage Learning USA
5. Parr, Andrew. (2011) Hydraulics And Pneumatics : A Technician's And Engineer's Guide. 3rd Edition. Amsterdam ; Boston : Butterworth-Heinemann
6. Theodore F. Bogart, Jeffrey S. Beasley and Guillermo Rico (2001). Electronic Devices and Circuits; 5th Edition. Prentice Hall.
7. James W. Nilsson and Susan A. Riedel (2000). Electric Circuits Prentice-Hall;
8. Khairul Anuar Hanafiah (1998). Lukisan Kejuruteraan Berbantu Komputer, 2nd Edition; UTM.
9. Mohd Ramadan Mainal (1997). Lukisan Kejuruteraan Asas, 2nd Edition. UTM.
10. Akram Hossain (1996). Computer Aided Electronic Circuit Board Design and Fabrikation: Using OrCAD/SDT, Prentice Hall.

## BBP 10703 Fundamental of Electrical Technology

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**Prerequisite Course(s): None**

### Synopsis

Source of electricity: chemical, magnetic, friction, heat and light. Conductor and insulation: conductor and the types of conductors, insulators and other types of insulation, factors affects the conductor resistance and calculation. Passive components: resistors: definition of resistor and resistance, function of resistors, resistor structures and properties, types of resistors, resistor color code, resistor in series circuits, parallel and complex circuits. Inductor passive component: understanding the meaning of the inductor and inductance, inductor standard units and symbols, types of inductor and functions, factors affects induction, inductor in series and parallel, self-inductance and mutual inductance, test and inductor damage. Capacitance Passive Components: understand the capacitor and the capacitance, standard units and capacitor symbols, color code and capacitor rates, types and capacitance functions, the factors influenced the capacitance, the capacitance in series and in parallel, the process of charging and discharging, testing and capacitor damage. Basic electromagnetism: principles, concepts, factors that affect the electromagnetic force, electromagnetic induction and induced electromotive force. Ohm's law: definitions, current, voltage, resistance, power circuits in series, parallel and series-parallel circuit E.T. Kirchhoff's law: the law of Kirchhoff's current and voltage. Basic electric machines: principles, construction and operation of the generator, Faraday's law of electromagnetic induction, Law of the right-hand and left-hand rotation DC motor based on the Law (Power) amperes and the equation  $F = BIL$ , The D.G.E concepts, operating principles transformer and operating principles construction of the transformer, the losses in the transformer, the transformer ratio of the voltage, current and transformer windings.

## References

1. Azli Yusop, Siti Amely Jumaat & Megat Azahari Chulan (2007). Electrical Technology (DEE 1113). Batu Pahat: Penerbit UTHM. No. Panggilan: TK146 .A94 2007.
2. Giorgio Rizzoni (2007). Principles and applications of electrical engineering. 5th Ed. Boston McGraw-Hill. No Panggilan: TK146 .R59 2007
3. Gupta J. B. (2004). Electrical Technology. New Delhi S.K Kataria. No Panggilan: XX(79170.1)
4. Cotton, H.(2004). Electrical Technology 7th Edition. New Delhi CBS Publisher. No. Panggilan: XX(79171.1).
5. Bird, J. (2001). Electrical circuit theory and technology. 2 nd Ed. Oxford: Newness. No Panggilan: TK454 .B57 1997

## Employment

Graduates have career opportunities in the public and private sector, particularly in the field of technical and vocational education specialization in building and construction. In addition, the graduates have career opportunities as a teacher or instructor in vocational colleges, teachers in regular schools that offer related courses and public and private skills training institutes.

Technical and vocational trainer's have knowledge and skills related to building construction sector must understand and know how to apply the techniques of teaching and learning process or using e-learning as a medium according to the changing times.

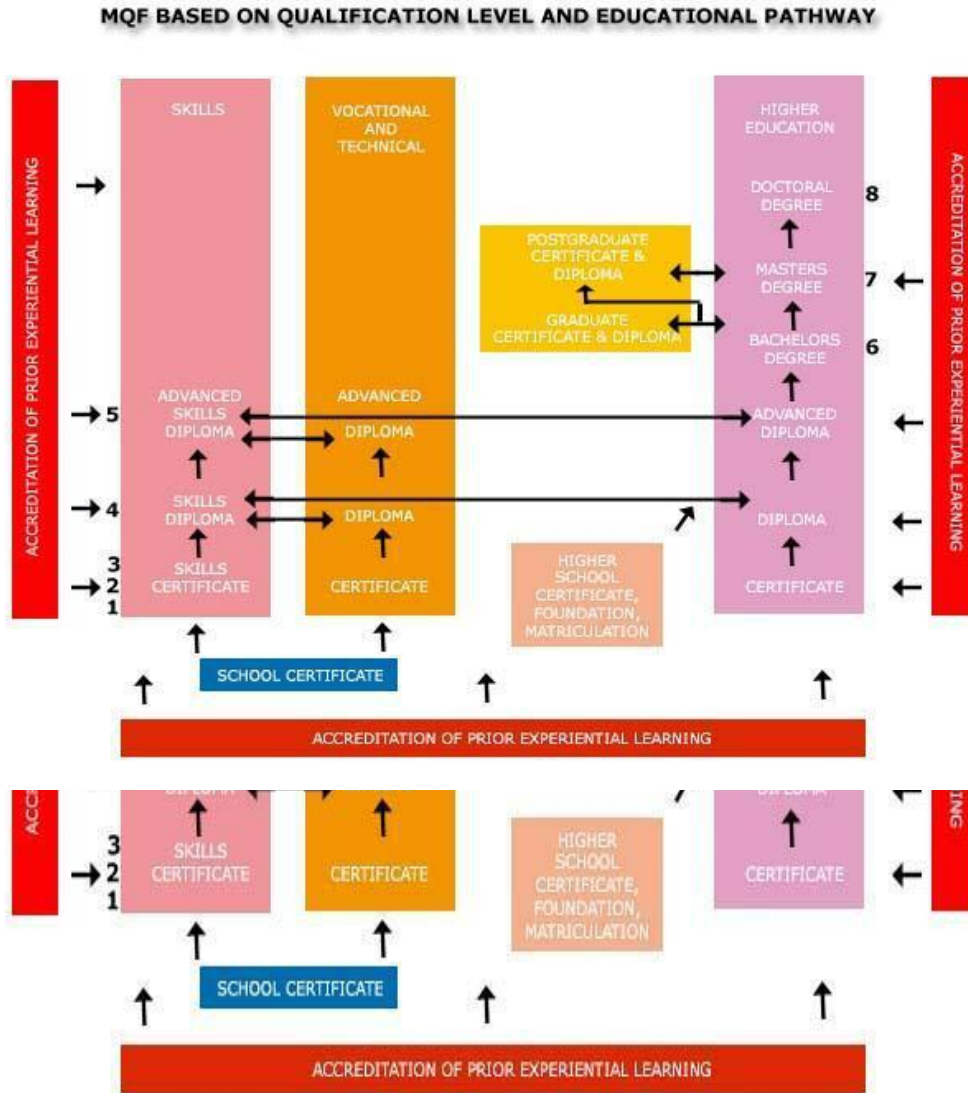
The duties also include:

- a) Management and implementation in teaching and learning
- b) Management and implementation in ssesment
- c) Involvement in research
- d) Creation of new technology

Trainer in this sector need to coach, plan, manage wisely, and supervise the students. They should work in different stlye based on experience and they also can produce an innovative projects in building construction field.



**Path for Further Education:**



Source: Malaysian Qualification Framework



**MALAYSIAN QUALIFICATIONS FRAMEWORK:  
QUALIFICATIONS AND LEVELS**

MQF Levels	Sectors			Lifelong Learning
	Skills	Vocational and Technical	Higher Education	
8			Doctoral Degree	Accreditation of Prior Experiential Learning (APEL)
7			Masters Degree	
			Postgraduate Certificate & Diploma	
6			Bachelors Degree	
			Graduate Certificate & Diploma	
5	Advanced Diploma	Advanced Diploma	Advanced Diploma	
4	Diploma	Diploma	Diploma	
3	Skills Certificate 3	Vocational and Technical Certificate	Certificate	
2	Skills Certificate 2			
1	Skills Certificate 1			

Source: Malaysian Qualification Framework



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