

**UNDERGRADUATES
HANDBOOK
SESSION 2017/2018**

WELCOMING MESSAGE FROM THE DEAN



Assalamu'alaikum Warahmatullahi wabarakatuh and Selamat Sejahtera.

Welcome to the world's top 100 Architecture and Built Environment Faculty ranked by the QS World University Rankings by Subject in 2015, 2016 and 2017.

The latest QS World University Rankings showed that University of Malaya has improved its world ranking from 133 in 2016 to 114 in 2017. With this improvement, UM is now within the top 1% percent of World's Universities.

Selamat Datang, Welcome to the Faculty of Built Environment, University of Malaya. In this Faculty we combine top teaching and learning facilities, state-of-the-art technology and stimulating academic programmes to produce highly sought-after graduates in the fields of Architecture, Building Surveying, Quantity Surveying, Real Estate and Urban and Regional Planning.

The Faculty offers a comprehensive range of degree programs that is distinctive within Malaysia and South East Asia Region. All programmes are accredited by the Malaysian Qualifying Agency (MQA). Our programs bring theory to practice through rigorous curricula led by experts in their fields, providing opportunities for students to excel academically and professionally. Together, the broad range of programs provides unique research; teaching and learning opportunities tailored to undergraduate in an environment which enables intellectual risk, choice and critical rigour to flourish.

The Bachelors programmes in Architecture, Building Surveying, Quantity Surveying, Real Estate and Urban and Regional Planning are also accredited by relevant local and international professional bodies, which is an indication of our quality.

International relations are of great importance to us and the faculty provides opportunities for international engagement in our teaching, learning and research through established collaborative relationships with leading universities around the world. Students may explore to undertake part of their courses in another country through our established network of international relationships.

The Faculty welcomes you into this vibrant environment where you will be part of a diverse student body in which students are holistically developed as confident, innovative and knowledgeable professionals.

Good Luck and enjoy your studies!

Professor Dr. Yahaya Ahmad
Dean
Faculty of Built Environment

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INTRODUCTION

Initially established in 1997 as a programme under the Faculty of Engineering, the Faculty of Built Environment was awarded full faculty status in 2000. Despite being the youngest faculty, we now stand at par with other faculties in the University of Malaya and other established schools in the country. Among our achievements include attaining accreditation from local and international professional bodies, hence attracting the best achievers from high schools and matriculation centres, and being among the top ranked built environment schools in the world.

The Faculty of Built Environment (FBE) offers five undergraduate professional programmes tailored to meet the nation's development, construction and real estate sectors' manpower needs. As mentioned above, all these programmes are accredited at the national and international levels. For example, its Bachelor of Science in Architecture has been accredited with Part I recognition by the Board of Architects Malaysia (LAM) while its 2-year Master of Architecture program leads to Part II recognition by the Board. The same programmes have also been accredited by the Royal Institute of British Architecture (RIBA, UK), leading to Part I and Part II accreditation respectively. RIBA's recognition is considered an achievement as it is the first programme in Malaysia recognised by RIBA and one of only five universities in East Asia. The faculty's Bachelor of Building Surveying, Bachelor of Quantity Surveying and Bachelor of Real Estate have all earned their respective accreditations from the Royal Institution of Chartered Surveyors (RICS, UK) and recognitions from their respective local professional bodies namely the Royal Institution of Surveyors Malaysia (RISM), Board of Quantity Surveyors Malaysia (BQSM) and Board of Valuers, Appraisers and Estate Agents Malaysia (BOVAEA). Recently, the Bachelor of Quantity Surveying has been accredited by the Pacific Association of Quantity Surveyors (PAQS). While the Bachelor of Urban and Regional Planning has been accredited by the Board of Town Planners Malaysia.

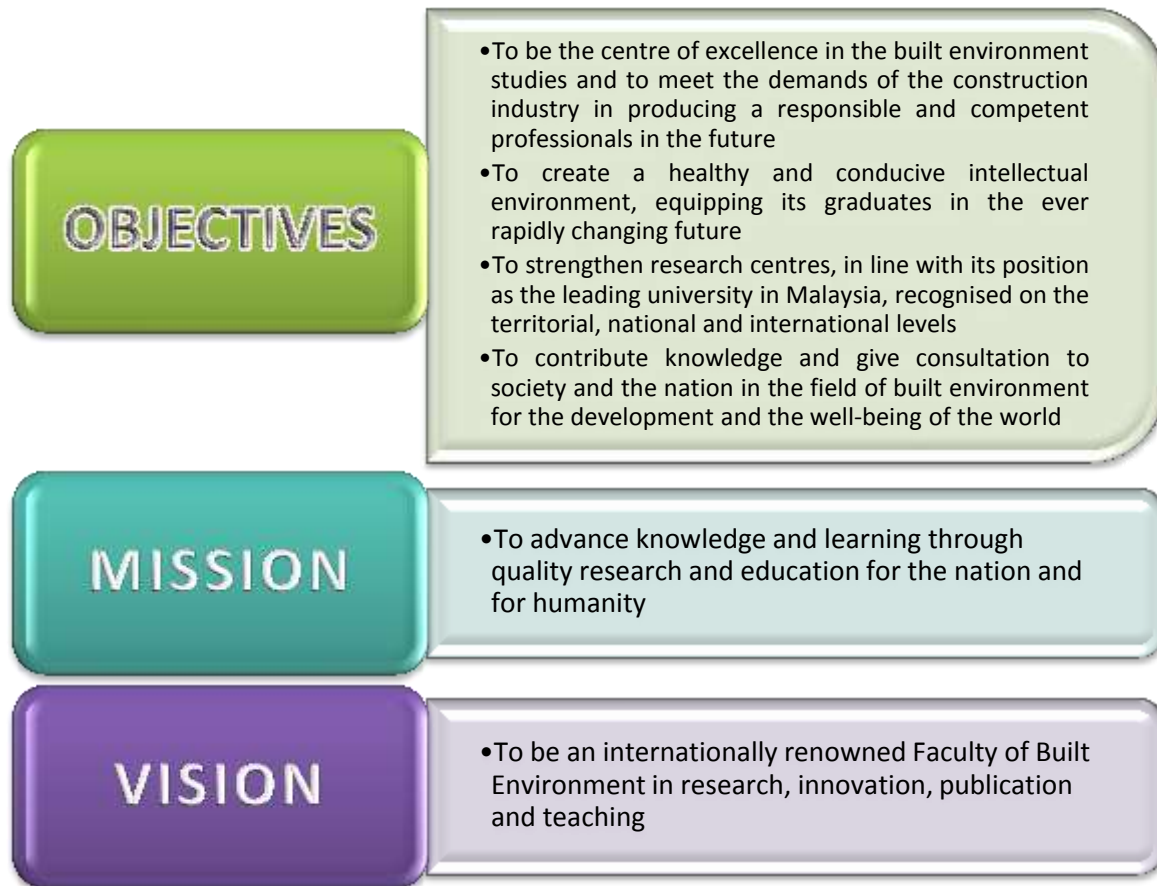
This is well reflected by the high entry point requirements needed for candidates to be considered for intake. Some of our students have shown their achievements and competitiveness by winning numerous awards and medals both locally and internationally, including University of Malaya's Anugerah Diraja. In addition, our students also have an opportunity to be part of outbound exchange programmes abroad and to experience cross-cultural learning from international inbound students.

Some of the faculty's graduates are employed in different parts of the world such as the United Kingdom, Australia, Singapore, Hong Kong and Indonesia. Most of our graduates have joined the private and public sector and now hold important positions in their organisations. Additionally, a number of our alumni have already established their own professional practices that contribute to the academia and industry.

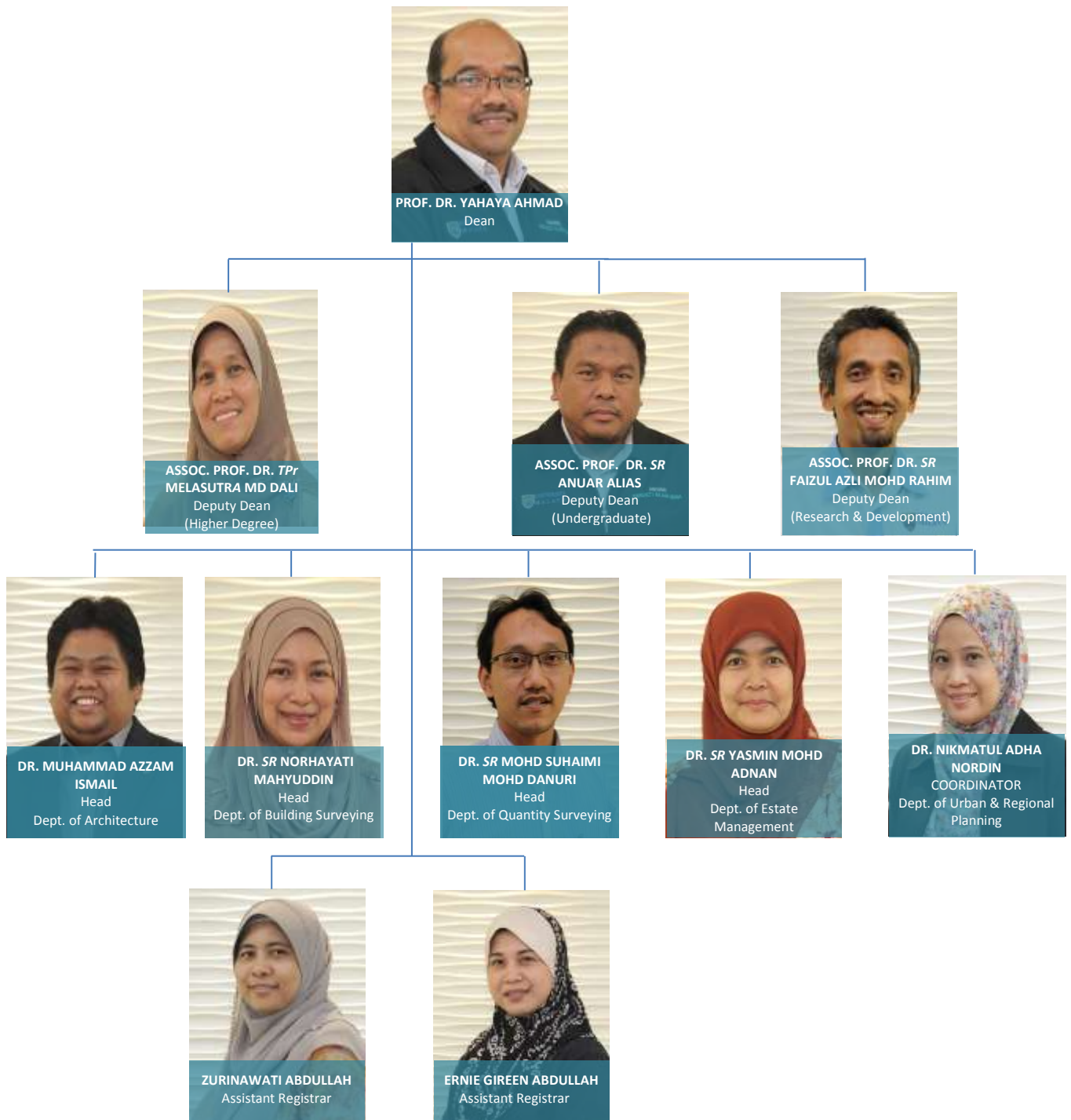
Upon graduation, the graduates also have a choice to pursue their studies at FBE either by research or coursework. Among research programmes offered are the Master of Science (Architecture), Master of Science (Building) and Master of Science (Estate Management); whilst master by coursework programmes are the Master of Real Estate (MRE), Master of Project Management (MPM) and Master of Facilities and Maintenance Management (MFMM).

The FBE occupies the 10-storey Mercu Alam Bina (MAB), a landmark in campus since October 2012. Together with the newly renovated Survey Block (excluding the Auditorium), the FBE complex accommodates lecture and discussion rooms, undergraduate and postgraduate students facilities, seminar and conference facilities and offices.

VISION, MISSION AND OBJECTIVES



ADMINISTRATIVE MANAGEMENT CHART



ACADEMIC SESSION 2017/2018

SEMESTER I		
Orientation Week	1 week	03.09.2017 – 10.09.2017
Lectures	7 weeks	11.09.2017 – 27.10.2017
Mid Semester Break I	1 week	28.10.2017 – 05.11.2017
Lectures	7 weeks	06.11.2017 – 22.12.2017
Revision Week	1 week	23.12.2017 – 31.12.2017
Examination Semester I	2 weeks	01.01.2018 – 14.01.2018
Semester Break	3 weeks	15.01.2018 – 04.02.2018
<hr/>		
22 weeks		

SEMESTER II		
Lectures	7 weeks	05.02.2018 – 23.03.2018
Mid Semester Break II	1 week	24.03.2018 – 01.04.2018
Lectures	7 weeks	02.04.2018 – 18.05.2018
Revision Week	1 week	19.05.2018 – 27.05.2018
Examination Semester II	3 weeks	28.05.2018 – 14.06.2018
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19 weeks		

SEMESTER BREAK		
Semester Break	12 weeks	15.06.2018 – 09.09.2018

SPECIAL SEMESTER		
Lectures	7 weeks	25.06.2018 – 12.08.2018
Examination Special Semester	1 week	13.08.2018 – 19.08.2018
Special Semester Break	4 weeks	20.08.2018 – 09.09.2018
<hr/>		
12 weeks		

Public Holiday (Malaysia)

National Day (31 August 2017)	New Year's Day (1 January 2018)
Eid al-Adha (1 September 2017)	Thaipusam (31 January 2018)
Malaysia Day (16 September 2017)	Federal Territory Day (1 February 2018)
Maal Hijrah (22 September 2017)	Chinese New Year (16 & 17 February 2018)
Deepavali (18 October 2017)	Labour Day (1 May 2018)
Prophet Muhammad Birthday (1 December 2017)	Eid al-Fitr (15 & 16 June 2018)
Christmas Day (25 December 2017)	Eid al-Adha (22 August 2018)
	National Day (31 August 2018)

CALENDAR 2017

2017

January

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September

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CALENDAR 2018

2018

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February

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August

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September

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December













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ADMINISTRATION MEMBERS

LIST OF STAFF AT DEAN'S OFFICE

DETAILS	
<p>Prof. Dr. Yahaya Ahmad Dean 03 – 7967 5395 yahaya@um.edu.my</p>	
<p>Norhayati Mat Office Secretary 03 – 7967 5395 yatiey@um.edu.my</p>	
<p>Ernie Gireen Abdullah Assistant Registrar (Undergraduate) 03 – 7967 5394 nieg@um.edu.my</p>	
<p>Zurinawati Abdullah Assistant Registrar (Higher Degree) 03 – 7967 4449 zurinawati@um.edu.my</p>	
<p>Mohd Arif Shuib Project Officer 03 – 7967 7672 arifshuib@um.edu.my</p>	
<p>Intan Shafura Abdullah Assistant Administrative Officer 03 – 7967 6899 intansha@um.edu.my</p>	

LIST OF SUPPORTING STAFF

DETAILS		DETAILS	
<p>Azzyaty Razali Assistant Information Technology Officer 03 – 7967 6857 azzyaty@um.edu.my</p>		<p>Afidah Adiat Office Secretary Deputy Dean (Higher Degree) 03 – 7967 6880 cdah@um.edu.my</p>	
<p>Salmizah Samsudin Office Secretary Deputy Dean (Undergraduate) 03 – 7967 5372 miza_s@um.edu.my</p>		<p>Nabilah Ahmad Office Secretary Deputy Dean (Research & Development) 03 – 7967 7673 nabilahahmad@um.edu.my</p>	
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DETAILS		DETAILS	
<p>Norizan Abd. Raji Senior Administrative Assistant (Clerical and Operational) 03 – 7967 5320 norizanabd@um.edu.my</p>		<p>Norleela Ahmad Senior Administrative Assistant (Clerical and Operational) Dept. of Quantity Surveying 03 – 7967 6841 norleela_a@um.edu.my</p>	
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<p>Norhasanah Sumadi Administrative Assistant (Financial) 03 – 7967 5334 hasanah2004@um.edu.my</p>		<p>Sila a/p Balakersnan Administrative Assistant (Clerical and Operational) Higher Degree 03 – 7967 5320 sila@um.edu.my</p>	
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<p>Zainal Musa Operational Assistant 03 – 7967 7955 zaenal@um.edu.my</p>		<p>Mohammad Rentah Operational Assistant 03-79677955 zezul@um.edu.my</p>	

UNIVERSITY COURSES

GIG1001
2 credits

THE ISLAMIC AND ASIAN CIVILIZATION (TITAS)

Synopsis of Course Contents

This course discusses the importance of civilization in shaping perception, personality and life harmony between different communities. This course also adopts the values and understanding between diverse cultures through dialogue and interaction abilities.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the importance of civilizational dialogue and civilization in shaping a harmonious Malaysian society.
2. Apply the universal values to strengthen character, understanding and mutual respect among the various civilizations and religions.
3. Demonstrate the ability to interact and dialogue among different civilizations and cultures.

Assessment:

Continuous Assessment	70%
Final Examination	30%

GIG1002
2 credits

ETHNIC RELATIONS

Synopsis of Course Contents

This course will explain the basic concepts and theories of ethnic relations. It also inculcates communication skills, teamwork, critical thinking, lifelong learning and information management skills among students via individual assignment, presentation and group work.

Learning Outcomes

At the end of the course, students are able to:

1. Apply the basic concepts and theories of ethnic relations.
2. Present ideas clearly and confidently.
3. Demonstrate active participation and ability to cooperate in group work.
4. Demonstrate the ability to search, explain, analyse and evaluate discussion and information from various sources.

Assessment:

Continuous Assessment	70%
Final Examination	30%

GIG1003
2 credits

BASIC ENTREPRENEURSHIP CULTURE

Synopsis of Course Contents

This course will attempt to inculcate the basic elements of entrepreneurship in the students. Initiatives are taken to open their minds and motivate the entrepreneurial spirit in this potential target group. The course encompasses theories and types of entrepreneurship, the importance of entrepreneurship and factors affecting entrepreneurship, entrepreneurship development in Malaysia, ethics of entrepreneurship, creativity and innovation in entrepreneurship, business opportunity, ability to start a business, developing business plans and skills to run and manage a business. The course also incorporates direct exposure to the real business environment.

Learning Outcomes

At the end of the course, students are able to:

1. Identify entrepreneurial opportunities.
2. Execute the business plan.
3. Demonstrate the ability to manage time and resources.
4. Apply creativity and innovation in entrepreneurship.

Assessment:
Continuous Assessment 100%

GIG1004
2 credits

INFORMATION LITERACY

Synopsis of Course Contents

This course will develop student information management skills so that they can become effective and efficient users of information. These essential skills will contribute to the academic success as well as create a foundation for lifelong learning. Therefore, this course focuses on the strategic use of information and references sources in various format. Evaluation of information obtained and the preparation of reference list is also emphasized.

Learning Outcomes

At the end of the course, students are able to:

1. Identify various information sources and references.
2. Apply knowledge to choose relevant information from various sources.
3. Prepare reference list according to selected citation style.

Assessment:
Continuous Assessment : 100%

GIG1005
2 credits

SOCIAL ENGAGEMENT

Synopsis of Course Contents

This course exposes the students on social engagement and their role as volunteers. Students need to plan their social engagement programme and will be placed at a specific location based on their programme. Students have to write a report and make a presentation on their experience with the community.

Learning Outcomes

At the end of the course, students are able to:

1. Demonstrate the awareness of the importance of social engagement.
2. Work together in a team and with the community.
3. Show effective communication skills with community.

Assessment:
Continuous Assessment : 100%

GIG1006
2 credits

INTRODUCTION TO MALAYSIA

Synopsis of Course Contents

This course will explain the history and formation of Malaysia. It will also discuss the national administrative structure and system of Malaysia, the Malaysian Constitution, culture, values, ethnic orientation, national integration, unity and guidelines on social interactions with Malaysians.

Learning Outcomes

At the end of this course, students are able to:

1. Explain history, administrative structure and Constitution of Malaysia.
2. Explain places, races, way of life, values and culture of Malaysians.
3. Demonstrate effective interpersonal skills and teamwork.

Assessment:
Continuous Assessment 70%
Final Examination 30%

GLT1002
2 credits

MASTERING ENGLISH I

Synopsis of Course Contents

This course is designed for students with basic proficiency in English. It focuses on basic speaking and reading skills, with an emphasis on accuracy in grammar and on vocabulary building. Students will learn structural accuracy and language appropriateness by being exposed to the language in a variety of contexts.

Learning Outcomes

At the end of the course, students are able to:

1. Identify key information in short, simple reading texts.
2. Use grammar correctly at sentence level.
3. Employ suitable vocabulary based on context.
4. Speak accurately and appropriately for everyday expressions.

Assessment:

Continuous Assessment:	60%
Final Exam:	40%

GLT1003
2 credits

MASTERING ENGLISH II

Synopsis of Course Contents

This course is designed for students with basic proficiency in English. Focus is on building speaking and reading competence with an emphasis on accuracy in grammar and on vocabulary building. Students will develop structural accuracy, reasonable oral fluency and language appropriateness by practising the language in a variety of contexts.

Learning Outcomes

At the end of the course, students are able to :

1. Discuss information in short, simple reading texts.
2. Express ideas appropriately in simple terms in areas of most immediate relevance.
3. Use grammar correctly to express ideas.

Assessment:

Continuous Assessment:	60%
Final Exam:	40%

GLT1004
2 credits

MASTERING ENGLISH III

Synopsis of Course Contents

This course is designed for students with a developing pre-intermediate proficiency level in English. Together with the use of suitable vocabulary and accurate grammatical structures, the course focuses on further expanding students' comprehension of reading texts as well as their competency in writing and speaking skills.

Learning Outcomes

At the end of the course, students are able to :

1. Describe the immediate environment in simple terms.
2. Employ accurate grammatical structures in simple, connected texts.
3. Apply essential reading skills to texts of immediate relevance.

Assessment:

Continuous Assessment:	60%
Final Exam:	40%

GLT1005
3 credits

MASTERING ENGLISH IV

Synopsis of Course Contents

This course is designed to improve students' English Language proficiency in terms of grammatical accuracy and language skills at the pre-intermediate level. Students will be exposed to a variety of reading texts in order to improve their reading skills. Students will also be given ample speaking practice to develop their confidence in communicating and interacting with others in a multitude of situations. The course will also improve students' basic skills in writing sentences and paragraphs.

Learning Outcomes

At the end of the course, students are able to:

1. Produce simple connected texts on familiar topics.
2. Describe experiences and events.
3. Determine the main points in short texts.

Assessment:

Continuous Assessment:	60%
Final Exam:	40%

GLT1006
3 credits

MASTERING ENGLISH V

Synopsis of Course Contents

This course is designed to improve students' English Language proficiency in terms of grammatical accuracy and language skills at the intermediate level. Students will be exposed to a variety of reading texts in order to improve their reading skills. Students will also be given ample speaking practice to develop their confidence in communicating and interacting with others in a multitude of situations. The course improves students' skills in writing paragraphs and essays.

Learning Outcomes

At the end of the course, students are able to:

1. Produce clear connected texts on familiar topics.
2. Explain ideas and opinions clearly and coherently.
3. Interpret the main points in short texts.

Assessment:

Continuous Assessment:	60%
Final Exam:	40%

GLT1007
3 credits

ESSENTIAL WRITING SKILLS

Synopsis of Course Contents

This course introduces the process of paragraph development and the generation of ideas in order to write within a variety of rhetorical patterns. It focuses on accurate and organised structures in writing. The course helps students to understand the relationship between paragraphs in an essay.

Learning Outcomes

At the end of the course, students are able to :

1. Produce a variety of grammatically and structurally correct sentences.
2. Write different types of paragraphs coherently and cohesively.
3. Organise paragraphs into essays.

Assessment:

Continuous Assessment:	60%
Final Exam:	40%

GLT1008
3 credits

EFFECTIVE COMMUNICATION

Synopsis of Course Contents

This course focuses on speaking English accurately and coherently. It also develops students' communication skills and strategies that enable them to interact appropriately and accurately. Students will learn to speak accurately using the appropriate language strategies in a variety of informal situations.

Learning Outcomes

At the end of the course, students are able to:

1. Present ideas clearly, accurately and spontaneously.
2. Discuss topics of current interest.
3. Employ appropriate communication strategies to converse effectively and accurately.

Assessment:

Continuous Assessment: 100%

GLT1009
3 credits

MASTERING ENGLISH VI

Synopsis of Course Contents

This course is designed to fortify students' English Language proficiency in terms of accuracy and effectiveness at a developing upper intermediate level. Students will be taught the four language skills with a focus on accurate language use in reading, writing and speaking. The students will be exposed to a variety of texts to develop a higher level of proficiency that will allow them to apply the skills learnt.

Learning Outcomes

At the end of the course, students are able to:

1. Construct clear, detailed texts on a wide range of subjects.
2. Interact fluently and spontaneously.
3. Analyse main ideas of complex texts on concrete topics.

Assessment:

Continuous Assessment: 60%

Final Exam: 40%

GLT1010
3 credits

MASTERING ENGLISH VII

Synopsis of Course Contents

This course is designed to raise students' English Language proficiency in terms of accuracy and effectiveness to an upper intermediate level. Students will be taught the four language skills with a focus on accurate language use in reading, writing and speaking. The students will be exposed to a variety of higher level texts to develop a higher level of proficiency that will allow them to apply the skills learnt.

Learning Outcomes

At the end of the course, students are able to:

1. Construct clear, detailed texts explaining viewpoints.
2. Express a viewpoint on a topical issue.
3. Analyse main ideas of complex texts on abstract topics.

Assessment:

Continuous Assessment: 60%

Final Exam: 40%

GLT1011
3 credits

TECHNICAL WRITING SKILLS IN ENGLISH

Synopsis of Course Contents

This course will introduce students to effective technical writing skills. Using materials related to the workplace, students will be taught in stages to write a variety of technical documents.

Learning Outcomes

At the end of the course, students are able to:

1. Determine audiences and purposes for written documents.
2. Write appropriate messages for brief correspondence.
3. Complete informal reports.
4. Prepare a formal problem-solution report.

Assessment:

Continuous Assessment:	60%
Final Exam:	40%

GLT1012
3 credits

PRESENTATION SKILLS IN ENGLISH

Synopsis of Course Contents

The course encompasses different aspects of communication used in delivering effective oral presentations. Appropriate examples from a variety of situations are used as practice materials for students to analyse, discuss and apply the communication strategies taught.

Learning Outcomes

At the end of the course, students are able to:

1. Build relevant speech outlines for different presentations based on research.
2. Determine appropriate skills and strategies when delivering impromptu speeches to a selected audience.
3. Integrate appropriate skills and strategies when delivering prepared speeches to a selected audience.

Assessment:

Continuous Assessment:	100%
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GLT1013
3 credits

READING CRITICALLY

Synopsis of Course Contents

This course aims at developing students' critical reading skills. Students will acquire the ability to analyse a piece of writing in fine detail and the author's argumentative strategy and style. Students will also learn to evaluate information in an unbiased way, and be able to differentiate between sound and unsound evidence. To this end, students will be exposed to strategies for reading critically and will engage with a variety of reading selections which will develop and enhance their thinking skills via active discussions and presentations.

Learning Outcomes

At the end of this course, students are able to:

1. Explain explicit or implicit textual ideas.
2. Analyse a writer's position.
3. Integrate ideas from multiple sources and perspectives critically.

Assessment:

Continuous Assessment:	60%
Final Exam:	40%

GLT1014
3 credits

ADVANCED COMMUNICATION SKILLS

Synopsis of Course Contents

This course aims to develop advanced communication skills among students when delivering presentations and interacting in group discussions in diverse settings. Students will prepare and deliver organized, impactful presentations on a variety of topics using appropriate language, style and structure to engage the audience. Students will also be exposed to different communication strategies to enable them to interact effectively and communicate with clarity in collaborative discussions.

Learning Outcomes

At the end of this course, students are able to:

1. Integrate the effective use of language structures in communication.
2. Develop appropriate interpersonal communication skills in small group discussions.
3. Create a persuasive presentation.

Assessment:

Continuous Assessment: 100%

GLT1015
3 credits

ADVANCED PROFESSIONAL WRITING

Synopsis of Course Contents

This course is designed to equip students with the necessary writing skills to meet the needs of the workplace. Students will also be taught to produce clear, accurate and well organised professional business documents. Students will be required to analyse and respond to a variety of situations and to write for identified audiences. The course also explores the ways in which technology helps shape business writing and communication.

Learning Outcomes

At the end of this course, students are able to:

1. Demonstrate the ability to apply appropriate features of effective writing.
2. Develop documents common in business writing genres.
3. Write up on a research based project.

Assessment:

Continuous Assessment: 100%

SOFT SKILLS DEFINITION

COMMUNICATION SKILLS

CS1	The ability to present ideas clearly, effectively and confidently, in both oral and written forms
CS2	The ability to practice active listening skills and provide feedback
CS3	The ability to present clearly with confidence and appropriate to the level of the listener
CS4	The ability to use technology in presentations
CS5	The ability to negotiate and reach an agreement
CS6	The ability to communicate with others from different cultures
CS7	The ability to develop interpersonal communication skills
CS8	The ability to use non-verbal skills

CRITICAL THINKING AND PROBLEM SOLVING SKILLS

CT1	The ability to identify and analyse problems in complex and vague situations, as well as to make justified evaluations
CT2	The ability to develop and improve thinking skills such as to explain, analyse and evaluate discussions
CT3	The ability to find ideas and alternative solutions
CT4	The ability to think out of the box
CT5	The ability to make decisions based on concrete evidence
CT6	The ability to persevere as well as to fully concentrate on given task
CT7	The ability to understand and to fit in with the culture of the community and new work environment

TEAM WORK SKILLS

TS1	The ability to build good relations, interact with others and work effectively with them to achieve the same objectives
TS2	The ability to understand and interchange roles between that of a team leader and a team member
TS3	The ability to recognize and respect the attitude, behaviour and beliefs of others
TS4	The ability to contribute towards the planning and coordination of the team's efforts
TS5	Be responsible for the group's decision

LIFE LONG LEARNING AND INFORMATION MANAGEMENT

LL1	The ability to search and manage relevant information from different sources
LL2	The ability to accept new ideas and the capability for autonomous learning
LI3	The ability to develop a curious mind and the thirst for knowledge

ENTREPRENEURIAL SKILLS

KK1	The ability to identify business opportunities
KK2	The ability to outline business frameworks
KK3	The ability to build, explore and seize business and work opportunities
KK4	The ability to work independently

PROFESSIONAL ETHICS AND MORAL

EM1	The ability to recognize the effects on the economy, environment and socio culture in professional practice
EM2	The ability to analyse and make decisions in solving problems related to ethics
EM3	The ability to practice ethically, apart from being responsible towards the society

LEADERSHIP SKILLS

LS1	Knowledge of basic leadership theory
LS2	The ability to lead a project
LS3	The ability to understand and interchange roles between that of a team leader and a team member
LS4	The ability to supervise team members

GENERAL INFORMATION

STUDENT AWARDS

Student Awards	Notes
University of Malaya Book Prize	Awarded to graduates who have completed the undergraduate programmes with an Honours degree (With Distinction) and a final CGPA of 3.70 and above.
The Royal Institution of Chartered Surveyors (RICS) Book Prizes	Awarded for the best penultimate year undergraduates of the RICS accredited courses. Bachelor of Building Surveying (Hons), Bachelor of Quantity Surveying (Hons) and Bachelor of Real Estate (Hons).
The Royal Institution of Surveyors Malaysia (RISM) Gold Medal Award	Awarded to graduates from the Surveying discipline with the highest CGPA score and who have completed the undergraduate programme with an Honours degree (With Distinction).
Royal Education Award	<p>Has obtained in a final semester at least a Pass with Honours (with Distinction) with a final CGPA of 3.70 and above or Pass the Final Year Examination with at least grade A+ for Bachelor of Medicine and Bachelor of Surgery (MBBS) and Bachelor of Dental Surgery (BDS);</p> <p>Has never obtained grade F and/or grade U for any courses;</p> <p>Has never repeated any course for the purpose of improving a grade;</p> <p>Has successfully completed his program of study within the minimum period prescribed for his program unless has been approved withdrawal from any semester but not included in the period of study by the University;</p> <p>Active in co-curricular activities and obtained prizes based on the excellent academic achievement and co-curricular activities;</p> <p>Has never been convicted on any disciplinary offence under any disciplinary rules;</p> <p>No outstanding debt to the University.</p>
Professor Ezrin Arbi's Prize	Awarded to a graduates with the highest score in CGPA. Recipient may be selected from the various disciplines offered by the Faculty at the undergraduate level.
The Board of Quantity Surveyors Malaysia (BQSM) Best Dissertation Award	Awarded by BQSM to a QS graduate who produces the best Academic Project and who have completed the undergraduate programme with a First Class Honours degree OR an Honours degree (With Distinction).

IMPORTANT INFORMATION

APPLICATION FOR TRANSFER AND EXEMPTION OF CREDIT

- (a) An application for transfer or exemption of credit shall be made by using the prescribed form that can be obtained from the main office. Completed forms must be submitted to the Dean no later than the Friday on the second week of lectures of Normal Semester together with:
- (i) The payment of the processing fees at a prescribed rate. These fees are non-refundable;
 - (ii) The syllabus and marking system of the course for which transfer or exemption of credit is applied; and
 - (iii) A copy of the certificate/ diploma/ degree concerned.
- (b) The maximum total of credit hours that may be transferred or exempted shall not exceed one-third of the total credit hours of the programme of study concerned.

DEAN'S LIST

A student who obtains a GPA of 3.7 and above in any Normal Semester and fulfils the following conditions shall be recorded with a "Pass with Distinction" for the Semester concerned :

Had taken and sat for the examinations of courses totalling a minimum of 15 credits hours in the Normal Semester concerned consisting a minimum of four courses, not including courses with Grade S as a pass;

Had obtained no lower than a grade C for any course taken in the semester concerned; and

Did not repeat any course in the semester concerned.

AWARD OF A DEGREE

(a) The Degree will be awarded is an honours degree based on the final CGPA and must obtain a final CGPA of not less than 2.0.

(b) A student is qualified for the award of a degree of a Pass with Honours (With Distinction) if:

Achieves a final CGPA of 3.7 and above;

Has never obtained Grade F for any course for the duration of his programme of study; and

Has successfully completed his programme of study within the prescribed duration.

COURSE AND TEACHING EVALUATION SYSTEM (CTES)

It is compulsory for all first degree students to evaluate the courses registered in the current semester. The evaluation can be done by logging into <http://umctes.um.edu.my> using siswa mail account.

Students who fail to complete the CTEST within specified time will be barred from getting the semester examination results and from registering for courses in the next semester.

ASSESSMENT AND EXAMINATIONS

Grades can be awarded based on continuous assessment, examination and a combination of both. Students should be aware that the components of assessment methods may differ based on the requirements of each subject.

MARKING SCHEME

The official marking scheme of the University including the marks and their meaning are as follows:

Grade	Marks	Grade Points	Interpretation
A+	90 — 100	4.0	High Distinction
A	80 — 89	4.0	Distinction
A–	75 — 79	3.7	Distinction
B+	70 — 74	3.3	Good
B	65 — 69	3.0	Good
B–	60 — 64	2.7	Good
C+	55 — 59	2.3	Pass
C	50 — 54	2.0	Pass
C–	45 — 49	1.7	Fail
D+	40 — 44	1.3	Fail
D	35 — 39	1.0	Fail
F	0 — 34	0.0	Fail

Please refer to University of Malaya (First Degree Studies) Rules & Regulations 2017 in Student Portal (MYUM Portal)

LIBRARY AND OTHER FACILITIES

The University of Malaya Library established since 1962 in Kuala Lumpur is a network of 17 Libraries, fully computerized and integrated in its operation and services. The Built Environment Library is one of the special subject libraries in the University of Malaya Library network. Prior to 2003, the collections were kept in the Engineering Library, at the Faculty of Engineering. At the present location, the Built Environment Library is conveniently located for access and is open to all students during office hours. The library is manned by two full-time staff members and one senior librarian which is covers a floor space of about 300 sq. meters with seating capacity for 120 students.

The Library's core function is to support the learning, teaching and research needs of undergraduate, postgraduate students, and the academic staff and researchers of the Faculty of Built Environment. However, it is also opened to other registered users of the University of Malaya Library network, subject to some limitation in borrowings.

The collection gives priority on the learning and teaching programme of the Built Environment Faculty especially in the areas of architecture, real estate, quantity surveying, building surveying and urban planning. The library materials include both primary and secondary sources, such as books, journals, reference books, dissertation and theses, conference proceedings and electronic resources. The library online catalogue, known as Pendeta WebPAC is a union catalogue of the University of Malaya Library network which provides access to holdings of collection of materials and can be accessed by others via the Internet.

Library Collections

- **General**

The Library has a general collection of about 11,141 item consists of textbooks, reference books, and handbooks, journal, CD-ROM and etc.

- **Dissertations, Theses and Academic Exercises**

This ever expanding collection consists of works produced by undergraduate and postgraduate students of the Faculty.

- **Conference Papers**

Papers presented by the academic staff at the seminars or conferences especially held in Malaysia are continually collected and indexed in an index database known as iMalaysiana Collection.

- **Journal, Online databases and e-Books**

The Library subscribes to printed journal, online databases - mostly full text journals and e-books, which can be accessed via the campus network and remote access from individual home of registered users.

Some available online databases related to the built environment are ICONDA (International Construction Database), RIBA e-books, IEEE Xplore, Art & Architecture Complete @EBSCOHOST, Science Direct, Springer Link, etc.

Services

- **Loans, Online Renewal and Reservation**

Most books are allowed borrowings, except the Reference and special collection such as dissertation/theses and conference proceedings. The library-computerized system allows online renewal by the individual by each patron; and also reservation of books when materials on loan to other user.

- **Inter-library loan and Document Supply Services**

Inter-library loan facilities and document delivery services are available for postgraduate students, researchers and academic staff of the Faculty of Built Environment. Requests to these services are facilitated via the Library interactive portal, which can be submitted to the Library management electronically. A special budget is allocated for this purpose with deposit accounts established at the British Library (U.K) and National University of Singapore (Singapore).

- **Access to Other Resource Centres in Malaysia**

Registered students and academic staff of the University Malaya are allowed to visit and use (for reference only) other academic / public university libraries in Malaysia, as a part of the resource sharing programme.

- **Information Literacy (GIG1004)**

Besides that, the library conducts a formal compulsory course for first year undergraduate called Information Literacy (GIG1004) to equip them with the skills on information retrieval and access to resources.

- **User Education Session**

The postgraduate students, academic staff and researchers of the Faculty are given special user education session; to cater for information needs at a regular basis to familiarize them with the use of library resources and library catalogue (Pendeta WebPAC), Endnote Management Software and online databases subscribed.

- **Reference and Information Enquiries**

A librarian will assist and guide users with searching information for the collection, online database subscribed, internet or from other institutions. For further information do contact Puan Hanani Fauzi at 03-79676802 or email at hananif@um.edu.my

- **Opening Hours**

Monday - Friday	8.30 am – 6.00 pm
Closed on Saturday, Sunday and Public Holidays.	

Facilities

- **Self-Photocopying Machines**

Photocopying services operated by commercial contractors are provided in the Library and cards can be purchased at the Service Counter.

- **Computers (PC)**
Computers with Internet connections are provided for use in the Library for searching information from Library resources and other online databases subscribed by the Library.
- **Student Centre**
Located at Level 3, Mercu Alam Bina was designed to give students space for study and relaxation between classes.
- **Surau/Musolla (Praying Room)**
Located at the second floor of Mercu Alam Bina for both male and female
- **WIFI**
Access is available within the building with a number of access points.
- **Vending Machines**
Available on selected floors.

Centralised and Special Computer Laboratories

The general computer laboratory is a centralised facility for all students of the Faculty. The facilities include desktop publishing and image editing. The special computer laboratory is for teaching purposes that include facilities for 2D draughting, 3D modelling and simulation. All the computers are networked within the Faculty's area network and are linked to the Internet.

Centralised Workshop

A Model-Making Workshop that has 100m² floor area is available for students to make architecture models and construct small-scale objects. The workshop, equipped with hand and power tools for model-making with wood, plastics and metal, is open during normal working hours for use by all students of the faculty. Some equipment are available for loan outside operating hours. One full-time technician supervises the workshop activities and provides hand-on training and assistance to students.

Centralised Laboratories

There are three centralized laboratories within the Faculty buildings that support the lecturers and students in teaching and research activities. These are Physics, Building Laboratories and Digital Crafting Lab. The labs offer advanced practical, research and model-making facilities with state-of-the-art machines and equipment, under the supervision of experienced academic and technical staff.

In addition, students have access to more specialized laboratories in Engineering and Science Faculties.

ARCHITECTURE |

ARCHITECTURE

Introduction

The Bachelor of Science in Architecture programme was first introduced under the umbrella of the Faculty of Engineering, University of Malaya in May 1995 with the first cohort of 26 students. To consolidate the management of the program, in July 1997, the programme reorganised and upgraded into Department of Architecture. In 1998 the Bachelor of Architecture programme was officially introduced as professional course in line with the requirements of the Board of Architects, Malaysia (LAM). In 2005 the bachelor's programme was internationally accredited by RIBA, UK.

Programme Aims

The aims are as follows:

- To promote interest, knowledge and skills in architectural design, that is sensitive to the cultural and environmental contexts.
- To develop analytical and problem-solving capabilities.
- To nurture the ability to design comprehensively, creatively and with technical competence.
- To understand the scientific principles which form the foundation of building technology.
- To produce graduates with semi-professional and professional degrees, who will practise architecture confidently and responsibly.
- These objectives are in line with the University's aspiration to become the premier university in the region.

Programme Learning Outcomes

At the end of the programme, graduates are able to:

- | | |
|-----|--|
| PO1 | Command adequate knowledge in design, technology, culture, management, practice and law to create quality three-dimensional spatial designs. |
| PO2 | Use scientific skills to solve architectural design problems with integrated knowledge on building technology principles, sustainable design and construction methods for the well-being of humans and nature. |
| PO3 | Use practical skills well in designing quality 3-dimensional spaces which are well planned and fulfil user needs and local requirements. |
| PO4 | Exhibits social skills and responsible attitude towards society and the environment in considering the requirements and needs related to the design process. |
| PO5 | Be responsible ethically, professionally and possess integrity in designing quality 3-dimensional spaces, taking into consideration professional practice codes and standards in the field of architecture. |
| PO6 | Communicate clearly and exhibit leadership and teamwork skills through the use of appropriate media (visual, oral and written) in presenting ideas and design proposals effectively or evaluating them critically. |

- PO7 Use of ICT Information Management and practise life-long learning skills with the ability to refer to source materials for deeper knowledge of the design process.
- PO8 Use management and entrepreneurship skills in the context of professional architectural practice and the framework of the construction industry, plus understanding business operation methods.

Programme Structure

Bachelor of Science in Architecture (BSc in Architecture) (6 Semesters)

The BSc in Architecture programme constitutes the first tier of the two-tier system. The programme provides solid academic foundation for those who wish to pursue professional architect qualification. It is an intensive 3-year undergraduate course in architectural studies with the aim of getting an exemption from both LAM Part I (Malaysia) and RIBA Part I (UK).

Design is the core subject taught across several subjects as part of the integrated learning and knowledge acquisition. Design forms the basic framework for an appropriate architectural foundation, enriched by practical knowledge gained from industrial attachment. The BSc in Architecture operates under the semester system for six full semesters and two special semesters covering a total of 120 credits.

The BSc in Architecture course is also programmed as a stand-alone undergraduate course that can sufficiently function as an independent course, that is, instead of continuing with the Master of Architecture (MArch) programme, graduates may venture into other related fields. For example, the BSc in Architecture qualification will enable graduates to work as architectural assistants in architectural firms, contractors or developers in the private sector, as school teachers, lecturers at polytechnics or technical colleges, or technical administrators in government departments and agencies, designers, product makers and many more.

The BSc Architecture programme has received recognition from the Malaysian government as well as Part 1 Qualification from both the Malaysian Board of Architects (LAM) since 2003 and the Royal Institute of British Architects (RIBA) since 2005. The programme also contains inbound and outbound programmes involving regional and international universities - *Institut Teknologi Bandung* (ITB) and *Universitas Katolik Parahyangan* (UNPAR) of Indonesia and *Kyung Hee University* (KHU) of Korea - that encourages cross-boundary learning and credit transfers between selected subjects taught in the programme.

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Roscoe Professor of Architecture, University of Liverpool, UK

PROGRAMME STRUCTURE: BACHELOR OF SCIENCE IN ARCHITECTURE (SESSION 2017/2018)

CATEGORY	NO	CODE	COURSES	YEAR I			YEAR II			YEAR III			TOTAL CREDIT	PRE-REQUISTE
				S1	S2	S3	S1	S2	S3	S1	S2	S3		
Design (60 credits - 50.0%)	1	BIA 1001	Architectural Design Studio I	10									60	BIA 1001 BIA 1005 BIA 2001 BIA 2004 BIA 3001
	2	BIA 1005	Architectural Design Studio II		10									
	3	BIA 2001	Architectural Design Studio III				10							
	4	BIA 2004	Architectural Design Studio IV					10						
	5	BIA 3001	Architectural Design Studio V							10				
	6	BIA 3004	Architectural Design Studio VI								10			
Technology and Environment (20 credits - 16.7%)	7	BIA 1002	Material and Construction I	2									20	BIA 1002 BIA 1006
	8	BIA 1003	Environmental Physics	2										
	9	BIA 1006	Material and Construction II		3									
	10	BIA 1007	Architectural Lighting and Acoustic		2									
	11	BIA 2002	Digital Architecture				2							
	12	BIA 2003	Building Structure				3							
	13	BIA 2005	Building Services					3						
	14	BIA 3002	Working Drawing							3				
Culture and Context (7 credits – 5.8%)	15	BIA 1004	History of Ancient and Asian Architecture	2									7	
	16	BIA 1008	History of Western Architecture		2									
	17	BIA 2006	Measured Drawings					3						
Tropical Research (4 credits – 3.3%)	18	BIA 3003	Research Paper I							2			4	BIA 3003
	19	BIA 3005	Research Paper II								2			

Law, Management and Practices (7 credits – 5.8%)	20	BIA 3006	Professional Studies								3		7
	21	BIA 3007	Industrial Training									4	
Electives (2 credits – 1.7%)	22		Programme Electives #								2		2
Compulsory University Courses (20 credit – 16.7%)	23	GIG1001	The Islamic and Asian Civilization (TITAS) *	2									20
	24	GIG1004	Information Literacy				1						
	25	GLTxxx	English 1				3						
	26	GLTxxx	English 2					3					
	27	GIG1002 / GIG1006	Ethnic Relations / Introduction To Malaysia **		2								
	28	GIG1003	Basic Entrepreneurship and Culture							2			
	29		Electives							3			
	30		Co-Curriculum								2		
	31	GIG1005	Social Engagement			2							
Total (120 credit - 100%)			TOTAL CREDIT	18	19	2	19	19	0	20	19	4	120
			TOTAL COMPULSORY UNIVERSITY COURSES	1	1	1	2	1	0	2	1	0	9
			TOTAL PROGRAM COURSES	4	4	0	3	3	0	3	3	1	21
			TOTAL ELECTIVES COURSES	0	0	0	0	0	0	0	1	0	1
			TOTAL COURSES	5	5	1	5	4	0	5	5	1	31
# Elective courses are based from the following subjects:													
a) BIA 3008 Culture and Context													
b) BIA 3009 Landscape Fundamentals													
c) BIA 3010 Digital Fabrication													

d) BIA 3011 Architectural Photography	
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* Exempted for non –Malaysian students and to be replaced with another Senate-approved university course.	
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** Course offered to non-Malaysian students	
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YEAR I

COMPONENT	SEMESTER 1		SEMESTER 2		SEMESTER 3		TOTAL CREDIT HOUR
	SUBJECT CODE	CREDIT HOUR	SUBJECT CODE	CREDIT HOUR	SUBJECT CODE	CREDIT HOUR	
Compulsory University Courses	GIG 1001	2	GIG 1002 / GIG1006	2	GIG 1005	2	6
Faculty Core Courses							0
Programme Core courses	BIA 1001	10	BIA 1005	10			33
	BIA 1002	2	BIA 1006	3			
	BIA 1003	2	BIA 1007	2			
	BIA 1004	2	BIA 1008	2			
Electives Courses							0
Total Credit Hour		18		19		2	39

YEAR II

COMPONENT	SEMESTER 1		SEMESTER 2		SEMESTER 3		TOTAL CREDIT HOUR
	SUBJECT CODE	CREDIT HOUR	SUBJECT CODE	CREDIT HOUR	SUBJECT CODE	CREDIT HOUR	
Compulsory University Courses	GIG 1004	1	ENGLISH 2	3			7
	ENGLISH 1	3					
Faculty Core Courses							0
Programme Core Courses	BIA 2001	10	BIA 2004	10			31
	BIA 2002	2	BIA 2005	3			
	BIA 2003	3	BIA 2006	3			
Electives Courses							0
Total Credit Hour		19		19			38

YEAR III

COMPONENT	SEMESTER 1		SEMESTER 2		SEMESTER 3		TOTAL CREDIT HOUR
	SUBJECT CODE	CREDIT HOUR	SUBJECT CODE	CREDIT HOUR	SUBJECT CODE	CREDIT HOUR	
Compulsory University Courses	GIG 1003 ELECTIVE	2 3	CO-CURRICULUM	2			7
Faculty Core Courses							0
Programme Core Courses	BIA 3001 BIA 3002 BIA 3003	10 3 2	BIA 3004 BIA 3005 BIA 3006	10 2 3	BIA 3007	4	34
Electives Courses	BIA 3008 BIA 3009 BIA 3010 BIA 3011	2					2
Total Credit Hour		19		17		4	43

OVERALL TOTAL CREDITS: 120

PROGRAMME CORE COURSES

BIA 1001
10 credits

ARCHITECTURAL DESIGN STUDIO I

Synopsis of Course Contents

The course is an introduction to basic design, with emphasis on using various media to explore the concept of space and form. Through a series of design studies students can learn, understand, analyse and apply basic principles and elements within various design representations.

Learning Outcomes

At the end of the course students will be able to:

1. Identify design principles and fundamentals through design vocabularies.
2. State ideas and concept of design composition.
3. Translate the knowledge of design principles and fundamentals into concepts and ideas through two-dimensional illustrations and three-dimensional models.
4. Discuss architectural design elements critically.
5. Identify the significance of human anthropometrics.
6. Discuss ergonomic application in architectural design.
7. Manipulate basic forms to create composition of spaces.
8. Illustrate schematic design proposal of a small-scale design project of 'space for one or two users' through drawings and models on a hypothetical site.
9. Recognize architectural graphic conventions.
10. Apply architectural graphic communication techniques and rendering in design presentation.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CS3, TS1, TS2, LS1, LS2

BIA 1005
10 credits

ARCHITECTURAL DESIGN STUDIO II

Synopsis of Course Contents

This course strengthens basic design knowledge and vocabulary introduced previously, where a series of design projects would highlight the importance of the design process. Projects would concentrate on form-making, and would revisit ideas of basic design elements (linear, planar, volume, addition / subtraction, interlocking space etc.) and enclosure and include architectonic aspects such as entrances, fenestrations, overhead enclosure / roof, furniture etc.

Learning Outcomes

At the end of the course, students are able to:

1. Identify basic structural systems and principles.
2. Identify basic skills in computer drafting and graphic presentation through basic exercises.
3. Review design principles and vocabularies through studio project.
4. Describe architectural elements and language through the study of selected architecture precedents.
5. Describe basic structural design of a small-scale architectural design precedent.
6. Discuss preliminary site observation and analysis on a selected site.
7. Apply basic structural knowledge in the design of a small-scale building typology.
8. Construct a small furniture/structure with considerations of design idea, materials, joinery techniques and finishes.
9. Illustrate the proposed furniture/structure using digital design drawings.
10. Apply knowledge learned in the design of a small-scale building typology on a selected site.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CS3, TS1, TS2, LS1, LS2

BIA 2001
10 credits

ARCHITECTURAL DESIGN STUDIO III

Synopsis of Course Contents

This course allows students to further build and strengthen skills by using an experiential 'master-apprentice' studio-based learning approach. The student is given two assignments based on a brief and program, to complete a final set of drawings and models, graphically and verbally presented. The design process requires the students to practice tectonic approach of:

- combining architectural elements
- putting together a scheme
- conceptualising

This course also provides learning on the architectural theories and themes for this semester, which is:

- form
- space
- context

Learning Outcomes

At the end of the course, students are able to:

1. Define architectural theory principles and themes.
2. Review different architectural precedents through studies of plans, sections, relevant drawings and documents; to further explore alternative ideas and concepts in the design process.
3. Describe good building design practice.
4. Defend architectural ideas and feasibility of building design proposals.
5. Apply architectural theory principles, themes and good building design practice into architectural design schemes.
6. Solve building type and function through a series of design process.
7. Determine the elements, scheme and concept of an architectural project.
8. Illustrate knowledge from precedents studies into a small single function building design through conceptual exploration on a selected site.
9. Illustrate design proposal through appropriate architectural graphic and verbal communication.
10. Design a dual function building of not more than two-storey high with consideration of public and private space relationship on an identified site.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CS3, CS4, CT1, CT2, CT3, EM1, EM2

BIA 2004
10 credits

ARCHITECTURAL DESIGN STUDIO IV

Synopsis of Course Contents

This course allows students to further build and strengthen skills by using an experiential 'master-apprentice' studio-based learning approach. The student is given two assignments based on a brief and program, to complete a final set of drawings and models, graphically and verbally presented. The design process requires the students to practice an approach of:

- combining architectural elements,
- putting together a scheme and,
- conceptualising.

The architectural design program provides learning on the sustainable design theory and principles for this semester, which is:

- elements – site elements, topography, vegetation, natural materials, building materials;
- scheme – climatic design ideas, passive energy design principles, building form and function, and;
- concepts – vernacular architecture, tropical architectural design, sustainable, passive tropical passive architectural design.

Learning Outcomes

At the end of the course, students are able to:

1. Define sustainable design theory and principles.
2. Review precedents and case studies through actual site visits local and international examples by studying plans, sections and other relevant drawings and documents, interviews, participant observations to assist ideas and concepts in the design process.
3. Defend architectural ideas and feasibility of building design proposals.
4. Apply sustainable design theory and principles including good building design practice into architectural design schemes.
5. Recognise immediate urban elements that may influence the design decisions.
6. Illustrate design proposal through appropriate architectural graphic and verbal communication.
7. Design an urban infill project with focus on internal planning and contextual issues.
8. Design a building which has a public function and ancillary spaces, not more than two stories high within a given brief, which is located in an urban area.
9. Propose special study on an interior space.
10. Generate passive design solutions in a design scheme.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CS3, CS4, CT1, CT2, CT3, EM1, EM2

BIA 3001
10 credits

ARCHITECTURAL DESIGN STUDIO V

Synopsis of Course Contents

This course allows students to focus on the urban studies:

- visit and conduct an urban study based on a developed brief in an identified town or city
- gather planning and building regulation from respective local authorities
- illustrate and present the urban site studies utilizing selected urban principles and concepts
- design an individual building project based on the findings of the urban and site studies.

Learning Outcomes

At the end of the course, students are able to:

1. Appraise the architectural programme, which provides information on the building users, function, spaces and physical requirement
2. Perform a group study on a selected urban context inclusive of the urban fabric, socio cultural aspects and regulatory requirements using appropriate methodology
3. Analyse the project site covering the micro climate, neighbouring buildings, infrastructure, traffic and pedestrian network and soft/hardscape
4. Analyse information gained from precedent studies

5. Determine design strategies using information gained from the urban study, the site analysis, the architectural programme and the precedent studies
6. Synthesize concept and sketch design
7. Defend sketch design into strategic design development taking into account the urban contextual issues
8. Prepare final schematic design into architectural drawings, namely site plan, building plans, elevation, sections and urban design detail on selected area
9. Apply building technical in architectural design through 1:50 sectional detail covering the foundation, ground floor, immediate floor/s and roof
10. Present final design presentation orally and graphically

Assessment:

Continuous Assessment 100%

Soft Skills: CT1, CT2, CT3, CT4, TS1, TS2, TS3, LS1, LS2, LS3

BIA 3004
10 credit

ARCHITECTURAL DESIGN STUDIO VI

Synopsis of Course Contents

This course allows students to:

- apply findings of the urban principles and knowledge in the previous study
- focus on conceptual architectural design of an individual five-storey building including basement carpark
- incorporate sustainability, passive design, landscaping, interior design, structure, services and by-laws (building and planning)

Learning Outcomes

At the end of the course, students are able to:

1. Apply urban design principles into a design project
2. Analyse project site information collected during the previous semester
3. Appraise the architectural programme, which provides information on the building users, function, spaces and physical requirements
4. Analyse information gained from the precedent studies
5. Determine design strategies using information gained from urban study, site analysis, architectural programme and precedent studies
6. Integrate building technical consideration and technology and building regulatory requirements
7. Generate concept and sketch design
8. Integrate knowledge on sustainable principles into the design project
9. Prepare report on the technical building design and requirements
10. Present final design presentation orally and graphically

Assessment:

Continuous Assessment 100%

Soft Skills: CT1, CT2, CT3, CT4, LL1, LL2, EM1, EM2

BIA 2002
2 credits

DIGITAL ARCHITECTURE**Synopsis of Course Contents**

This course provides continuous training on personal skills and knowledge on computer technology to effectively handle architectural digital data information. Students will familiarise several 3D modelling techniques using selected tools, hardware and software with the ability to transform architectural drawings into 2D and/or 3D digital representation. The final coursework includes techniques of rendering leading to short visual architectural documentation.

Learning Outcomes

At the end of the course, students are able to:

1. Identify necessary skills and techniques in 2D drawing and 3D modelling using selected architectural and non-architectural software.
2. Construct and manipulate digital CAD drawings in 2D and 3D data format.
3. Design digital architectural visualisations in static, physical and/or animated format.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CS3, TS1, TS2, KK1

BIA 1002
2 credits

MATERIALS AND CONSTRUCTION I**Synopsis of Course Contents**

This course introduces students to the basic building materials and construction techniques, material and construction defects and methods to avoid the occurrence of such defects in the domestic two-story structure using the construction of timber, bricks and reinforced concrete.

Learning Outcomes

At the end of the course, students are able to:

1. Identify construction materials used such as timber, bricks, reinforced concrete in common structural construction techniques for 2-storey domestic building.
2. Explain the basic components in construction.
3. Summarise the construction principles for timber, bricks concrete and reinforced concrete.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1, CT2, CT3, LS1, LS2

BIA 1006

3 credits

MATERIALS AND CONSTRUCTION II**Synopsis of Course Contents**

This course provides the learning of typical multi storey building's construction methods and processes, including site clearance, piling, basement, waterproofing systems, demolition works of 3 to 5 storey buildings, metal and concrete composite structures, cladding systems, industrial building systems, fire-fighting elements and infrastructural work.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the process of construction and supporting infrastructure for a 5-storey (medium rise) building.
2. Describe building components and construction works of a 5-storey reinforced concrete and steel framed building.
3. Summarize the theoretical and practical aspects of construction through exposure to construction works on site.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1, CT2, CT3, CT4, LL1, LL2, EM1, EM2

BIA 3002

3 credits

WORKING DRAWING**Synopsis of Course Contents**

This course introduces the technical definition of working drawings; the differences between design sketch and working drawings. Discussion on the function and importance of working drawings. Appropriate scales to be used for different purposes such as site plan, floor plan, elevations, cross sections, roof plan, ceiling plan, details, etc. To identify standard details and special designed details. To understand the importance of the build ability aspects of the drawing.

Learning Outcomes

At the end of the course, students are able to:

1. Identify various working drawing features and format.
2. Apply specific working drawing technical requirements.
3. Relate design drawings to the technical requirements of working drawings.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CS3, LL1, LL2, EM1, EM2

BIA 2005
3 credits

BUILDING SERVICES

Synopsis of Course Contents

This course introduces the:

- Need for building services in modern living, relevant regulations, cold and hot water distribution and drainage systems.
- Design of rainwater collection and drainage systems, plumbing and integrated plumbing systems.
- Underground drainage and disposal system, above ground drainage, sewerage systems and septic tanks.
- Refuse disposal systems.
- Principles of refrigeration and types of air-conditioning.
- Choice of cooling system in relation to performance specification and impact of each system on the building.
- Location, size and contents of plant rooms, details and design of various ducting systems and damper positioning.
- Vertical and horizontal transportation in buildings.
- Fire prevention, firefighting systems and equipment.
- Uniform Building By-Laws (UBBL) requirements.

Learning Outcomes

At the end of the course, students are able to:

1. Define the needs of various technical services components commonly used in buildings.
2. Describe various technical aspects for water distribution and sewerage systems, piping and plumbing systems, surface drainage systems, hot water supply and distribution, mechanical ventilation, transportation and fire protection in buildings.
3. Illustrate requirements of building services according to size and building typology.
4. Determine the requirements of building services that is appropriate to building specifications.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, CT3, EM1, EM2, LS1, LS2

BIA 2003
3 credits

BUILDING STRUCTURE**Synopsis of Course Contents**

Topics covered include:

- Distribution of loads on structural systems
- Structural systems
- Structural design
- Structural analysis

Learning Outcomes

At the end of the course, students are able to:

1. Describe structural systems of buildings
2. Illustrate structural forces and loading in a building
3. Calculate basic forces and loading in a building

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CS1, CS2, CS3, CS4, LS1, LS2

BIA 1003
2 credits

ENVIRONMENTAL PHYSICS**Synopsis of Course Contents**

This course introduces basic knowledge in the relationship between environmental physics and the built environment in the quest for human comfort, looking into the influence of natural elements and climate on design, the appropriateness of building location on site and the problem of heat and wind in the context of micro climate. It will also review the effectiveness and efficiency of vernacular architectural design, bio-climatic design and passive solar architecture.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the technological basics for 'Environmental Building Physics'.
2. Describe the relationship between 'Man, Building and Climate'.
3. Determine the thermal comfort of building users.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CS1, CS2, CS3, CT1, CT2, CT3, TS1, TS2

BIA 1007
2 credits

ARCHITECTURAL LIGHTING AND ACOUSTICS

Synopsis of Course Contents

This course is a continuation of discussion on the link between environmental physics and the built environment, focusing on:

- Architectural lighting and design
- Building acoustics and architectural acoustic design

Learning Outcomes

At the end of the course, students are able to:

1. Identify the needs, comfort and requirements of building users in terms of lighting and architectural acoustics.
2. Investigate the design concept of special lighting and architectural acoustics in groups.
3. Appraise architectural design in terms of lighting and architectural acoustics.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, CT3, CT4, TS1, TS2, LS1, LS2

BIA 1004
2 credits

HISTORY OF ANCIENT AND ASIAN ARCHITECTURE

Synopsis of Course Contents

This course covers:

- Brief overviews on the legacy of the ancient civilizations such as Egypt, Mesopotamia, Mohenjo-Daro and Harappa, Maya, Aztec and Inca.
- Discussion on vernacular architecture heritage covering:
 - Austronesian World
 - Malay Houses
 - Siamese traditional architecture
 - Indian traditional architecture
 - Chinese traditional architecture
 - Japanese traditional architecture
- Introduction to the architecture of the Islamic World.
- Discussion on foreign influences in the local architecture of Malaysia.

Learning Outcomes

At the end of the course, students are able to:

1. Identify architectural origins and entities of ancient civilizations, Asian vernacular architecture and Islamic architecture.
2. Identify and differentiate the various characteristics of ancient civilizations, Asian vernacular architecture and Islamic architecture.
3. Describe the legacy of ancient civilizations, Asian vernacular architecture and Islamic architecture throughout history.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CS1, CS2, CS3, CT1, CT2, CT3, TS1, TS2

BIA 1008
2 credits

HISTORY OF WESTERN ARCHITECTURE

Synopsis of Course Contents

This course concentrates on the Western Civilizations for eight weeks and subsequently focuses on Malaysian and Malaya Architectural History for the rest of the course with a final lecture to summarize Western Architecture's influence globally.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the architectural and urban development in Western Architecture History from the Antiquities to the early 21st century.

2. Summarize the architectural and urban developments in Western Architecture history throughout different eras.
3. Distinguish the different architectural and urban developments in Western Architecture and Malaysian Architecture and their influences.
4. Describe the various architectural and urban development relating to history in terms of styles of architecture and building archetypes.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CS1, CS2, CS3, CT1, CT2, CT3, TS1, TS2

BIA 2006
3 credits

MEASURED DRAWING

Synopsis of Course Contents

Students will have the opportunity to measure and report their findings from their study of selected heritage buildings on significant history. They will also be exposed to:

- The importance of building conservation
- Building conservation methods
- Heritage building site observation and analysis
- Historical aspects of studied heritage building

Learning Outcomes

At the end of the course, students are able to:

1. Identify architectural elements such as building plans, architectural concept, building layout, spatial organisation, construction method, building structure and architectural details of heritage buildings with significant history.
2. Use appropriate measuring equipment and technique to measure selected buildings and their significant architectural elements.
3. Apply architectural drawing and writing skills to produce measured drawings and related documents.

Assessment:

Continuous Assessment 100%

Soft Skills: TS1, TS2, TS3, EM1, EM2, LS1, LS2, LS3

BIA 3003
2 credits

RESEARCH PAPER I

Synopsis of Course Contents

This course starts with scientific research and its role in architectural development. Other topics covered are:

- Literature review
- Research design
- Citing and referencing

- Writing research proposals

Learning Outcomes

At the end of the course, students are able to:

1. Review appropriate literature.
2. Identify suitable research methods.
3. Write a research proposal.

Assessment:

Continuous Assessment 100%

Soft Skills: CT1, CT2, CT3, EM1, EM2, LS1, LS2

BIA 3005
2 credits

RESEARCH PAPER II

Synopsis of Course Contents

This course covers research designs including quantitative, qualitative and mixed methods. Other topics covered are:

- Data collection and data analysis techniques
- Scientific writing
- Journals and publications

Learning Outcomes

At the end of the course, students are able to:

1. Employ research methods to collect data
2. Analyse collected data
3. Prepare a research report

Assessment:

Continuous Assessment 100%

Soft Skills: CT1, CT2, CT3, CT4, EM1, EM2, LS1, LS2

BIA 3006
3 credits

PROFESSIONAL STUDIES

Synopsis of Course Contents

The course intends to expose students on architectural professional practice and building construction site administration. The course also introduces concept and basic on contract construction management, project control organization structure and team management. Architects works and

responsibility and other consultants' scope of works shall be introduced and explained.

Learning Outcomes

At the end of the course, students are able to:

1. Identify architect's roles and responsibilities in architectural practice and building construction.
2. Describe roles and responsibilities of other consultants on site.
3. Explain the fundamentals of planning, managing and organizing building construction projects.
4. Appraise project management principles.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: TS1, TS2, KK1, EM1, EM2

BIA 3007
4 credits

INDUSTRIAL TRAINING

Synopsis of Course Contents

Students will obtain practical experience outside the campus, improve their interpersonal skills and work in a controlled and programmed environment for the duration of eight weeks.

Learning Outcomes

At the end of the course, students are able to:

- Apply acquired theoretical knowledge in a real-life situation such as a student workshop or jamboree, an architect's office, a cultural exchange programme overseas or an architectural competition.
- Prioritise instructions to the satisfaction and completion of tasks at hand.
- Perform the task given creatively, efficiently and professionally.

Assessment:

Continuous Assessment 100%

Soft Skills: LL1, LL2, KK1, EM1, EM2

PROGRAMME ELECTIVE COURSES

BIA 3008
2 credits

CULTURE AND CONTEXT

Synopsis of Course Contents

The course emphasises the importance of cultural and context in shaping buildings. A short study visit to foreign countries will be conducted to study building design and contextual influences. In cases where fund is insufficient the study can be conducted in the country. Analysis of the study will be presented in the forms of reports, verbal presentations and exhibition.

Learning Outcomes

At the end of the course, students are able to:

1. Describe the analysis of design approaches, influences and styles, as well as the method of integrating structure and services of selected buildings within the study area.
2. Report and prepare the above analysis and to present verbally using Power Point presentation in a group.
3. Analyse the material to be presented and manage an exhibition in a group.

Assessment:

Continuous Assessment 100%

Soft Skills: CT1, CT2, CT3, EM1, EM2, LS1, LS2

BIA 3009
2 credits

LANDSCAPE FUNDAMENTALS

Synopsis of Course Contents

Students will be exposed to landscape features through series of lectures and study tours. This is to explore how the nature of place and attitudes to nature inform landscape architectural design.

Learning Outcomes

At the end of the course, students are able to:

1. Define the landscape design related vocabulary and terminology
2. Distinguish an awareness of the significance of the natural elements in the living environment
3. Illustrate relevant issues and recommendations of landscape elements.

Assessment:

Continuous Assessment 100%

Soft Skills: CT1, CT2, CT3, TS1, TS2, LS1, LS2

BIA 3010
2 credits

DIGITAL FABRICATION

Synopsis of Course Contents

This course enables students to explore the technical and practical process of digital fabrication tools and technology. It exposes students with necessary skill-set in operating machines, construction and component assembly. Through this process, students explore various design-to-production methods that lead to a production of tangible objects or physical objects.

Learning Outcomes

At the end of the course, students are able to:

1. Identify processes of digital manufacturing systems in the context of CAD/CAM tools and technology.
2. Apply methods of design to production with selected manufacturing and operation systems.
3. Test a design and fabricate physical components with consideration of sustainable design practice.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CS3, LL1, LL2, KK1

BIA 3011
2 credits

ARCHITECTURAL PHOTOGRAPHY

Synopsis of Course Contents

Students will have the opportunity to learn photography from the following aspects:

- Basic Photography – Common features of cameras (film/digital), photography studio setting-up etc.
- Taking Photographs – Theoretical and practical knowledge of photography (portrait, macro, architecture etc).
- Data Management and Image Output.

Learning Outcomes

At the end of the course, students are able to:

1. Identify basic principles and techniques of photography.
2. Apply available tools and resources to achieve effective photograph images.
3. Apply knowledge of architectural photography to communicate architectural design.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CS3, TS1, TS2, LL1, LL2

BUILDING SURVEYING

BUILDING SURVEYING

Introduction

Building Surveying is a rapidly growing profession in Malaysia and its services are highly needed in all economics and development situation. Its scope begins from the very early stage of planning a development project to construction management, maintenance and up to the conservation of historical and architecturally important buildings. To address the shortage of professional Building Surveyors in the country, the Building Surveying Programme at undergraduate level was introduced in the University of Malaya (UM) in 1996. This programme is recognised locally and internationally by professional bodies i.e. Royal Institution of Surveyors Malaysia (RISM) and The Royal Institution of Chartered Surveyors (RICS), UK. The degree can also be pursued at higher learning institutions abroad especially in United Kingdom, Australia, Hong Kong and New Zealand or through a professional examination conducted by the RISM.

In the Malaysian context, a professional Building Surveyor is a qualified person, by examination and experience, and a member of the RISM. The main roles and responsibilities of a Building Surveyor in Malaysia, as prescribed by the RISM cover the following areas:

- Building Control and Space Planning;
- Building Performance & Risk Assessment; and
- Building Maintenance and Refurbishment.

The career as a professional Building Surveyor includes every aspect of a building life cycle from its planning stage to restoration, demolition and redevelopment. A competent Building Surveyor will be able to manage, organise, monitor, assess and coordinate construction works while acting as the main link to other professional services in the construction industry.

A qualified Building Surveyor can work at the Government/Semi-Government Department such as Local Authority, higher learning institution (public and private) and also private sector such as developer, financial and banking institution, consultant firm, insurance company and research organization.

Programme Aim

To produce ethical and professionally competent surveyors who are able to function effectively as members of the construction and property industry and able to face technological and managerial challenges in the national and global context

Programme Learning Outcomes

At the end of the programme, graduates are able to:

- PO1. Apply the mastery of knowledge, skills and inclination corresponding to building surveying procedures;
- PO2. Coordinate support services in the area of specialization;
- PO3. Demonstrate effective communication within the built environment community and teamwork;
- PO4. Propose problem-solving solutions in building control and performance;
- PO5. Design and carry out research on building surveying challenges;
- PO6. Select and apply appropriate techniques, resources and suitable building surveying equipment;
- PO7. Practice awareness and responsibility towards social, health, safety, ethics and legal issues;
- PO8. Foster awareness towards entrepreneurship and sustainable development; and
- PO9. Foster readiness for career development and lifelong learning.

Programme Structure

Bachelor of Building Surveying (8 semesters)

The Bachelor of Building Surveying programme consists of 8 semesters (including 1 special semester) with a total of 132 credits. This programme comprises of two major components namely, university (24 credits) and faculty courses (108 credits) which constitute of 15% and 85% respectively from the total credits.

The programme was developed based on the Programme Standards: Building Surveying by Malaysian Qualifications Agency (MQA). The curriculum structure is accredited by the Royal Institution of Surveyors Malaysia (RISM) and the Royal Institution of Chartered Surveyors (RICS), United Kingdom.

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PROGRAMME STRUCTURE: BACHELOR OF BUILDING SURVEYING (SESSION 2017/2018)

CATEGORY	NO	CODE	SUBJECT	YEAR 1		YEAR 2			YEAR 3		YEAR 4		TOTAL CREDIT	PRE-REQUISITE
				S1	S2	S3	S4	S5	S6	S7	S8	S9		
FACULTY COURSES (108 Credit)	1	BIB1001	Environmental Physics	2									2	
	2	BIB1002	Legal Studies	3									3	
	3	BIB1003	Material and Construction Technology I	3									3	
	4	BIB1004	Mathematics I	2									2	
	5	BIB1005	Building Law	3									3	
	6	BIB1006	Building Services		2								2	
	7	BIB1007	Structural Analysis		3								3	
	8	BIB1008	Building Design Communication		5								5	
	9	BIB1009	Material and Construction Technology II		3								3	
	10	BIB1010	Mathematics II		2								2	
	11	BIB1011	Mechanical & Electrical Services		3								3	
	12	BIB2001	Structural Design			3							3	
	13	BIB2002	Built Environment Economics & Business			2							2	
	14	BIB2003	Development and Building Control			5							5	
	15	BIB2004	Statistics			2							2	
	16	BIB2005	Material and Construction Technology III			3							3	
	17	BIB2006	Building Pathology I			3							3	
	18	BIB2007	Building Maintenance				3						3	
	19	BIB2008	Building Services Audit				4						4	
	20	BIB2009	Building Pathology II				3						3	BIB2006
	21	BIB2010	Facilities Management				3						3	
	22	BIB2011	Building Procurement and Specification				3						3	
	23	BIB2012	Building Measurement & Analysis					4						
	24	BIB3001	Project Management						4				4	
	25	BIB3002	Operation and Maintenance						3				3	
	26	BIB3003	Building Conservation						4				4	
	27	BIB3004	Risk and Construction Safety						2				2	
	28	BIB3005	Research Methodology						2				2	
	29	BIB3006	Professional Practice							3			3	
	30	BIB3007	Fire Safety Audit							3			3	
	31	BIB3008	Building Performance and IT							4			4	
	32	BIB3009	Construction Law							2			2	
	33	BIB3010	Academic Project							4			4	BIB3005
	34	BIB4001	Industrial Training								8		8	
UNIVERSITY COURSES (24 Credit)	35	GIG 1004	Information Literacy	2								2		
	36	GIG 1001	The Islamic and Asian Civilisation (TITAS)*						2			2		
	37	GIG1002 / GIG1006	Ethnic Relations / Introduction to Malaysia**			2						2		
	38		Co-Curriculum						2			2		
	39	GIG 1003	Basic of Entrepreneurship Culture				2					2		
	40	GLTxxxx	English I	3								3		
	41	GLTxxxx	English II		3							3		
	42		University Elective Courses				3			3		6		
	43	GIG1005	Social Engagement									2		
TOTAL CREDIT			18	21	20	21	6	19	19	8	0	132		
TOTAL SUBJECTS			7	7	7	7	2	7	6	1	0	42		

Note : * Exempted for non –Malaysian students and to be replaced with another Senate-approved university course.

PROGRAMME STRUCTURE: BACHELOR OF BUILDING SURVEYING (SESSION 2017/2018)

COMPONENTS	YEAR 1 (Bachelor of Building Surveying)									TOTAL CREDIT
	SEMESTER 1			SEMESTER 2			SPECIAL SEMESTER			
	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT	
Compulsory University Courses	GIG 1004	Information Literacy	2	GLTxxx	English II	3				8
	GLTxxx	English I	3							
Programme Core Courses	BIB1001	Environmental Physics	2	BIB1007	Structural Analysis	3				31
	BIB1002	Legal Studies	3	BIB1008	Building Design Communication	5				
	BIB1003	Material and Construction Technology I	3	BIB1009	Material and Construction Technology II	3				
	BIB1004	Mathematics I	2	BIB1010	Mathematics II	2				
	BIB1005	Building Law	3	BIB1011	Mechanical & Electrical Services	3				
				BIB1006	Building Services	2				
TOTAL CREDIT			18	TOTAL CREDIT		21				39

COMPONENTS	YEAR 2 (Bachelor of Building Surveying)									TOTAL CREDIT	
	SEMESTER 1			SEMESTER 2			SPECIAL SEMESTER				
	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT		
Compulsory University Courses	GIG 1002 / GIG1006	Ethnic Relations / Introduction to Malaysia**	2	GIG 1003	Basic of Entrepreneurship Culture	2	GIG 1005	Social Engagement	2	9	
					University Elective Courses	3					
Programme Core Courses	BIB2001	Structural Design	3	BIB2007	Building Maintenance	3	BIB2012	Building Measurement and Analysis	4	38	
	BIB2002	Built Environment Economics and Business	2	BIB2008	Building Services Audit	4					
	BIB2003	Development and Building Control	5	BIB2009	Building Pathology II	3					
	BIB2004	Statistics	2	BIB2010	Facilities Management	3					
	BIB2005	Material and Construction Technology III	3	BIB2011	Building Procurement and Specification	3					
	BIB2006	Building Pathology I	3								
TOTAL CREDIT			20	TOTAL CREDIT			21			6	47

COMPONENTS	YEAR 3 (Bachelor of Building Surveying)									TOTAL CREDIT
	SEMESTER 1			SEMESTER 2			SPECIAL SEMESTER			
	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT	
Compulsory University Courses	GIG1001	Islamic Civilization and Asian Civilization (TITAS)*	2		University Elective Courses	3				7
		Co-curriculum	2							
Programme Core Courses	BIB3001	Project Management	4	BIB3006	Professional Practice	3				31
	BIB3002	Operation and Maintenance	3	BIB3007	Fire Safety Audit	3				
	BIB3003	Building Conservation	4	BIB3008	Building Performance and Information Technology	4				
	BIB3004	Risk Management and Construction Safety	2	BIB3009	Construction Law	2				
	BIB3005	Research Methodology	2	BIB3010	Academic Project	4				
TOTAL CREDIT			19	TOTAL CREDIT			19			38

COMPONENTS	YEAR 4 (Bachelor of Building Surveying)									TOTAL CREDIT
	SEMESTER 1			SEMESTER 2			SPECIAL SEMESTER			
	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT	
Programme Core Courses	BIB4001	Industrial Training	8							
TOTAL CREDIT			8	TOTAL CREDIT						8

OVERALL TOTAL CREDIT: 132

Note : Please note that programme structure is subject to change

PROGRAMME CORE COURSES

BIB1001

2 credits

ENVIRONMENTAL SCIENCE AND SUSTAINABILITY

Synopsis of Course Contents

Introduction to the concept of environmental physics in a sustainable development and human lifestyle influenced by lighting, ventilation and acoustic systems.

Learning Outcomes

At the end of the course, students are able to:

- Describe natural systems and how humans interact with it
- Identify concepts of environments physics in the design and performance of buildings; and
- Explain the parameters of comfort in buildings in terms of climate, ventilation, lighting and sound.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CS1, CS2, CS3, CT1, CT2, CT3, EM1, EM2

BIB1002

3 credits

LEGAL STUDIES

Synopsis of Course Contents

This course focuses on Malaysian Legal System, tort and contract. It includes the principles and sources of Malaysian law, processes, systems and procedures, common law, statute and equity. This course covers the law of contract (Contracts Act 1950) emphasizing on capacity, consideration, intention to create legal relation and methods of discharging of contracts. It will also include the types of remedies. The law of torts includes negligence, duty of care, breach of duty, causation, remoteness, professional negligence, nuisance and trespass.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the Malaysian Legal Systems
2. Identify the principles, sources, processes and procedures of the Malaysian legal system, tort and contract; and
3. Apply the principles and procedure of law of tort and contract.

Assessment:

Continuous Assessment 40%

Final Examination	60%
Soft Skills:	CT1, CT2, CT3, LL1, LL2, EM1, EM2

BIB1003
3 credits

MATERIAL AND CONSTRUCTION TECHNOLOGY I

Synopsis of Course Contents

Introduction to construction industry, building construction principles, methods and processes for low rise building base on relevant regulation and standard; construction activities and parties involved; civil and building works; building structures and elements; building materials and finishes.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the process and stages of construction project
2. Explain the various method and construction materials
3. Apply construction technology knowledge in the relevant field;

Assessment:

Continuous Assessment	60%
Final Examination	40%
Soft Skills:	CS1, CS2, CS3, TS1, TS2, LL1, LL2

BIB1004
2 credits

MATHEMATICS I

Synopsis of Course Contents

Introduction to number, integer and arithmetic operation, linear algebra, equation and function, linear and linear, linear and quadratic equations.

Learning Outcomes

At the end of the course, students are able to:

1. Indicate number, integer and arithmetic operation
2. Translate statement into mathematic equation
3. Solve problem in construction using arithmetic and algebra concept

Assessment:

Continuous Assessment	40%
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Final Examination 60%

Soft Skills: CT1, CT2, CT3, LL1, LL2

BIB1005
3 credits

BUILDING LAW

Synopsis of Course Contents

Requirements of the National Land Code 1965, Local Government Act 1976, Town & Country Planning Act 1976, Federal Territory (Planning) Act 1982, Environmental Quality Act 1974, Road, Drainage & Building Act 1974, Uniform Building By-Laws 1984, Strata Title Act 1985, National Heritage Act 2005, Building and Common Properties Act 2007.

Learning Outcomes

At the end of the course, students are able to:

1. Describe the principles and working of specific legislative provisions in relation to land development and building
2. Interpret and apply the basic principles of building law in the construction and surveying context
3. Apply the knowledge of building to monitor compliance with relevant legislation

Assessment:

Continuous Assessment 50%

Final Examination 50%

Soft Skills: CT1, CT2, CT3, TS1, TS2, LL1, LL2

BIB1006
2 credits

BUILDING SERVICES

Synopsis of Course Contents

Introduction to various type of building services system on low rise and high rise buildings; water supply and sanitation system, drainage and waste water system, reservoir system, plumbing system, garbage disposal system, and installation of gas supply.

Learning Outcomes

At the end of the course, students are able to:

1. State various type of services in buildings
2. Discuss the design, installation and location of equipment in services system; and
3. Identify the needs and limitations of building services systems.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, CT3, TS1, TS2, LL1, LL2

BIB1007

3 credits

STRUCTURE ANALYSIS**Synopsis of Course Contents**

Introduction to building structures layout. Building loading, forces and reaction in structures. Axial forces, shear force and bending moment. Framed structures. Properties of section, material strength and safety factors.

Learning Outcomes

At the end of the course, students are able to:

1. Identify type of building structures and loading
2. Estimate the loads reacting on the building members
3. Determine the forces reacting on the building structures
4. Provide a safe section of building member

Assessment:

Continuous Assessment 60%

Final Examination 40%

Soft Skills: CT1, CT2, CT3, TS1, TS2, LL1, LL2

BIB1008

5 credits

BUILDING DESIGN COMMUNICATION**Synopsis of Course Contents**

Introduction to building design theories and concept; site survey and existing building measurements; integration of form, space and function in building design.

Learning Outcomes

At the end of the course, students are able to:

1. Differentiate technical, architectural and construction drawings
2. Interpret existing building into technical drawings

3. Provide technical drawings using computer software.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CS3, CT1, CT2, CT3, LL1, LL2

BIB1009
3 credits

MATERIAL AND CONSTRUCTION TECHNOLOGY II**Synopsis of Course Contents**

Introduction to construction industry, building construction principles, methods and processes for multi-storey building base on relevant regulation and standard; site preparation and machineries; building frames; roof system, elements, materials and finishes; piling and basement; fundamental of building alteration.

Learning Outcomes

At the end of the course, students are able to:

1. Describe the principles, design, materials and methods in multi-storey building construction.
2. Identify preliminary construction activities and machineries
3. Determine the suitability of construction methods for multi-storey building

Assessment:

Continuous Assessment 60%

Final Examination 40%

Soft Skills: CS1, CS2, CS3, CT1, CT2, CT3, LL1, LL2

BIB1010
2 credits

MATHEMATICS II**Synopsis of Course Contents**

Geometry and trigonometry concept, Pythagoras theorem, sine and cosine, tangent and vector.

Learning Outcomes

At the end of the course, students are able to:

1. Indicate geometry and trigonometry concept
2. Calculate force in building using vector and static equations
3. Apply trigonometry theory in site and building surveys.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, CT3, LL1, CT1, TS1, TS2, TS3

BIB1011

3 credits

MECHANICAL AND ELECTRICAL SERVICES**Synopsis of Course Contents**

Introduction to the various types of mechanical and electrical systems in buildings such as the type of cable, telephone and communication systems, security and safety systems, mechanical transport system, air conditioning and mechanical ventilation systems, lighting and electrical systems, and Building Automation Systems and fire protection systems.

Learning Outcomes

At the end of the course, students are able to:

1. Describe the various mechanical and electrical (M&E) equipment, and other systems associated with buildings.
2. Identify the needs of mechanical and electrical systems in buildings.
3. Determine the mechanical and electrical systems installed in the building.

Assessment:

Continuous Assessment 60%

Final Examination 40%

Soft Skills: CS1, CS2, CS2, CT1, CT2, CT3, TS1, TS2

BIB2001

3 credits

STRUCTURAL DESIGN**Synopsis of Course Contents**

Introduction to philosophy of structural design, rule of thumb in arrange reinforced concrete, timber and steel structures. Properties and characteristic of reinforced concrete, timber and steel materials. Load distribution and analysis. Design concrete beam, slab and column using the design chart. Design timber and steel structures using elastic theory.

Learning Outcomes

At the end of the course, students are able to:

- Arrange structure plan for low-rise building
- Estimate loads and forces react on the building structures
- Determine reinforcement in concrete and safe size for timber and steel structures
- Prepare details drawing for reinforced concrete

Assessment

Continuous Assessment 60%

Final Examination 40%

Soft Skills: CT1, CT2, CT3, TS1, TS2, LL1, LL2

BIB2002

2 credits

BUILT ENVIRONMENT ECONOMICS AND BUSINESS

Synopsis of Course Contents

Introduction to construction industry, construction firms; supply and demand within built environment; principles of macro and micro economics; introduction to business industry, environmental economics and economic factors within construction industry

Learning Outcomes

At the end of the course, students are able to:

1. Evaluate the roles of different agencies in the construction industry, the supply and demand within the built environment;
2. Identify economic principles in an environmental economics;
3. Discuss sound economic argument for business;

Assessment

Continuous Assessment 60%

Final Examination 40%

Soft Skills: CS1, CS2, CS3, KK1, KK2, EM1, EM2

BIB2003

4 credits

DEVELOPMENT AND BUILDING CONTROL

Synopsis of Course Contents

Exposure to urban planning, planning theories, and site analysis.

Application of knowledge in Uniform Building By-law 1984 and Road, Drainage & Building Acts 1995, Certificate of Fitness (CF) and Certificate of Completion and Compliance (CCC) approvals procedures; plans checking practice and inspection methods; Building design theories and concepts for building refurbishment, legal requirements, site and existing building analysis.

Learning Outcomes

At the end of the course, students are able to:

1. Understanding aspects of planning theories and site analysis
2. Apply process and procedures for building plan approval and issuance of Certificate of Fitness for Occupation (CF) and Certificate of Completion and Compliance (CCC)
3. Propose refurbishment according to relevant regulation and legislation ;and
4. Evaluate design and legislative requirements for building plan approval

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CS3, CT1, CT2, TS1, TS2

BIB2004

2 credits

STATISTICS

Synopsis of Course Contents

Introduction to qualitative and quantitative data. Analyse quantitative data using statistic concept. Analyse data probability using regression and related theory. Determine type of data distribution.

Learning Outcomes

At the end of the course, students are able to:

1. Calculate average, median and mode of quantitative data
2. Determine variation, standard deviation and regression of quantitative data

3. Provide data distribution graph

Assessment:

Continuous Assessment 40%
 Final Examination 60%
 Soft Skills: CT1, CT2, CT3, LL1, LL2

BIB2005
 3 credits

MATERIAL AND CONSTRUCTION TECHNOLOGY III

Synopsis of Course Contents

Introduction to heavy substructure works and high-rise building construction system based on relevant regulation and standard; pre-fabricated building systems; pre-cast concrete; pre-stress and post-tension concrete; formworks, false works and scaffoldings; advanced contemporary materials and external works.

Learning Outcomes

At the end of the course, students are able to:

1. Describe heavy substructure works and advanced building construction system
2. Discuss alternative construction materials and methods for high-rise buildings; and
3. Illustrate methods for complex constructions.

Assessment:

Continuous Assessment 60%
 Final Examination 40%
 Soft Skills: CS1, CS2, CS3, CT1, CT2, CT3, LL1, LL2

BIB2006
 3 credits

BUILDING PATHOLOGY 1

Synopsis of Course Contents

Introduction to various types of building defects occurred on building fabrics and structures; understanding material behaviour due to mechanical, biological, chemical and environmental agents; deterioration on modern and traditional materials. Introduction to building inspection, measurement techniques using appropriate apparatus, and various remediation techniques. Preparation of building condition reporting based on RICS and RISM standards.

Learning Outcomes

At the end of the course, students are able to:

1. Describe various building defects, material behaviours and deterioration agents;
2. Report building inspection investigation and building defects diagnostics;
3. Analysis of inspection diagnostics and building inspection

Assessment:

Continuous Assessment 60%
 Final Examination 40%
 Soft Skills: CT1, CT2, CT3, TS1, TS2, EM1, EM2

BIB2007
 3 credits

BUILDING MAINTENANCE

Synopsis of Course Contents

Introduction to the various types of building maintenance strategies; planned and preventive building maintenance methods; economical and efficient maintenance; organizational chart; maintenance activities; supervision and monitoring.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the various method and procedure of building maintenance management and expenditure

2. Identify the needs and requirements of building maintenance and management
3. Propose economic planning for maintenance and expenditure

Assessment:

Continuous Assessment 60%
 Final Examination 40%

Soft Skills: CT1, CT2, CT3, LL1, LL2, EM1, EM2

BIB2008
 4 credits

BUILDING SERVICES AUDIT

Synopsis of Course Contents

Application of detailed plan checking on building services and facilities, installation, layout, size and numbers required; incorporate building laws and regulatory requirements in auditing the performance of mechanical, electrical, plumbing, conveying, and other specialty systems; apply sustainable principles in building services refurbishment

Learning Outcomes

At the end of the course, students are able to:

1. Examine problems in building services system which include its installation, operation and function based on by-law requirements and other guidelines
2. Inspect building services design requirement through calculation, plan checking and building audit
3. Propose sustainable refurbishment retrofitting on building services provision in achieving optimum and effective performance

Assessment:

Continuous Assessment 100%
 Soft Skills: CT1, CT2, CT3, LL1, LL2, EM1, EM2

BIB2009
 3 credits

BUILDING PATHOLOGY II

Synopsis of Course Contents

Detailed applications associated with different types of buildings and property investigation repair methods. Knowledge of building construction and use of pathology in the investigation of the property to meet client requirements and provisions.

Learning Outcomes

At the end of the course, students are able to:

1. Report findings from diagnostic inspection and incorporate scientific information into building inspection report;
2. Prepare specifications of repairs;
3. Write suggestions and advice based on the findings of the inspection results; and

Assessment:

Continuous Assessment 60%
 Final Examination 40%
 Soft Skills: CT1, CT2, CT3, TS1, TS2, LL1, LL2

BIB2010
 3 credits

FACILITIES MANAGEMENT

Synopsis of Course Contents

Introduction to facilities management and its relation to building design and operation; strategic facilities operation management for organisations; the relationship between facilities management and building performance to ensure productive working environment. Exposure to sustainable asset management and facilities maintenance; and diagnosis of Post occupancy evaluation (POE) to upgrade corrective operation; procurement of facilities project through service level agreement or contracts based on continuous performance; health and security awareness within workplace design.

Learning Outcomes

At the end of the course, students are able to:

1. Apply the techniques of asset maintenance and effective operation;
2. Evaluate facilities operations techniques for commercial organizations;
3. Appraise facilities performance level for a workplace; and
4. Propose upgrading for facilities components.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, CT3, LL1, LL2, EM1, EM2

BIB2011

3 credits

BUILDING PROCUREMENT AND SPECIFICATION

Synopsis of Course Contents

Introduction to the standard methods of quantification and specification (SMM 2). Application of measurement forms and measurement collection methods and description design. Quantification for renovation works, refurbishment, internal and external buildings and estimation

Types of contract: Built Operate and Transfer (BOT), direct negotiation, design and built, turnkey, lump sum, joint venture, privatization. Contract process and procedures, Contract liability, Document for appointment of contractor, payment to contractors (performance bond, insurance, etc.)

Learning Outcomes

At the end of the course, students are able to:

1. Explain the standard of measurement methods in construction work;
2. Identify the type, process, procedure and liability of contract and process and procedure to engage employment of contractors and consultants;
3. Prepare job specification and quotations (JKR/PAM) and construction price estimation for internal and external building measurement works; and
4. Determine method of payment for work progress and variation order.

Assessment:

Continuous Assessment 60%

Final Examination 40%

Soft Skills: CT1, CT2, CT3, LL1, LL2, KK1

BIB2012

4 credits

BUILDING MEASUREMENT AND ANALYSIS

Synopsis of Course Contents

Introduction to the surveying works and using surveying equipment for collecting and recording existing building data. Application of building surveying works: preliminary and site analysis, building measurement and building condition as well as preparing building plans. Analysis and preparing drawings and reports.

Learning Outcomes

At the end of the course, students are able to:

1. Apply methods, procedures and surveying equipment
2. Produce existing plans and charge plans
3. Prepare Condition Survey Report and Measured Drawings

Assessment:

Continuous Assessment 100%

Soft Skills: TS1, TS2, LL1, LL2, LS1, LS2

BIB3001

4 credits

PROJECT MANAGEMENT

Synopsis of Course Contents

Introduction to project management concept; organization and work structure, process and execution,

planning and control and monitoring processes involved in construction and development projects; management techniques and control of time, cost and quality in construction project; project scheduling, procurement, document and contract procedure; market study and project feasibility; total project management; risk management and decision making in project management.

Learning Outcomes

At the end of the course, students are able to:

1. Elaborate the concept of project management and processes involved in construction project;
2. Evaluate time, cost and quality management techniques, and decision making in construction or refurbishment works ; and
3. Apply the concept of project management and processes involved in construction project.

Assessment:

Continuous Assessment	60%
Final Examination	40%

Soft Skills: CT1, CT2, CT3, LL1, LL2, EM1, EM2

BIB3002

3 credits

OPERATION AND MAINTENANCE

Synopsis of Course Contents

Principle and techniques of building maintenance; landscape maintenance operations; pest control; health and safety aspects in building maintenance work. Exposure to building operation and maintenance including remedial techniques, preparation of maintenance schedule and specification writing

Learning Outcomes

At the end of the course, students are able to:

1. Discuss the principle of building operation and maintenance;
2. Evaluate the appropriate application for various types of maintenance;
3. Determine specification writings for maintenance work;
4. Propose maintenance schedules and remedial techniques.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1, CT2, CT3, KK1, LS1, LS2

BIB3003

4 credits

BUILDING CONSERVATION

Synopsis of Course Contents

Introduction to the principles and practice, techniques and methods of heritage building conservation, conservation philosophy and technology, preservation and restoration as well as their limitation. Design analysis and evaluation on its needs, issues and problems on a given conservation project. Also introduction to conservation Methods and Application of National Heritage Acts (2005); Building investigation methods, review and buildings dilapidation; investigation on building structure and materials

Learning Outcomes

At the end of the course, students are able to:

1. Discuss the principles and practice, techniques and methods of heritage building conservation;
2. Apply technical knowledge and legislation with regards to buildings conservation; and
3. Propose heritage building conservation works.

Assessment:

Continuous Assessment	100%
Soft Skills:	CS1, CS2, CS3, CT1, CT2, CT3, TS1, TS2

BIB3004
3 credits

RISK MANAGEMENT AND CONSTRUCTION SAFETY

Synopsis of Course Contents

Introduction to risk, health and safety in construction industry: risk and danger, legislation and safety acts: OSHA 1994, building works guidelines; Role, importance and safety and health management: characteristics, policy, investigative methods, manuals and procedures; Accidents at site: report, monitoring and prevention. Explanation of current case studies which are related to safety and health issues in the construction industry.

Learning Outcomes

At the end of the course, students are able to:

1. Discuss health and safety scenarios and issues in the construction industry in Malaysia;
2. Evaluate the needs of health and safety management in the constructed industry on related legislation; and
3. Produce technical report based on health and safety management in the construction industry.

Assessment:

Continuous Assessment	60%
Final Examination	40%
Soft Skills:	CS1, CS2, CS3, TS1, TS2, EM1, EM2

BIB3005
2 credits

RESEARCH METHODOLOGY

Synopsis of Course Contents

Explore suitable quantitative and qualitative research methods, analytical thinking and literature review. Outline individual research project for conducting a dissertation.

Learning Outcomes

At the end of the course, students are able to:

1. Discuss literature review critically;
2. Write research problem statement, aim and objectives
3. Propose research method that is appropriate with research objectives.

Assessment:

Continuous Assessment	100%
Soft Skills:	CS1, CS2, CS3, CT1, CT2, CT3, EM1, EM2

BIB3006
3 credits

PROFESSIONAL PRACTICE

Synopsis of Course Contents

Introduction to Building Surveying profession, Building Surveying scope of works in construction sector, professional qualification, qualities, skills, codes and ethics. Contractual Relationship, Duties and Fees. Organization Management and Office Establishment, personal appointment and job interview, professionalism and recognition in local and global level, services in public and private sectors.

Learning Outcomes

At the end of the course, students are able to:

1. Discuss the importance and roles of building surveying;
2. Provide working approach of building surveying
3. Analyse building surveyors' roles and responsibilities.

Assessment:

Continuous Assessment	60%
Final Examination	40%

Soft Skills: KK1, KK2, EM1, EM2, LS1

BIB3007
3 credits

FIRE SAFETY AUDIT

Synopsis of Course Contents

Introduction to the evaluation of fire safety and risk in building; identify the fire hazards; identify people at risk; evaluate, remove or reduce the risks; prepare an emergency evacuation plan; and, review and update the fire risk assessment based on legislation requirements and standards.

Learning Outcomes

At the end of the course, students are able to:

1. Discuss the aspect of fire and safety in building based on relevant legislation requirements and standards;
2. Analyse the risk and probability of fire occurrences in an existing building; and
3. Develop fire safety strategy based on the principle of fire risk assessment

Assessment:

Continuous Assessment 60%

Final Examination 40%

Soft Skills: CT1, CT2, CT3, TS1, TS2, EM1, EM2

BIB3008
4 credits

BUILDING PERFORMANCE AND INFORMATION TECHNOLOGY

Synopsis of Course Contents

Application of practice, process and procedures of building inspection on buildings' post constructions stage; inspections of building quality and reports; focusing on Post Occupancy Evaluation through promoting best practice and understand the requirements and needs of BPE; knowledge of architectural design principles, building construction, building materials properties and technical building systems in order to better understand their interdependencies in terms of total building performance; capable to evaluate different design concepts in terms of technical system integration, energy efficiency and sustainability; knowledge on simulation techniques and introduction of the theoretical and operational principles underlying this technology to achieve quality indoor environment

Learning Outcomes

At the end of the course, students are able to:

1. Discuss the benefits, concepts, assumptions of state of the art building performance simulation methods;
2. Develop systematic and rigorous approach in identifying failures of buildings in post construction period; and
3. Apply Building Performance Evaluation (BPE) in meeting design goals for resource consumption and occupants' satisfaction.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CS3, CT1, CT2, TS1, TS2

BIB3009
2 credits

CONSTRUCTION LAW

Synopsis of Course Contents

Introduction to the principles of construction law, the roles and objectives of construction law, construction contracts and related problems. It includes construction organisation structure, problems and responsibilities of the parties involved in the contract, risk allocation and claims. It will also cover the types of repudiation, litigation and alternative dispute resolutions.

Learning Outcomes

At the end of the course, students are able to:

Elaborate the roles and objectives of construction law

Evaluate the principles of construction law; and

Apply construction law in construction contracts and related problems.

Assessment:

Continuous Assessment 50%

Final Examination 50%

Soft Skills: CT1, CT2, CT3, LL1, LL2, EM1, EM2

BIB3010

4 credits

ACADEMIC PROJECT**Synopsis of Course Contents**

Preparation of research report related to building surveying field by applying suitable research methodology, processes and techniques

Learning Outcomes

At the end of the course, students are able to:

1. Critically analyse problems of an academic or practical significance in building surveying fields;
2. Apply appropriate methods and processes;
3. Evaluate the application of theoretical concepts in practical context

Assessment:

Continuous Assessment 100%

Soft Skills: CT1, CT2, CT3, LL1, LL2, EM1, EM2

BIB4001

8 credits

INDUSTRIAL TRAINING**Synopsis of Course Contents**

Introduction to professional working environment; applying comprehensive building surveying skills as well as building construction knowledge; expose to actual working environment by practice interpersonal skills and effective teamwork.

Learning Outcomes

At the end of the course, students are able to:

1. Apply classroom learning in the actual building industrial working;
2. Possess interpersonal and related building surveying managerial and technical skills; and
3. Practice work ethics and professionalism in actual working environment

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CS3, TS1, TS2, EM1, EM2

QUANTITY SURVEYING

QUANTITY SURVEYING

Introduction

The Quantity Surveying course was initiated in 1995. In July 1996, the first batch of students enrolled for their studies in Bachelor of Quantity Surveying under a new program called Built Environment Program, which was subsequently upgraded to Built Environment Division under the umbrella of the Faculty of Engineering. Later, the Division was upgraded into a full-fledged faculty known as the Faculty of Built Environment in May 2000.

Programme Aim

To produce graduates with a professional degree in Quantity Surveying to practice within but not limited to the construction industry both locally and internationally who can understand and apply knowledge effectively with high awareness of culture and ethics.

Programme Learning Outcomes

At the end of the programme, graduates would be able to:

PO1: Discover the relevant knowledge of quantity surveying in construction industry.

PO2: Apply the necessary technical and practical skills in the quantity surveying field.

PO3: Demonstrate the ability to carry out professional responsibilities towards all relevant stakeholders in the industry.

PO4: Demonstrate the required level of professionalism and commitment to ethical practice.

PO5: Demonstrate the ability to communicate in a clear, reasonable and professional manner; able to work independently or collaboratively, and able to lead effectively and efficiently.

PO6: Identify and analyse problems, evaluate strategic choices, able to arrive at a decision with supporting evidence and give good judgement.

PO7: Develop knowledge to enhance self-development.

PO8: Demonstrate effective and efficient managerial and entrepreneurial skills.

Programme Structure

The structure of the Quantity Surveying Program in University of Malaya has been formulated with the assistance from the Royal Institution of Surveyors Malaysia (RISM) and designed in accordance with the general guidelines provided by the Board of Quantity Surveyors Malaysia (BQSM) and the Royal Institution of Chartered Surveyors (RICS), United Kingdom and has received accreditations from BQSM and RICS respectively. Recently, the programme has been accredited by the Pacific Association of Quantity Surveyors (PAQS).

The course structure consists of three and half (3.5) years full time studies and typically divided into two (2) durations of studies per year (Semester I and Semester II). Upon graduation and having worked for two (2) years under the supervision of a Registered Professional/Consultant Quantity Surveyor, students are eligible to sit for the examination of the Assessment of Professional Competence (APC) in order to obtain the recognition as a Registered Professional Quantity Surveyor (PQS) from the BQSM.

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PROGRAMME STRUCTURE: BACHELOR OF QUANTITY SURVEYING (SESSION 2017/2018)

CATEGORY	NO	CODE	SUBJECT	LEVEL I		LEVEL II		LEVEL III		LEVEL IV		TOTAL CREDITS	%	PRE-REQUISITE
FACULTY				S1	S2	S3	S4	S5	S6	S7	S8			
Measurement	1	BIC1001	Measurement of Construction Works I	4								20	15%	
	2	BIC1005	Measurement of Construction Works II		4									BIC1001
	3	BIC2001	Measurement of Construction Works III			4								BIC1005
	4	BIC2006	Measurement of Construction Works IV				4							BIC2001
	5	BIC3001	Measurement of Construction Works V					4						
Professional Practice	6	BIC2002	Professional Practice I			3						6	5%	
	7	BIC2007	Professional Practice II				3							BIC2002
Technology in Construction	8	BIC1002	Construction Technology I	3								18	14%	
	9	BIC1006	Construction Technology II		3									BIC1002
	10	BIC2003	Construction Technology III			3								BIC1006
	11	BIC2008	Construction Technology IV				3							
	12	BIC1003	Building Services I	2										
	13	BIC1007	Building Services II		2									
	14	BIC1004	Site Survey	2										
Management In Construction	15	BIC3002	Project Management I					2				4	3%	
	16	BIC3005	Project Management II						2					
Economics	17	BIC1008	Construction Economics I		3							11	9%	
	18	BIC2004	Construction Economics II			3								BIC1008
	19	BIC3006	Data Analysis						2					
	20	BIC2009	Analysis of Prices				3							
Law	21	BIC3003	Construction Law I					3				6	5%	
	22	BIC3007	Construction Law II						3					BIC3003
Integrated Project	23	BIC1009	Integrated Project I		3							9	7%	
	24	BIC2010	Integrated Project II				3							
	25	BIC3004	Integrated Project III					3						
Research and Training	26	BIC3008	Research Project						4			14	11%	BIX1002
	27	BIC4001	Industrial Training							10				
Faculty Core Course	28	BIX1001	Legal Studies	3								6	5%	
	29	BIX1002	Research Methodology In Built Environment					3						
Programme Elective	30	BIC	Program Elective 1			3						6	5%	
	31	BIC	Program Elective 2						3					
Faculty Elective	32	BIX	Faculty Elective 1	3								6	5%	
	33	BIX	Faculty Elective 2					3						
UNIVERSITY COURSES	34	GIG1004	Information Skill		2							20	16%	
	35	GIG1001/ GIG	Islamic and Asian Civilisation/ Introduction to Malaysia*						2					
	36	GIG1002	Ethnic Relationship				2							
	37	GIG1003	Fundamentals for Entrepreneurship Culture					2						
	38		Co-Curriculum						2					
	39		Communication English 1		3									
	40		Communication English 2			3								
	41		Elective Course						2					
	42	GIG1005	Community engagement				2							
TOTAL SUBJECT BREAKDOWN			TOTAL CREDITS	17	20	19	20	20	20	10		126	100%	
			TOTAL SUBJECTS	6	7	6	7	7	8	1		42		
			TOTAL UNIVERSITY COURSES	0	2	1	2	1	3	0		9		
			TOTAL FACULTY COURSES	6	5	5	5	6	5	1		33		

PROGRAMME STRUCTURE: BACHELOR OF QUANTITY SURVEYING (SESSION 2017/2018)

COMPONENTS	YEAR 1 (Bachelor of Quantity Surveying)						TOTAL CREDIT	
	SEMESTER 1			SEMESTER 2				
	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT		
University Courses		-Not offered-	-	GIG1004	Information Skill	2	5	
					Communication English I	3		
Faculty Core Course	BIX 1001	Legal Studies	3		-Not offered-	-	3	
Faculty Elective	BIXxxx	Faculty Elective 1*	3		-Not offered-	-	3	
Programme Elective		-Not offered-	-		-Not offered-	-	-	
Programme Core Courses	BIC1001	Measurement of Construction Works I	4	BIC1005	Measurement of Construction Works II	4	26	
	BIC1002	Construction Technology I	3	BIC1006	Construction Technology II	3		
	BIC1003	Building Services I	2	BIC1007	Building Services II	2		
	BIC1004	Site Survey	2	BIC1008	Construction Economics I	3		
				BIC1009	Integrated Project I	3		
TOTAL CREDIT			17	TOTAL CREDIT			20	37

COMPONENTS	YEAR 2 (Bachelor of Quantity Surveying)						TOTAL CREDIT	
	SEMESTER 3			SEMESTER 4				
	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT		
University Courses		Communication English II	3	GIG1002	Ethnic Relationship	2	7	
				GIG1005	Community engagement	2		
Faculty Core Course		-Not offered-	-		-Not offered-	-	-	
Faculty Elective		-Not offered-	-		-Not offered-	-	-	
Programme Elective	BICxxx	Programme Elective 1*	3		-Not offered-	-	3	
Programme Core Courses	BIC2001	Measurement of Construction Works III	4	BIC2006	Measurement of Construction Works IV	4	29	
	BIC2002	Professional Practice I	3	BIC2007	Professional Practice II	3		
	BIC2003	Construction Technology III	3	BIC2008	Construction Technology IV	3		
	BIC2004	Construction Economics II	3	BIC2009	Analysis of Prices	3		
				BIC2010	Integrated Project II	3		
TOTAL CREDIT			19	TOTAL CREDIT			20	39

COMPONENTS	YEAR 3 (Bachelor of Quantity Surveying)						TOTAL CREDIT
	SEMESTER 5			SEMESTER 6			
	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT	
University Courses	GIG1003	Fundamentals for Entrepreneurship Culture	2	GIG1001/ GIG1006	Islamic and Asian Civilisation/ Introduction to Malaysia	2	8
					Co-Curriculum	2	
					Elective Course	2	
Faculty Core Course	BIX1002	Research Methodology In Built Environment	3		-Not offered-	-	3
Faculty Elective	BIXxxx	Faculty Elective 2*	3		-Not offered-	-	3
Programme Elective		-Not offered-	-	BICxxx	Programme Elective 2*	3	3
Programme Core Courses	BIC3001	Measurement of Construction Works V	4	BIC3005	Project Management II	2	23
	BIC3002	Project Management I	2	BIC3006	Data Analysis	2	
	BIC3003	Construction Law I	3	BIC3007	Construction Law II	3	
	BIC3004	Integrated Project III	3	BIC3008	Research Project	4	
TOTAL CREDIT			20	TOTAL CREDIT		20	40

COMPONENTS	YEAR 4 (Bachelor of Quantity Surveying)		
	SEMESTER 7		
	COURSE CODE	COURSE TITLE	CREDIT
University Courses		-Not offered-	-
Faculty Core Course		-Not offered-	-
Faculty Elective		-Not offered-	-
Programme Elective		-Not offered-	-
Programme Core Courses	BIC4001	Industrial Training	10
TOTAL CREDIT			10

OVERALL TOTAL CREDIT: 126

*List of Faculty and Programme Elective Subjects

	Faculty Elective	Credits		Programme Elective	Credits
BIX1005	Principles of Management	3	BIC2005	Information Technology in Construction	3
BIX1006	Introduction to Financial Management	3	BIC2011	Risk and Value Management	3
BIX1003	Principles of Economics	3	BIC2012	Building Structure	3
BIX1004	Data Analysis and Statistic	3			

PROGRAMME CORE COURSES

BIC 1001
4 credits

MEASUREMENT OF CONSTRUCTION WORKS I

Synopsis of Course Contents

This course covers the principles and standard methods of measurement in accordance with the Standard Method of Measurement 2 (SMM2), the use of the specification and development of quantity surveying profession. This includes the exposure to the use of Building Information Modelling (BIM) in the measurement of quantities for construction works.

Learning Outcomes

At the end of the course, students are able to:

1. Define the objectives, principles and functions of the Standard Method of Measurement 2 (SMM2)
2. Apply the principles of specification writing for works below lowest floor finishes.
3. Measure the quantities of works below lowest floor finish level from drawings.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1, CT2, CT3, TS1, LL1

BIC 1002
3 credits

CONSTRUCTION TECHNOLOGY I

Synopsis of Course Contents

This course provides knowledge about current building technologies. This includes construction system and foundation, floors, stairs, walls, roofs, ceilings, doors, windows and finishes.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the process and stage of building projects of small and medium enterprises.
2. Explain the different types of construction methods and their applications in accordance with the specific requirements of each project.
3. Apply knowledge in the field of building technology into quantity surveying field.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1, CS2, CS3, CT1, CT2, CT3, TS1, TS2

BIC 1003
2 credits

BUILDING SERVICES I

Synopsis of Course Contents

Introduction to various types of building services systems in low rise and multi-storey building that include water supply systems and sanitation, sewage and sewerage systems, garbage disposal system, fire protection systems and installation of gas supply.

Learning Outcomes

At the end of the course, students are able to:

1. Identify various types of services in building.
2. Explain the building service system and operation.
3. Describe the needs and the importance of various building services.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1, CT2, CT3, TS1, TS2, LL1, LL2,

BIC 1004
2 credits

SITE SURVEY

Synopsis of Course Contents

This course includes the learning of definitions, concepts, principles and procedures of site survey. The use of survey equipment and survey levelling. The procedure for ascertaining the parameter observation, bearing, distance and recording techniques. Measurement area, topography, cutting and filling. Confirmation of the location and the coordinates for the existing building and the proposed building.

Learning Outcomes

At the end of the course, students will be able to:

1. Explain the principle and method of land survey.
2. Identify the types and the usage of survey equipment.
3. Apply the suitable technique for site survey.

Assessment:

Continuous Assessment 100%

Soft Skills: CT1, CT2, CT3, TS1, TS2, EM1, EM2

BIX 1001
3 credits

LEGAL STUDIES

Synopsis of Course Contents

This course focuses on the Malaysian Legal System, tort and contract. It includes the principles and sources of Malaysian law, processes, systems and procedures, common law, statute and equity. This course covers the law of contract (Contracts Act 1950) emphasizing on capacity, consideration, intention to create legal relation and methods of discharging of contracts. It will also include the types of remedies. The law of torts including negligence, duty of care, breach of duty, causation, remoteness, professional negligence, nuisance and trespass to land.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the Malaysian Legal System.
2. Identify the principles, sources, processes and procedures of the Malaysian legal system, tort and contract.
3. Apply the principle and procedure of law of tort and contract.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, CT3, LL1, EM1

BIC 1005
4 credits

MEASUREMENT OF CONSTRUCTION WORKS II

Synopsis of Course Contents

This course covers the principles and standard methods of measurement in accordance with the Standard Method of Measurement 2 (SMM2) for the elements of frame, upper floor slab, staircase, door, window and finishes. This includes the exposure to the use of Building Information Modelling (BIM) in the measurement of quantities for construction works.

Learning Outcomes

At the end of the course, students are able to:

- Define the objectives, principles and functions of the Standard Method of Measurement 2 (SMM2) for frame, upper floor slab, staircase, door, window and finishes.
- Apply principles of specification writing for frame, upper floor slab, staircase, door, window and finishes.
- Measure the quantities of the element of frame, upper floor slab, staircase, door, window and finishes from drawings.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1, CT2, CT3, TS1, LL1, LL2,

BIC 1006
3 credits

CONSTRUCTION TECHNOLOGY II**Synopsis of Course Contents**

The course will broaden student knowledge about current building technologies. This includes the site works, deep foundation, framework, renovation and demolition works and also pre and post tension concrete and prefabrication work.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the process and stage of building projects of small and medium enterprises
2. Explain the different types of construction methods and their applications in accordance with the specific requirements of each project
3. Apply knowledge in the field of building technology into quantity surveying field.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1, CS2, CS3, CT1, CT2, CT3, TS1, TS2

BIC 1007
2 credits

BUILDING SERVICES II**Synopsis of Course Contents**

Introduction to various types of mechanical and electrical systems in buildings such as power supply and lighting system, building security system, telecommunications system, mechanical transportation system, air-conditioning system, mechanical ventilation and building automation system.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the various type of mechanical and electrical (M&E), plus other systems that are related to a building.
2. Identify the needs of mechanical and electrical system within a building.
3. Determine simple mechanical and electrical systems installed within a building.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1, CT2, CT3, TS1, TS2, LL1, LL2

BIC 1008
3 credits

CONSTRUCTION ECONOMICS I**Synopsis of Course Contents**

This course covers the construction and building economic that involves changes in design, planning and cost control. It also covers the role of the private and public sectors in economic development.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the basic knowledge of macroeconomics.
2. Explain the basic principles of economics that impact the national income through the development and construction industry.
3. Apply the macro economic theory to markets of the construction industry in global perspective.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, CT3, LL1, LL2, EM1, EM2

BIC 1009

3 credits

INTEGRATED PROJECT I**Synopsis of Course Contents**

Students will be given group assignments. The project assignment will be based on knowledge related to Building Construction Technology. Student will be guided and supervised by a supervisor. Every group will prepare a report and present their work at the end of the semester.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the importance of integrating knowledge relating to quantity surveying.
2. Determine concepts, principles and techniques and appropriate knowledge.
3. Apply knowledge and skills for problem solving.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, TS1, EM1

BIC 2001

4 credits

MEASUREMENT OF CONSTRUCTION WORKS III**Synopsis of Course Contents**

This course includes the principles and function of Standard Method of Measurement (SMM) for roof, steel structure, piping works and external works. The course also covers the 'Building Information Modelling' (BIM) for measurement of construction works.

Learning Outcomes

At the end of the course, students are able to:

1. Define the purpose, principles and functions of Standard Method of Measurement (SMM) for roof, steel structure, piping works and external works.
2. Apply the principle of specification writing for roof, steel structure, piping works and external works.
3. Apply skills of taking off quantities for construction works and estimating based on drawing for roof, steel structure, piping works and external works.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, CT3, TS1, LL1, LL2

BIC 2002

3 credits

PROFESSIONAL PRACTICE I**Synopsis of Course Contents**

This course delivers an overview of quantity surveying profession in respect of its responsibilities and roles in the public and private sectors. It covers various aspects of professional practice during the pre-contract stage from the inception till the preparation of contract document. The course will also cover the appointment, fees and professional ethics, administration of quantity surveying firms and procurement of contract. Reference will be made to the relevant provisions in the standard forms of building contract and related government circulars. Potential roles of quantity surveyors in any other industries will be explored. This course also covers 'Building Information Modelling' (BIM) in the administration of construction contract.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the responsibilities and roles of quantity surveyors in construction and other relevant industries.
2. Explain the professional practice and procedures at pre-contract stage.
3. Solve problems related to the principles and procedures in the administration of construction contract.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1, CT2, CT3, LL1, LL2, EM1, EM2

BIC 2003
3 credits

CONSTRUCTION TECHNOLOGY III

Synopsis of Course Contents

This course extends the students' knowledge on current application of construction technology. It includes external works, cladding and sustainability in building.

Learning Outcomes

At the end of the course, students are able to:

1. Identify process of advance construction.
2. Explain the methods of construction in specific building project.
3. Apply the construction technology knowledge in all areas related with quantity surveying.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1, CS2, CS3, CT1, CT2, CT3, TS1, TS2

BIC 2004
3 credits

CONSTRUCTION ECONOMICS II

Synopsis of Course Contents

This course covers micro economy, which discusses economic concepts that explain characteristics of the construction industry and construction market. This course also covers development process and parties involved in the construction industry, building cost, value for money, design review, life cycle costing and buildability, supply and demand, construction firms theory, procurement and tendering process for construction project, contract responsibility and the financial impact to the firm.

Learning Outcomes

At the end of the course, students are able to:

1. Describe micro economy theory from the perspective of the firm and construction project.
2. Explain the development implications and infrastructure market, procurement concept and transaction cost from the construction economic perspective.
3. Apply the micro economy theory from the perspective of project, institution and market in the financial management of the construction industry.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1, CT2, CT3, LL1, LL2, EM1, EM2

BIC 2006
4 credits

MEASUREMENT OF CONSTRUCTION WORKS IV

Synopsis of Course Contents

This course includes the principles and function of Standard Method of Measurement (SMM) for piling works, excavation works, basement and demolitions works. The course also covers the 'Building Information Modelling' (BIM) for measurement of construction works.

Learning Outcomes

At the end of the course, students are able to:

1. Define the purpose, principles and functions of Standard Method of Measurement (SMM) for piling works, excavation works, basement and demolitions works.
2. Apply the principle of specification writing for piling works, excavation works, basement and demolitions works.
3. Apply skills of taking off quantities for construction works and estimating based on drawing for piling works, excavation works, basement and demolitions works.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, CT3, TS1, LL1, LL2

BIC 2007

3 credits

PROFESSIONAL PRACTICE II**Synopsis of Course Contents**

This course covers the knowledge of quantity surveyors during post-contract stage. It includes various aspects of professional practice and procedures related to progress payment, variation order, extension of time and final account claims. Reference will be made to the relevant provisions in the standard forms of building contract and related government circulars.

Learning Outcomes

At the end of the course, students are able to:

1. Define the professional practice procedures at post-contract stage.
2. Explain the professional practice and procedures at post-contract stage.
3. Solve problems related to the principles and procedures in the administration of construction contract at post-contract stage.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, CT3, LL1, LL2, EM1, EM2

BIC 2008

3 credits

CONSTRUCTION TECHNOLOGY IV**Synopsis of Course Contents**

This course extends the students' knowledge on current application of civil construction technology. It includes specific structure and building, types and functions of specific buildings and civil engineering works and infrastructure construction works.

Learning Outcomes

At the end of the course, students are able to:

1. Define process and stages of civil engineering construction works.
2. Explain various methods of construction and its specific application according to the needs of civil engineering construction works.
3. Apply the knowledge of civil engineering construction works.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CS1, CS2, CS3, CT1, CT2, CT3, TS1, TS2

BIC 2009

3 credits

ANALYSIS OF PRICES**Synopsis of Course Contents**

This course exposes students to the components of price rates and the theories and principles of

price analysis for preliminaries, preambles and construction works.

Learning Outcomes

At the end of the course, students are able to:

1. Identify components of prices that comprise the analysis of price rates.
2. Apply analysis of price rates for preliminary works and preambles.
3. Describe and apply analysis of price rates for construction works.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, CT3, LL1, LL2, EM1, EM2

BIC 2010
3 credits

INTEGRATED PROJECT II

Synopsis of Course Contents

Each student will be given group work coursework. The coursework is based on knowledge related with quantity surveying task for post-contract stage. Each group of students is guided and supervised by a panel of project supervisors. Each group is required to submit a report and present their final output for the given coursework at the end of semester.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the importance of knowledge integration related with quantity surveying.
2. Define concept, principle, techniques and appropriate knowledge.
3. Apply skills and knowledge for problem solving.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, TS1, EM1

BIC 3001
4 credits

MEASUREMENT OF CONSTRUCTION WORKS V

Synopsis of Course Contents

This course includes the Method Related Charges, methods of measurement based on Malaysian Civil Engineering Standard Method of Measurement (MyCESMM). This course also covers Building Information Modelling (BIM) for the measurement of quantities for civil engineering works.

Learning Outcomes

At the end of the course, students are able to:

1. Define the purpose, principles, functions and measurement method of Malaysian Civil Engineering Standard Method of Measurement (MyCESMM).
2. Describe Method Related Charges and the preparation of Bills of Quantity for civil engineering works.
3. Apply skills of taking off quantities based on drawings for civil engineering works.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, CT3, LL1, LL2

BIC 3002
2 credits

PROJECT MANAGEMENT I

Synopsis of Course Contents

The course contents include concept, theory, principle, and elements of project management, management and social system, organizational and environmental system, information system and communication, distribution of task and role of the parties involved in the project. Other topics

include the planning, execution, control and evaluation of construction projects, the success factors in project management and the behavioural dimensions and teamwork in project management. These include exposure to the use of Building Information Modelling (BIM) in project management.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the project management concepts and processes involved in the construction project.
2. Identify the techniques of time management, cost and quality of construction works.
3. Explain the concept of project management in construction and development.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1, CS2, CS3, EM1, LS1, LS2

BIC 3003
3 credits

CONSTRUCTION LAW I

Synopsis of Course Contents

This course covers the principles of construction law, roles and objectives of construction law, construction contracts and related problems. It includes law issues arising out of the application Building Information Modelling. It also includes the Arbitration procedures that are governed by the standard forms of contract and the Arbitration Act. It will also cover alternative dispute resolution, types of claims and legal aspect of claims and types of repudiation.

Learning Outcomes

At the end of the course, students are able to:

1. Identify knowledge relating to construction law.
2. Explain law issues and problems involving the parties in the construction industry at the pre-contract stage.
3. Apply the skills on giving views that are proficient, logical and professionally sound on the issues relating to construction law at the pre-contract stage.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1, CT2, CT3, LL1, EM1, EM2

BIC 3004
3 credits

INTEGRATED PROJECT III

Synopsis of Course Contents

Students will be given group assignments. The project assignment will be based on knowledge related Quantity Surveying at the post-contract stage. Student will be guided and supervised by a supervisor. Every group will prepare a report and present their work at the end of the semester.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the importance of integrating knowledge relating to quantity surveying.
2. Determine concepts, principles and techniques and appropriate knowledge.
3. Apply knowledge and skills for problem solving.

Assessment:

Continuous Assessment	100%
Soft Skills:	CS1, CS2, TS1, EM1

BIX 1002
3 credits

Research Methodology IN the Built Environment

Synopsis of Course Contents

This course provides basic groundings on how to conduct real estate research. It provides an

introduction to the research methodology and research design.

Learning Outcomes

At the end of the course, students are able to:

1. Conduct literature review critically for research problems for the built environment.
2. Evaluate research methods in terms of their fit for various types of research for the built environment.
3. Develop a research proposal for the built environment.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CT1, CT2, CT3, CT6, LL1, LL2, LL3, EM1, EM2, EM3

BIC 3005
2 credits

PROJECT MANAGEMENT II

Synopsis of Course Contents

Course content includes project management techniques and methods. This includes techniques, approaches and planning mechanisms, execution, control and construction project management processes and development. These include exposure to the use of Building Information Modelling (BIM) in project management.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the project management concepts and processes involved in the construction project and development.
2. Explain the techniques of time management, cost and quality of construction work and development.
3. Apply the methods and mechanisms of project management in construction and development.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CS1, CS2, CS3, EM1, LS1, LS2, LS3

BIC 3006
2 credits

DATA ANALYSIS

Synopsis of Course Contents

This course delivers the methodological and technical knowledge of a wide range of analytical methods used in data analysis. It provides the logical thinking and analysis of data in various forms and using a variety of qualitative and quantitative tools and techniques. The tools and techniques in this course includes methods of grouping, structuring, sampling and presentation of data, tabling, frequency distribution, graphical representation, measures of location and deviation, ratio, percentage analysis and probability theories.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the knowledge on theories, principles and concepts of the statistical methods, covering the use of quantitative and qualitative data analysis.
2. Apply theoretical and statistical methods in the process of analysing data for the purpose of addressing problems related to the use of data analysis in the context of construction industry.
3. Evaluate strategic choices in arriving a decision that are logical and professionally.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, CT3, TS1, TS2, LL1

BIC 3007
3 credits

CONSTRUCTION LAW II

Synopsis of Course Contents

This course focuses on how construction contract is formed as well as the rights and responsibilities of parties involved at the post contract stage. It also includes reference towards provisions under standard forms of contract with emphasis on its position in relation to the law through analysis of related law cases.

Learning Outcomes

At the end of the course, students are able to:

1. Identify knowledge regarding construction law and provisions in standard forms of contract.
2. Explain law issues and problems which involve the provisions in standard forms of contract at post contract stage.
3. Apply the skills on giving views that are proficient, logical and professionally sound on the issues relating to construction law at the post contract stage.

Assessment:

Continuous Assessment 40%
Final Examination 60%
Soft Skills: CT1, CT2, CT3, LL1, EM1, EM2

BIC 3008
4 credits

RESEARCH PROJECT

Synopsis of Course Contents

This course will enable students to prepare a research report related to Quantity Surveying through application of research methods.

Learning Outcomes

At the end of the course, students are able to:

Identify data collection methods and analysis that are appropriate.

Present and discuss the research findings and results.

Develop conclusion, implications, contributions and proposals for future research.

Assessment:

Continuous Assessment 100%
Soft Skills: CT1, CT2, CT3, LL1, LL2, LL3, EM1, EM2

BIC 4001
10 credits

INDUSTRIAL TRAINING

Synopsis of Course Contents

This course extends the students' knowledge on construction practices particularly in the quantity surveying firms. It exposes the students on the works procedure, the role of quantity surveyors in pre and post contract and communications with the construction clients and design team.

Learning Outcomes

At the end of the course, students are able to:

1. Apply technical and management skills from the classroom to actual construction work environment.
2. Practise soft skills in the Quantity Surveying field.
3. Apply good work ethics and professional values in real work environment.

Assessment:

Continuous Assessment 100%
Soft Skills: KK1, EM1, EM2, LS1, LS2

BIX 1005
3 credits

PRINCIPLES OF MANAGEMENT

Synopsis of Course Contents

This course introduces the history, principles and current issues in management studies and organization. It includes concepts of management, organization and team work.

Learning Outcomes

At the end of the course, students are able to:

1. Identify basic knowledge of management.
2. Explain the concepts and principles of management, forms of organization and human resource management.
3. Apply principles of management and decision making.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	TS1, TS2, EM1, LS1, LS2

BIX 1006
3 credits

INTRODUCTION TO FINANCIAL MANAGEMENT AND ACCOUNTING

Synopsis of Course Contents

This course explains the concepts and basic principles of accounting which include balance sheet, ledger, trading account, and profit-and-loss account. The course also introduces financial management which provides understanding on accounting ratios and the application of financial statement.

Learning Outcomes

At the end of the course, students are able to:

1. Explain basic principles in accounting and financial management in accordance to accounting standards.
2. Explain the theories, concepts and practice in accounting and financial management.
3. Apply theories and principles of accounting in various types of businesses.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	LL1, LL2, KK1, EM1

BIC 2005
3 credits

INFORMATION TECHNOLOGY IN CONSTRUCTION

Synopsis of Course Contents

This course will expose students to the uses of computer application in the construction industry with emphasis on producing documents, estimating and cost control as well as project planning that plays an important role to ensure construction firms' remain competitive.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the functions and benefits of computer application in enhancing the effectiveness of the construction process.
2. Identify the use of appropriate computer application in every stage in the construction process.
3. Apply computer application in the construction process.

Assessment:

Continuous Assessment	100%
Soft Skills:	CS1, CS2, CS3, CT1, CT2, CT3, LL1, LL2

BIC 2011
3 credits

RISK AND VALUE MANAGEMENT

Synopsis of Course Contents

This course introduces the general theories of risk and value management as part of the process involved in the construction industry. Each element will be emphasized in terms of theory, methodology and practical applications for the project.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the basic knowledge of risk and value management required in the construction industry.
2. Explain the concept and principles of risk and value management in the building industry.
3. Develop the skills and methods of implementation of risk and value management in the context of the construction industry.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CS1, CS2, CS3, CT1, CT2, CT3, TS1, TS2

BIC 2012
3 credits

BUILDING STRUCTURE

Synopsis of Course Contents

Introduction to building structures and design. Building loading, forces and reaction in structures. Concurrent coplanar forces, non-current coplanar forces and moment of forces. Framed structures. Material strength and safety factors. Axial forces, shear force and bending moment.

Learning Outcomes

At the end of the course, students are able to:

1. Identify types of building structure and loads.
2. Calculate effects of loads on structure of building.
3. Analyse effects of loads on structure of building.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1, CT2, TS1, TS2, LL1, EM1

URBAN & REGIONAL PLANNING

URBAN & REGIONAL PLANNING

INTRODUCTION

The Bachelor of Urban and Regional Planning is accredited by the Board of Town Planners Malaysia. It was introduced in 2011 as a professional programme in line with the requirement of the Board of Town Planners Malaysia and Malaysian Institute of Planners. The programme obtained the approval from the Ministry of Higher Education in March 2011, and the student intake 2011/2012 as its pioneer batch.

The Urban and Regional Planning program in University of Malaya has given more emphasis on the roles of urban planning in promoting sustainable urban development for sustainable communities. The curriculum covers a wide range of contemporary topics and issues including community development, development appraisal, environmental planning and management. Apart from lectures and tutorials, there are plenty of opportunities for students to gain hands-on experiences through research projects and field trips. This enables the students to develop their creativity and critical thinking skills that can be utilized in their studies and in their future careers.

In line with the University's vision to be a world-class university, students have the opportunities to have lectures from international visiting professors and these enable students to be updated with global and contemporary issues and debates in urban planning. The department's vision is to be an internationally renowned school of urban planning in research, innovation, publication and teaching

The department aspires to be a centre of excellence in urban and regional planning studies and research in the Asia-Pacific region. The region provides a living laboratory where urban and regional issues can be identified, analysed and examined, and strategies formulated. With reference to future employment opportunities, the related scope of works and services of urban/town planner include:

- i) Prepare development plans such as national physical plan, structure plans, local plans and special area plan for the purposes of Town and Country Planning Act 1976;
- ii) Prepare and submit application for planning permission for layout submission, erection of building and change of use of building or land in respect of a development, drawings and planning reports to any person or public authority for the purpose of developing any land;
- iii) Carry out urban, rural and regional development planning studies, feasibility and viability studies, environmental impact assessment studies, visual impact assessment and social impact assessment relating to land use;
- iv) Urban design and advocacy planning; and
- v) Project management and other planning related services.

PROGRAM AIM

To produce professional town planning graduates who are creative, innovative and critical in the development and implementation of sustainable spatial planning and competitive in managerial and technological aspects within the national and global contexts.

PROGRAM LEARNING OUTCOMES

At the end of the programme, graduates are able to:

- PO1. Acquire technical knowledge and sound management practice in the field of urban and regional planning
- PO2. Conduct urban and regional planning research, feasibilities, and impact assessment using appropriate technologies;
- PO3. Apply relevant knowledge and social skills and be accountable towards public interests in urban planning and development
- PO4. Practise good ethical values and professionalism in urban planning process;
- PO5. Communicate effectively, work as a team and demonstrate high leadership qualities in the management of urban planning and development projects;
- PO6. Appraise urban problems in providing solutions critically, creatively and innovatively;
- PO7. Acquire information management skills and lifelong learning of multi-disciplinary knowledge in urban planning; and
- PO8. Provide consultancy services in the aspects of development plans, planning approval, development control and planning studies.

PROGRAM STRUCTURE
Bachelor of Urban & Regional Planning (B.URP)
(8 Semesters)

The Bachelor of Urban and Regional Planning programme is a four years programme (8 semesters) with a total of 139 credits. The programme consists of two components, namely, University Courses and Faculty Courses which make up for 15% and 85% respectively from a programme's total 139 credits. The adoption of elective courses and the university's compulsory courses (which includes co-curriculum) is designed to expose students to knowledge that is not strictly restricted to their chosen discipline.

As practised universally, the teaching-learning methods of the programme comprise of the following components: lectures, tutorials/group discussions, studios, site investigation and site survey, laboratories, assignments, industrial training, projects and final-year academic project. Many of these components of teaching-learning modes are continually assessed via written or laboratory tests, quizzes, discussion groups and assignments.

For most courses, formative component (continuous assessment) is made up of at least 40% of each course. Continuous assessment currently practiced includes test, tutorial, quiz, portfolio, assignment, oral presentation, direct observation, practical training, and studio projects. There are also courses that are based solely on formative assessment, for example studios, Research Project (report and/ or seminar presentation), and Industrial Training (report and assessment by supervisor). With the implementation of the MQF, student learning time such as preparation for tutorial, laboratory reports, final-year projects, industrial training, courses using studios with practical emphasis are factored in all courses.

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EXTERNAL EXAMINERS



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PROGRAMMESTRUCTURE: BACHELOR OF URBAN AND REGIONAL PLANNING

CATEGORY	NO	CODE	SUBJECT	LEVEL I			LEVEL II		LEVEL III		LEVEL IV		TOTAL CREDIT	PRE-REQUISITE
				S1	S2	S3	S1	S2	S1	S2	S1	S2		
Faculty Courses														
PROGRAM CORE COURSES 85%	1	BID 1001	Planning Studio I – Basic Planning Skills	6									6	
	2	BID 1002	Introduction to Planning	3									3	
	3	BID 1003	Legal Studies	3									3	
	4	BID 1004	IT in Planning	2									2	
	5	BID 1005	Planning Studio II – Site Planning		6								6	BID 1001
	6	BID 1006	Land Use and Site Planning		3								3	
	7	BID 1007	Community Development Planning		3								3	
	8	BID 2001	Planning Studio III – City Centre Studies				6						6	BID 1005
	9	BID 2002	Quantitative Analysis in Planning				3						3	
	10	BID 2003	Planning Theory				3						3	
	11	BID 2004	Urban Economics				3						3	
	12	BID 2005	Planning Studio IV – State Structure Plan					6					6	BID 2001
	13	BID 2006	Planning Law					3					3	
	14	BID 2007	Rural and Regional Planning					3					3	
	15	BID 2008	Planning Techniques and Methodology					3					3	
	16	BID 3001	Planning Studio V – Local Plan						6				6	BID 2005
	17	BID 3002	Recreation and Tourism Planning						3				3	
	18	BID 3003	Transportation and Traffic Planning						3				3	
	19	BID 3004	Housing						3				3	
	20	BID 3005	Planning Studio VI – Special Area Plan							6			6	BID 3001
	21	BID 3006	Development and Property Appraisal							3			3	
	22	BID 3007	Environmental Planning and Management							3			3	
	23	BID 3008	Urban Design and Conservation							3			3	
	24	BID 3009	Research Methodology							2			2	
	25	BID 4001	Planning Studio VII – Development Appraisal								6		6	BID 3005
	26	BID 4002	Urban Management								3		3	
	27	BID 4003	Professionalism, Ethics and Politics								3		3	
	28	BID 4004	Academic Project								4		4	BID 3009
	29	BID 4005	Industrial Training									12	12	BID 4004
UNIVERSITY COURSES 15%	30	GIG1004	Information Literacy	2									2	
	31	GIG1001	The Islamic and Asian Civilization (TITAS)*	2									2	
	32	GIG1002 / GIG1006	Ethnic Relations / Introduction to Malaysia**				2						2	
	33	GIG1003	Basic Entrepreneurship Culture		2								2	
	34		Co-Curriculum					2					2	
	35	GLTxxxx	English I		3								3	
	36	GLTxxxx	English II				3						3	
	37		Elective Course 1					3					3	
	38		Elective Course 2						2				2	
	39	GIG1005	Social Engagement		2								2	
			TOTALCREDITS	18	19	-	20	20	17	17	16	12	139	
			TOTALSUBJECTS	6	6	-	6	6	5	5	4	1	39	
TOTALSUBJECT BREAKDOWN			TOTALUNIVERSITYCOURSES	2	3	-	2	2	1	0	0	0	10***	40
			TOTALFACULTYCOURSES	4	3	0	4	4	4	5	4	1	29	

Note:

* Exempted for non –Malaysian students and to be replaced with another Senate-approved university course.

** Course offered to non-Malaysian students

PROGRAMME STRUCTURE: BACHELOR OF URBAN AND REGIONAL PLANNING

COMPONENTS	YEAR 1 (Bachelor of Urban and Regional Planning)									TOTAL CREDIT	
	SEMESTER 1			SEMESTER 2			SEMESTER 3				
	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT		
Compulsory University Courses	GIG1004	Information Literacy	2	GIG1003	Basic Entrepreneurship Culture	2				12	
	GIG1001	The Islamic and Asian Civilization (TITAS)*	2	GIG1005	Social Engagement	2					
	-	-	-	GLTxxxx	English I	3					
Programme Core Courses	BID 1001	Planning Studio I – Basic Planning Skills	6	BID 1005	Planning Studio II – Site Planning	6				26	
	BID 1002	Introduction to Planning	3	BID 1006	Land Use and Site Planning	3					
	BID 1003	Legal Studies	3	BID 1007	Community Development Planning	3					
	BID 1004	IT in Planning	2	-	-	-					
Total Credit			18	Total Credit			19				38

COMPONENTS	YEAR 2 (Bachelor of Urban and Regional Planning)						TOTAL CREDIT	
	SEMESTER 3			SEMESTER 4				
	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT		
Compulsory University Courses	GIG1002 / GIG1006	Ethnic Relations / Introduction to Malaysia**	2		Elective Course 1	3	10	
	GLTxxxx	English II	3		Co-Curriculum	2		
Programme Core Courses	BID 2001	Planning Studio III – City Centre Studies	6	BID 2005	Planning Studio IV – State Structure Plan	6	30	
	BID 2002	Quantitative Analysis in Planning	3	BID 2006	Planning Law	3		
	BID 2003	Planning Theory	3	BID 2007	Rural and Regional Planning	3		
	BID 2004	Urban Economics	3	BID 2008	Planning Techniques and Methodology	3		
Total Credit			20	Total Credit			20	40

COMPONENTS	YEAR 3 (Bachelor of Urban and Regional Planning)						TOTAL CREDIT
	SEMESTER 5			SEMESTER 6			
	COURSE CODE	COURSETITLE	CREDIT	COURSE CODE	COURSETITLE	CREDIT	
Compulsory University Courses		Elective Course 2	2				2
Programme Core Courses	BID 3001	Planning Studio V – Local Plan	6	BID 3005	Planning Studio VI – Special Area Plan	6	32
	BID 3002	Recreation and Tourism Planning	3	BID 3006	Development and Property Appraisal	3	
	BID 3003	Transportation and Traffic Planning	3	BID 3007	Environmental Planning and Management	3	
	BID 3004	Housing	3	BID 3008	Urban Design and Conservation	3	
				BID 3009	Research Methodology	2	
Total Credit			17	Total Credit		17	34

COMPONENTS	YEAR 4 (Bachelor of Urban and Regional Planning)						TOTAL CREDIT	
	SEMESTER 7			SEMESTER 8				
	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT		
Programme Core Courses	BID 4001	Planning Studio VII – Development Appraisal	6	BID 4005	Industrial Training	12	28	
	BID 4002	Urban Management	3					
	BID 4003	Professionalism, Ethics and Politics	3					
	BID 4004	Academic Project	4					
Total Credit			16	Total Credit			12	28

TOTAL CREDIT: 139

PROGRAMME CORE COURSES

BID 1001
6 credits

PLANNING STUDIO I : BASIC PLANNING SKILL

Synopsis of Course Contents

This course introduces design principles and basic design skills which are needed by all planners. The design skills include: Line drawing; Poster Lettering; Plan Colouring; Draughtsmanship; Sketches; Perspective Drawing; Textures identification; Graphic Illustration. This course also allows Skill Acquisition which can be developed through the use of various drafting scales equipment, plan's enlargement & reduction techniques and Map Reading exercises. Students are required to work individually.

Learning Outcomes

At the end of the course, students are able to:

1. outline elementary planning design;
2. describe the basic design principles in planning;
3. use various drafting equipment;
4. produce basic planning drawings; and
5. present ideas through graphic illustration.

Assessment:

Continuous Assessment	100%
Soft Skills:	CS1 CS2, CS3, CS4, CS6, CT1, CT2, CT3, LL1, LL2,

BID 1002
3 credits

Introduction to Planning

Synopsis of Course Contents

This is an introductory course to urban planning. The course comprises of three main components: definition and principles of planning; planning history and planning organizations; and planning process. It allows students to appreciate the process of early city planning and planning development up to the present time.

Learning Outcomes

At the end of the course, students are able to:

describe the evolution and principles of urban planning;
explain the process of urban planning, and
discuss current urban planning practice.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1 CS2, CS3, LL1, LL2, EM1, EM2

BID 1003
3 credits

LEGAL STUDIES

Synopsis of Course Contents

This course focuses on Malaysian Legal System, tort and contract. It includes the principles and sources of Malaysian law, processes, systems and procedures, common law, statute and equity. This course covers the law of contract (Contracts Act 1950) emphasizing on capacity, consideration, intention to create legal relation and methods of discharging of contracts. It will also include the types of remedies covering damages, specific performance and injunction by making specific reference to the Specific Relief Act. The law of torts includes negligence, duty of care, breach of duty, causation remoteness, professional negligence, nuisance and trespass to land.

Learning Outcomes

At the end of the course, students are able to:

1. explain the Malaysian legal system;
2. identify the principles, sources, processes and procedures of the Malaysian legal system, tort

- and contract;
- 3. practice knowledge on the Malaysian legal system; and
- 4. clarify the principles and procedures of law of tort and contract.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1 CS2, CS3, LL1, LL2, EM1, EM2

BID 1004
2 credits

IT IN PLANNING

Synopsis of Course Contents

This course introduces the concepts of Geographic Information System (GIS) and its application in urban planning using GIS and AutoCAD software.

Learning Outcomes

At the end of the course, students are able to:

1. explain the basic concepts and techniques of geographic information system (GIS);
2. describe the application of GIS within the context of urban planning; and
3. use GIS and AutoCAD software urban planning projects.

Assessment:

Continuous Assessment	100%
Soft Skills:	CS1 CS2, CS3, CT1, CT2, LL1, LL2

BID 1005
6 credits

PLANNING STUDIO II – SITE PLANNING

(pre-requisite BID 1001)

Synopsis of Course Contents

The course major activities include the search for site and collection of relevant information from appropriate data sources; the site survey using appropriate techniques (check list, matrices) in the planning for site development; the site analysis encompassing topography, traffic circulation, surrounding development, tree preservation; the analysis of Development Potential and the proposals of Mitigating Measures of possible impacts. The course also requires good Report preparation and Layout Plan proposals. Students are required to work in groups and to do Project Presentation.

Learning Outcomes

At the end of the course, students are able to:

1. describe planning design requirements and relevant technical requirements;
2. perform site survey and analysis;
3. determine the site issues;
4. select relevant design measures; and
5. prepare lay-out plan for site specific.

Assessment:

Continuous Assessment	100%
Soft Skills:	CS1, CS2, CS3, CS4, CS5, CS6, CT1, CT2, CT3, CT5, CT7, TS1, TS2, TS3

BID 1006
3 credits

LAND USE AND SITE PLANNING

Synopsis of Course Contents

This course introduces elements of site planning that begin with the recognizing of site characteristics, conditions, problems and limitations. The identification of site potential development requires examinations of surrounding development including elements of infrastructures, existing economic activities and local development policies that regulate urban land uses. The introduction to land use planning will cover urban land use theory, urban land use component, land use planning models, land use zoning categories and codes (use class order). Discussions on site development issues will include topics of how land use

planning was incorporating site development potentials and planning controls.

Learning Outcomes

1. At the end of the course, students are able to:
2. discover site development problems;
3. discuss site development potentials; and
4. explain land use zoning plan.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1, CS2, CS3, CS4, CT1, CT2, CT3, EM1, EM2

BID 1007
3 credits

COMMUNITY DEVELOPMENT PLANNING

Synopsis of Course Contents

The course introduces social infrastructure concepts, characteristics, issues and challenges. It also relates the current practices of Malaysian Social and Infrastructure Policy in developing social infrastructures in spatial planning.

Learning Outcomes

At the end of the course, students are able to:
outline the key concepts of social and infrastructure in spatial planning;
describe social and infrastructure issues in spatial planning; and
identify the various challenges of social and infrastructure in spatial planning practices.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1, CS2, CS3, CT1, CT2, CT3, TS1, TS2

BID 2001
6 credits

PLANNING STUDIO III : CITY CENTRE STUDY

(pre-requisite BID 1005)

Synopsis of Course Contents

The course is the continuation of Year 1 Studio. Knowledge of the application of draughtsmanship skill and designs using Computer Aided Design software (CAD) gained from the dedicated subject are useful for this Studio that furthers to address the urban problems. This Studio begins with the introduction of the city centre problems; the development concepts used to solve urban problems and followed by the works in groups to carry out site analysis and to propose development on a chosen site in a city centre. The works includes the preparations of Key Plan, Site Plan, Layout Plan, Development Proposal Report (LCP) and studio presentation.

Learning Outcomes

At the end of the course, students are able to:

1. examine city centre concept;
2. investigate urban problems;
3. evaluate development concepts and alternatives; and
4. collaborate ideas to solve urban problems.

Assessment:

Continuous Assessment	100%
Soft Skills:	CS1, CS2, CS3, CS4, CS5, CT1, CT2, CT3, CT4, TS1, TS2, TS3, TS4, LS1, LS2

BID 2002
3 credits

QUANTITATIVE ANALYSIS IN PLANNING

Synopsis of Course Contents

This course is designed to introduce students to commonly used statistical quantitative analysis in urban planning and research. Students will be exposed to the basic skills in statistical techniques as a mean to communicate research findings effectively. Topics covered include types and sources of quantitative data, designing and administering questionnaire survey, basic descriptive and inferential statistics and the use of SPSS software for quantitative analysis.

Learning Outcomes

At the end of the course, students are able to:

1. explain the use of information and quantitative analysis in urban planning and research;
2. analyse primary data and secondary data; and
3. use suitable statistical techniques to analyse survey based data using SPSS (statistical package for social sciences).

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1, CS2, CS3, CS4, CT1, CT2, CT5, EM1, EM2

BID 2003
3 credits

PLANNING THEORY

Synopsis of Course Contents

This course will discuss the origins and evolution of planning theories. Lectures will especially focus on the discussion about different types of planners and their thinking mode and style and relate them to specific planning concepts and theories. Thereafter, relating those aspects to the planning environment and setting, exposing students also to the planning process and important planning ideologies. This will set students to understand the different types of situations planners will experience in the course of their career as planners and be able to conduct themselves appropriately.

Learning Outcomes

At the end of the course, students are able to:

discuss the evolution and changes in planning theories;
explain the organisations and administrative machineries in planning process; and
analyse major approaches used in planning practice.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1, CS2, CS3, CS4, CT1, CT2, CT3, LL1, LL2

BID 2004
3 credits

URBAN ECONOMICS

Synopsis of Course Contents

This course will introduce students to the basic understanding of the urban economic structure and its changes; emphasising relevant issues as they relate to urban planning. The topics that will be covered include the significance of economic thinking in planning, economic explanation for urban growth, economics of urban land use, urban location decision and the economics of urban public intervention. Students will also be exposed to the economic approach to selected urban problems such as congestion, crime, pollution etc.

Learning Outcomes

At the end of the course, students are able to:

1. discuss urban development from an economic perspective;
2. describe the economics of urban land use market;

3. explain the location decision of major economic activities in the urban area; and
4. elaborate public intervention in the urban economy.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1, CS2, CS3, CS4, CT1, CT2, CT3, EM1, EM2

BID 2005

6 credits

PLANNING STUDIO IV: STRUCTURE PLANS

(pre-requisite BID 2001)

Synopsis of Course Contents

Plans and followed by the process of preparing development plans according to the TCP Act 172 and Federal Territory Act 267 including State Structure Plans (SSP). Examinations on the scope and contents of the SSP will be carried out based on the available current written documents and its technical reports. Site visits to selected states and discussion with planning officers will provide more information of the related problems especially the feasibility and viability of the SSP policies, objectives and strategies. The course will cover the investigation of many aspects such as housing, land use, transportation, environment and others. Modelling and forecasting techniques will eventually be used to analyse the existing condition and then wisely predict the future condition. Group works will produce SSP Appraisal Report and conduct studio presentation

Learning Outcomes

At the end of the course, students are able to:

1. describe the state structure plan (SSP);
2. examine land development management at state level;
3. conduct urban planning research and studies at macro level;
4. formulate SSP in accordance with town and country planning act 1976 and the related laws; and
5. recommend improvement measures for ssp.

Assessment:

Continuous Assessment	100%
Soft Skills:	CS1, CS2, CS3, CS4, CS5, CT1, CT2, CT3, CT4, KK1

BID 2006

3 credits

PLANNING LAW

Synopsis of Course Contents

This course will introduce the constitutional aspect of law relating planning and urban governance in Malaysia. The Malaysian planning system is governed by several legislation and regulation to ensure the efficiency and uniformity in implementation, control, enforcement of planning upon the usage of land and building in the local authority area and protection of public interest. The course covers National Land Code 1965, Local Government Act 1976, Town and Country Planning Act, 1976 (Act 172), Federal Territory (Planning) Act 1982, Street Drainage & Building Act, 1974 (Act 133). Uniform Building By-Law 1984, Land Acquisition Act 1960, National Heritage Act 2005.

Learning Outcomes

At the end of the course, students are able to:

1. differentiate laws related to urban planning;
2. describe the town planning administrative systems and structure; and
3. interpret the legal planning principles using case studies.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1, CT2, LL1, LL2, EM1, EM2

BID 2007
3 credits

RURAL AND REGIONAL PLANNING

Synopsis of Course Contents

This course is divided into two parts: regional planning and rural development. The first part will students to the concept of regions, relevant theories of regional growth, techniques of regional analysis as well as the evolution of regional planning practices around the world. The second part will expose students to the various dimensions of rural planning including the management of natural resources and transformation of the rural communities in line with the principles of sustainable development.

Learning Outcomes

At the end of the course, students are able to:

1. explain the concept of regions in regional and rural planning;
2. relate the importance of growth theories to regional and rural planning; and
3. use analytical techniques for regional and rural development planning.
4. describe contemporary regional and rural issues.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1, CS2, CS3, CS4, CT1, CT2, CT3, EM1, EM2

BID 2008
3 credits

PLANNING TECHNIQUES AND METHODOLOGY

Synopsis of Course Contents

This course covers the topics related to analysis and techniques requires in making decision in the planning process. Students will able to apply certain techniques in decision making and plans evaluation. The techniques that will be introduced includes the basic planning requirement, forecasting, plans evaluations using cost benefit analysis, balance sheets and goal achievement matrixes. Students will also be able to apply the techniques through selected case studies. Furthermore, students will be introduced to special requirements in planning process i.e. the environmental and social impact assessment.

Learning Outcomes

At the end of the course, students are able to:

1. describe various planning techniques in the planning process;
2. use the techniques in the planning process; and
3. differentiate the techniques, implementation and resultant impact of planning process.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1, CS2, CS3, CS4, CT1, CT2, CT3, EM1, EM2

BID 3001
6 credits

PLANNING STUDIO V: LOCAL PLAN

(pre-requisite BID 2005)

Synopsis of Course Contents

This course covers the preparation of a statutory district local plan based on the provisions under Town and Country Planning Act 1976 (Act 172) and FT (Planning) Act 1982 (Act 267). The course will cover the investigation of many aspects such as housing, land use, transportation, environment and others. Modelling and forecasting techniques are useful to analyse the existing condition and predict the future requirements.

Students working in group are asked to prepare a draft District Local Plan for the study area, which will consist of proposed policies. The detail proposals must take into consideration wider contexts of neighbouring developments and statutory development plans of the higher tier development plans.

Learning Outcomes

At the end of the course, students are able to:

1. describe the concept of local plan;
2. discuss the process and procedures for preparation of local plan;
3. use various planning techniques to make projections regarding future needs of the area concerned;
4. appraise strategic planning issues, potentials and problems of the study area in the context of sustainable development;
5. suggest development strategies and concepts for the area concerned; and
6. formulate development strategies and concepts for the area concerned.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1, CS2, CS3, CS4, CS5, CS6, CT1, CT2, CT3, CT4, CT5, TS1, TS2, TS3, TS4, KK1

BID 3002
3 credits

RECREATIONAL AND TOURISM PLANNING

Synopsis of Course Contents

This course discusses the physical and social aspects in recreation and tourism development. Students will do research on spatial planning in the provision and development of recreation and tourism: monitoring, implementation, planning in selected recreation and tourism area, and evaluating country's recreation and tourism projects. Other topics discuss includes the legal systems, standards, policies, strategies, implementation of recreation and tourism activities.

Learning Outcomes

At the end of the course, students are able to:

1. integrate the physical and social aspects in recreation and tourism development;
2. examine the government's policies relating to the aspect of recreation and tourism development; and
3. describe the implementation of recreation and tourism projects carried at federal or state level.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CS1, CS2, CS3, CS4, CS5, CS6, CT1, CT2, CT3, CT4, CT5, TS1, TS2, TS3, TS4, KK1

BID 3003
3 credits

TRANSPORTATION AND TRAFFIC PLANNING

Synopsis of Course Contents

This course will introduce students to transportation systems and its relationship to the urban land use system. Among aspects that will be discussed are transportation system requirements, travel demand, travel behaviour and sustainable transportation planning. Students are taught how to conduct traffic surveys as well how to use transportation modelling computer software.

Learning Outcomes

At the end of the course, students are able to:

1. describe the main aspects of transportation sector such as modes of transport in urban transport system;
2. explain the potential, issues and problems in transportation planning;
3. appraise travel demand and travel behaviour; and
4. conduct traffic surveys.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CS1, CS2, CS3, CS4, CT1, CT2, CT3, CT5, EM1, EM2

BID 3004
3 credits

HOUSING

Synopsis of Course Contents

This course focuses on housing policy at federal, state and local levels affecting urban housing markets. Emphasis will be given on assessment of market conditions affecting community development decisions.

Learning Outcomes

At the end of the course, students are able to:

1. explain the concept and scope of housing and community;
2. examine housing needs, policies and planning control in the community; and
3. relate housing delivery system with sustainable housing concept in Malaysia.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1,CS2, CS3, CS4, CT1, CT2, CT3, CT5, TS1, TS2

BID 3005
6 credits

PLANNING STUDIO VI : SPECIAL AREA PLAN

Synopsis of Course Contents

This course encompassing the planning issues as background to prepare Special Area Plan. Students are required to carry out site survey and data collection. Analysis technique of SWOT and Feasibility Studies are introduced. Students working in groups are asked to, prepare alternative development concepts and proposals and present their ideas.

Learning Outcomes

At the end of the course, students are able to:

1. evaluate planning issues and problems;
2. select suitable problem solving approach;
3. organise public participation as part of the development process;
4. conduct feasibility studies, costing; projects phasing and scheduling; and
5. prepare development proposal report.

Assessment:

Continuous Assessment	100%
Soft Skills:	CS1,CS2, CS3, CS4, CS5, CS6, CT1, CT2, CT3, CT4, CT5, KK1

BID 3006
3 credits

DEVELOPMENT AND PROPERTY APPRAISAL

Synopsis of Course Contents

This course provides an introduction to property development and the processes associated with it. It is designed to provide an understanding of the overall framework within which both public and private sector development takes place. The course also establish the economic context for the creation of value, introduce the principles for the assessment of value in property markets, develop a clear understanding of the valuation process and appropriately apply the principal valuation methods (conventional and contemporary) to a range of property types and interests.

Learning Outcomes

At the end of the course, students are able to:

1. discuss the nature of the property market;
2. examine the social and economic dimensions of a property development project; and
3. prepare the financial feasibility report for a property development project.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1,CS2, CS3, CS4, CT1, CT2, CT3, CT5, LL1, LL2, LL3

BID 3007
3 credits

ENVIRONMENTAL PLANNING AND MANAGEMENT

Synopsis of Course Contents

This course discusses key concepts and topics in environmental policy, planning and management (definitions, concepts, scopes, elements and approaches) and also analyses local and global environmental problems and issues related to urbanisation. Integrating environmental concerns into decision-making in ensuring sustainable development will also be included.

Learning Outcomes

At the end of the course, students are able to:

1. explain the concept of resource management from urban development and planning perspectives;
2. discuss the approaches taken in handling issues and problems related to the urban environment; and
3. analyse issues on resources management and exploitation.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1,CS2, CS3, CS4, CT1, CT2, CT3, CT5, EM1, EM2

BID 3008
3 credits

URBAN DESIGN & CONSERVATION

Synopsis of Course Contents

This course involves a wide ranging types and scope of tasks. It begins with the definition of urban design and followed by the discussions of the urban design theories; principles involving inter-disciplinary nature that shaped by economic, social and political forces. This course also includes the conservation aspects, the survey techniques and analysis.

Learning Outcomes

At the end of the course, students are able to:

1. discuss various aspects of urban design and conservation;
2. appraise the form, space and other influencing factors that affect urban design and conservation; and
3. evaluate the importance of urban design and conservation in planning.

Assessment:

Continuous Assessment	50%
Final Examination	50%
Soft Skills:	CS1,CS2, CS3, CS4, CT1, CT2, CT3, CT5,LL1, LL2, LL3

BID 3009
2 credits

RESEARCH METHODOLOGY

Synopsis of Course Contents

This course involves exploration of suitable quantitative and qualitative research methods, analytical thinking and literature review. Outline individual research project for conducting a dissertation

Learning Outcomes

At the end of the course, students are able to:

1. review relevant literature;
2. determine suitability of research methods for different research problems; and
3. write research proposal.

Assessment:

Continuous Assessment	100%
Soft Skills:	CS1,CS2, CS3, CS4, CS7, CT1, CT2, CT3, CT4, CT5, LL1, LL2, LL3

BID 4001

6 credits

PLANNING STUDIO VII : DEVELOPMENT APPRAISAL

(pre-requisite BID 3005)

Synopsis of Course Contents

Evaluation of a completed development, analysis of design guideline and planning standards, interview key players and stakeholders, carrying out onsite measurements and development auditing, propose remedial measures to design guidelines and planning standards, writing development appraisal reports and doing presentation.

Learning Outcomes

At the end of the course, students are able to:

1. describe the planning objectives, policies, guidelines and standards;
2. evaluate the implementation of the technical requirements related to planning control;
3. recommend potential improvement using planning tools; and
4. audit development scheme.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1,CS2, CS3, CS4, CS5, CS6, CS7, CT1, CT2, CT3, CT4, CT5, TS1, TS2, TS3, TS4, LS1, LS2

BID 4002

3 credits

URBAN MANAGEMENT**Synopsis of Course Contents**

The course will impart knowledge on good urban management through discussion of concepts, theories and principles of good urban management in public sectors. Other aspects that will be discussed are the roles and functions of key players in urban management; the relationship between urban planning and urban management; urban services and service deliveries (urban asset management); urban management issues and problems; capacity building and public participation; and target, urban indicator and performance management.

Learning Outcomes

At the end of the course, students are able to:

1. explain the scope of work and power of local authority as urban manager;
2. describe issues, problems and needs in urban management process; and
3. recommend solution to mitigate relevant urban management problems.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CS1,CS2, CS3, CS4, CT1, CT2, CT3, LL1, LL2, LL3

BID 4003

3 credits

PROFESSIONALISM, ETHICS AND POLITICS**Synopsis of Course Contents**

This course will discuss the urban and regional planning in practice and the functions of town planners as professionals. It focuses on the detailed understanding of the Town Planners Act 1995 and Code of Professional Conduct of Malaysian Institute of Planners with some references on planning practice in the United Kingdom. The discussions continue with the scope of works for town planners in the public sector and their roles in developing the community and their relations with other professionals in built environment. Discussions on the town planners' roles in the private sector will include the professional services, procedures in plan-making process and relations with stake-holders.

Learning Outcomes

At the end of the course, students are able to:

1. explain professional codes and ethics in town planning profession;
2. evaluate discuss the methods and regulations in town planning profession; and
3. compare the roles and functions of different professionals in development projects.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1,CS2, CS3, CS4, CT1, CT2, CT3, CT5, EM1, EM2

BID 4004

4 credits

ACADEMIC PROJECT

BID 3009

Synopsis of Course Contents

Preparation of research report/ dissertation related to urban planning field by applying suitable research methodology, processes and techniques.

Learning Outcomes

At the end of the course, students are able to:

critically analyse problems of an academic or practical significance in urban planning field;
 apply appropriate research methods and processes;
 evaluate the application of theoretical concepts into practical context; and
 produce project dissertation.

Assessment:

Continuous Assessment	100%
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Soft Skills:	CS1,CS2, CS3, CS4, CS7, CT1, CT2, CT3, CT4, CT5, EM1, EM2
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BID 4005

12 credits

INDUSTRIAL TRAINING

(pre-requisite BID 4001)

Synopsis of Course Contents

Introduction to professional working environment; applying comprehensive urban planning skills; exposure to actual working environment by practicing interpersonal skills and effective teamwork

Learning Outcomes

At the end of the course, students are able to:

1. apply classroom learning in the actual working environment;
2. possess interpersonal skill and related urban planning managerial and technical skills;
3. practice work ethics and professionalism in real working environment; and
4. appreciate urban planning profession in the built environment.

Assessment:

Continuous Assessment	100%
Soft Skills:	CS1,CS2, CS3, CS4, CS7, TS1, TS2, TS3, TS4, EM1, EM2

REAL ESTATE |

REAL ESTATE

Introduction

The Bachelor of Real Estate (formerly the Bachelor of Estate Management) was first offered in July 1996 as a programme under the Built Environment Division, Faculty of Engineering. This programme was later elevated to the status of a department, in February 1998, in order to strengthen its management. The Built Environment Division itself was upgraded to a full-fledged faculty, in May 2000, to become known as the Faculty of Built Environment. In July 2016, the nomenclature of the original programme was changed to keep abreast with developments in the real estate field.

The Bachelor of Real Estate (Honours) programme, University of Malaya is run by the Department of Real Estate. The department comprises 13 academic staff to oversee the Bachelor of Real Estate programme as well as Master of Real Estate, a master by coursework programme. The Bachelor of Real Estate has received accreditation from local and international bodies namely the Malaysian Public Service Department, Board of Valuers, Appraisers and Estate Agents (BOVAEA) Malaysia and the Royal Institution of Chartered Surveyors (RICS) United Kingdom, with input from the Royal Institution of Surveyors Malaysia (RISM). As the syllabus for the Bachelor of Real Estate received recognition by these professional bodies, this programme is professionally recognised locally and abroad.

Students will gain real life property development and consultancy experience during the Integrated Project course which in the past has involved sites in countries such as Brunei, Hong Kong, China, the Philippines, Vietnam, Indonesia and Taiwan.

Programme Aim

To produce graduates in the estate management field who are professional, holistic, balanced and ethical, able to perform real estate consultancy effectively and able to face technical and management challenges in the national and global context.

Programme Learning Outcomes

At the end of the programme, graduates are able to:

- PO1 Apply real estate knowledge in meeting the needs of the academia and industries, both locally and globally.
- PO2 Coordinate and manage various types of landed properties effectively.
- PO3 Practise social responsibilities in providing property consultancy and valuation services.
- PO4 Inculcate professional ethics when performing services to cater for the needs of clients, profession and society.
- PO5 Communicate effectively with members of the construction and financial sector, and public at large.
- PO6 Develop analytical and problem solving capabilities.
- PO7 Acquire and manage relevant information and knowledge in property consultancy and valuation services throughout the challenging property cycle.
- PO8 Utilise their managerial and entrepreneurial skills in their real estate career.

Programme Structure

Bachelor of Real Estate (7 + 1 Semesters)

The programme is accredited by the Board of Valuers, Appraisers and Estate Agents Malaysia (BOVAEA) and by world-renowned professional body in the United Kingdom, the Royal Institution of Chartered Surveyors (RICS). This programme has been designed to incorporate ideas and contributions from the Royal Institution of Surveyors Malaysia (RISM).

The programme structure comprises a fulltime study term of 3½ years, the successful completion of which confers upon the candidate a Bachelor's degree in Real Estate. The Bachelor of Real Estate is a full-time programme with a total credit requirement of 124 credit hours, within a minimum period of 7+1 semesters and a maximum period of 11 semesters. Out of the 124 credit hours, 18 credit hours comprises Compulsory University courses including 6 credit hours of English courses to improve graduates' English skills, 2 credit hours Extra-Faculty Elective course, 6 credits Faculty Core courses, 6 credits Faculty Elective courses, 84 credits Programme Core courses and 8 credits Programme Elective courses.

Upon graduation and in order to be registered as a Valuer, the candidate is required to accumulate a further 2 years of practical professional experience under the supervision of a Registered Valuer before sitting for the Test of Professional Competence (TPC) conducted by BOVAEA. Prior to this, the candidate is required to be provisionally registered with the Board during this entire period of training. Being an accredited programme by the BOVAEA, the graduate of the Bachelor of Real Estate is eligible for direct registration with the Board as Probationary Valuer (PV) or Probationary Estate Agent (PEA).

ACADEMIC STAFF

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PROGRAMME STRUCTURE: BACHELOR OF REAL ESTATE (SESSION 2017/2018)

CATEGORY	NO	CODE	SUBJECT	YEAR I		YEAR II		YEAR III			YEAR IV	TOTAL CREDIT	PRE-REQUISITE
				S1	S2	S3	S4	S5	S6	SPECIAL SEM	S7		
COMPULSORY UNIVERSITY COURSES 18 Credits 14.5%	1	GIG1004	Information Literacy	2									
	2	GLTxxxx	English	3									
	3	GIG1003	Basic Entrepreneurship Culture		2								
	4	GLTxxxx	English		3								
	5	GIG1001	The Islamic and Asian Civilization			2							
	6		Co-curriculum			2							
	7	GIG1002	Ethnic Relations				2						
	8	GIG1005	Social Engagement					2					
EXTRA-FACULTY ELECTIVE COURSE 2 Credits 1.6%	9		KELF 1						2				
FACULTY CORE COURSES 6 Credits 4.8%	10	BIX1001	Legal Studies	3									
	11	BIX1002	Research Methodology for the Built Environment					3					
FACULTY ELECTIVE COURSES* 6 Credits 4.8%	12	BIXxxxx	KEF 1	3									
	13	BIXxxxx	KEF 2					3					
PROGRAMME CORE COURSES 84 Credits 67.7%	14	BIE1001	Fundamentals of Real Estate Valuation	4									
	15	BIE1002	Accounting and Financial Management	3									
	16	BIE1004	Methods of Real Estate Valuation		4								
	17	BIE1003	Building Technology		3								
	18	BIE1005	Urban Planning		3								
	19	BIE1006	Urban Land Economics		3								
	20	BIE2001	Law of Land Development			3							

	21	BIE2002	Real Estate Investment Analysis			3						
	22	BIE2003	Urban Planning Practice			3						
	23	BIE2004	Maintenance Management			3						
	24	BIE2005	Special Property Valuation				4					BIE1004
	25	BIE2006	Building Laws				3					
	26	BIE2007	Property Taxation				3					BIE1004
	27	BIE2008	Property Management				3					
	28	BIE2009	Corporate Real Estate & Facilities Management				3					
	29	BIE3001	Land Acquisition and Compensation					3				BIE1004
	30	BIE3002	Real Estate Finance					3				
	31	BIE3003	Real Estate Marketing & Agency						3			
	32	BIE3004	Ethics and Professional Practice						3			
	33	BIE3005	Real Estate Market Research						3			
	34	BIE3006	Property Development						3			
	35	BIE3007	Academic Project						4			BIX1002
	36	BIE3008	Integrated Project							4		BIE3005 BIE3006
	37	BIE4001	Corporate Attachment Programme								10	BIE3008
PROGRAMME ELECTIVE COURSE** 8 Credits 6.4%	38	BIExxx	KEP 1			4						
	39	BIExxx	KEP 2					4				
			TOTAL CREDITS	18	18	20	18	18	18	4	10	124
			TOTAL SUBJECTS	6	6	7	6	6	6	1	1	39

Notes:

*Choose from BIX1005 (Principles of Management), BIX1006 (Financial Management and Accounting), BIX1003 (Principles of Economics), BIX1004 (Statistics and Data Analysis).

**Choose from BIE2010 (Real Estate Investment Valuation), BIE2011 (Advanced Valuation Techniques) and BIE2012 (Business Valuation).

PROGRAMME STRUCTURE: BACHELOR OF REAL ESTATE (SESSION 2017/2018)

COMPONENTS	YEAR 1 (Bachelor of Real Estate)						TOTAL CREDIT	
	SEMESTER 1			SEMESTER 2				
	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT		
Compulsory University Courses	GIG1004	Information Literacy	2	GIG1003	Basic Entrepreneurship Culture	2	10	
	GLTxxxx	English 1	3	GLTxxxx	English 2	3		
Extra-Faculty Elective Course							-	
Faculty Core Courses	BIX1001	Legal Studies	3				3	
Faculty Elective Courses	BIXxxxx	KEF 1	3				3	
Programme Core Courses	BIE1001	Fundamentals of Real Estate Valuation	4	BIE1004	Methods of Real Estate Valuation	4	20	
	BIE1002	Accounting and Financial Management	3	BIE1003	Building Technology	3		
				BIE1005	Urban Planning	3		
				BIE1006	Urban Land Economics	3		
Programme Elective Courses							-	
TOTAL CREDIT			18	TOTAL CREDIT			18	36

COMPONENTS	YEAR 2 (Bachelor of Real Estate)						TOTAL CREDIT	
	SEMESTER 3			SEMESTER 4				
	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT		
Compulsory University Courses	GIG1001	The Islamic and Asian Civilization*	2	GIG1002	Ethnic Relations**	2	6	
		Co-curriculum	2					
Extra-Faculty Elective Course							-	
Faculty Core Courses							-	
Faculty Elective Courses							-	
Programme Core Courses	BIE2001	Law of Land Development	3	BIE2005	Special Property Valuation	4	28	
	BIE2002	Real Estate Investment Analysis	3	BIE2006	Building Laws	3		
	BIE2003	Urban Planning Practice	3	BIE2007	Property Taxation	3		
	BIE2004	Maintenance Management	3	BIE2008	Property Management	3		
				BIE2009	Corporate Real Estate & Facilities Management	3		
Programme Elective Courses	BIExxxx	KEP 1	4				4	
TOTAL CREDIT			20	TOTAL CREDIT			18	38

* Exempted for non –Malaysian students and to be replaced with another Senate-approved university course.

** Course offered to non-Malaysian students

COMPONENTS	YEAR 3 (Bachelor of Real Estate)									TOTAL CREDIT
	SEMESTER 5			SEMESTER 6			SPECIAL SEMESTER			
	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT	COURSE CODE	COURSE TITLE	CREDIT	
Compulsory University Courses	GIG1005	Social Engagement	2							2
Extra-Faculty Elective Course					KELF 1	2				2
Faculty Core Courses	BIX1002	Research Methodology for the Built Environment	3							3
Faculty Elective Courses	BIXxxx	KEF 2	3							3
Programme Core Courses	BIE3001	Land Acquisition and Compensation	3	BIE3003	Real Estate Marketing & Agency	3	BIE3008	Integrated Project	4	26
	BIE3002	Real Estate Finance	3	BIE3004	Ethics and Professional Practice	3				
				BIE3005	Real Estate Market Research	3				
				BIE3006	Property Development	3				
				BIE3007	Academic Project	4				
Programme Elective Courses	BIExxxx	KEP 2	4							4
TOTAL CREDIT			18	TOTAL CREDIT			18		4	40

COMPONENTS	YEAR 4 (Bachelor of Real Estate)			TOTAL CREDIT
	SEMESTER 7			
	COURSE CODE	COURSE TITLE	CREDIT	
Compulsory University				-
Extra-Faculty Elective Course				-
Faculty Core Courses				-
Faculty Elective Courses				-
Programme Core Courses	BIE4001	Corporate Attachment Programme	10	10
Programme Elective Courses				-
TOTAL CREDIT			10	10

OVERALL TOTAL CREDIT: 124

PROGRAMME CORE COURSES

PROPERTY VALUATION

BIE1001
3 credits

FUNDAMENTALS OF REAL ESTATE VALUATION

Synopsis of Course Contents

This course provides the underlying principles which determine the value of real estate. It presents an overview of real estate characteristics, types of real estate, property markets and the valuation process. It introduces the valuation mathematics, general approaches to value and computation in real estate valuation.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the fundamentals of real estate and market value.
2. Describe the characteristics of real estate and property market.
3. Perform valuation based on valuation theories.

Assessment:

Continuous Assessment	60%
Final Examination	40%
Soft Skills:	CS1-CS3, LL1

BIE1002
3 credits

ACCOUNTING AND FINANCIAL MANAGEMENT

Synopsis of Course Contents

This course deals with the concept and basic principles of accounting which include balance sheet, ledger, trading account, and profit-and-loss account. The course also introduces the financial management which provides an understanding on accounting ratio and the application of financial statement.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the basic principles in accounting and financial management in accordance to accounting standards.
2. Clarify the theories, concepts and practice in accounting and financial management.
3. Demonstrate the ability to differentiate various business entities.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1, LL1, KK1-KK2

BIE1003
3 credits

BUILDING TECHNOLOGY

Synopsis of Course Contents

This course provides a foundation of understanding to the building components, principle and stages of building construction. The costing of different components and construction phases are emphasised. The course tests the students' ability in comprehending the theories into a studio based coursework, case study and assessment.

Learning Outcomes

At the end of the course, students are able to:

1. Clarify the building terminologies, technology and construction techniques.
2. Demonstrate the knowledge of building technology.
3. Determine components and total costs of construction.

Assessment:

Continuous Assessment	50%
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Final Examination 50%
Soft Skills: CS1-CS2, CT1, TS1

BIE1004
3 credits

METHODS OF REAL ESTATE VALUATION

Synopsis of Course Contents

This course introduces the approaches, methods and techniques of valuation. It tests students' ability to apply various methods of valuation in determining the market value of various property types including residential, industrial, commercial and agricultural.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the various methods of property valuation.
2. Apply methods and techniques for valuation of various types of property.
3. Prepare property valuation report.

Assessment:

Continuous Assessment 60%
Final Examination 40%
Soft Skills: CS1-CS3, TS1, LL1-LL2

BIE1005
3 credits

URBAN PLANNING

Synopsis of Course Contents

This course provides a theoretical understanding of town planning. It is divided into three major aspects: the planning theories and models, the development plan system and the land and property development control system in Malaysia.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the principles of town planning in real estate context.
2. Clarify statutory requirements in town planning.
3. Discuss the implications of development plans on property development.

Assessment:

Continuous Assessment 40%
Final Examination 60%
Soft Skills: CS1, LL1, EM1

BIE1006
3 credits

URBAN LAND ECONOMICS

Synopsis of Course Contents

This course provides an insight into the urban land economics, land prices and property market structures. It constitutes a range of urban economics theories and concepts which include characteristics of land and its market, land use, theory of rent and location, urban structure and urban growth theory. The course will also provide an understanding on the urbanisation context, economic approach to a wide range of urban problems and related policies that can be used to address urban problems.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the relationships between real estate and urban economics.
2. Discuss the issues of development and redevelopment of land.
3. Apply urban economic theories with regard to urban land use and urban problems.

Assessment:

Continuous Assessment 40%
Final Examination 60%
Soft Skills: CS1-CS2, CT1-CT2, LL1-LL2

BIE2001
3 credits

LAW OF LAND DEVELOPMENT

Synopsis of Course Contents

The course provides legislative understanding related to legislations in land development which include the National Land Code 1965, Environmental Quality Act 1974, Environmental Quality Order 1987 and Housing Development Act 1966 (Amended). The course emphasises on the land alienation system in Malaysia, category of land use, amalgamation, subdivision, partition, surrender and re-alienation, land development requirements and regulations, land premium, and sale and purchase agreement.

Learning Outcomes

At the end of the course, students are able to:

Explain the relevant regulatory framework governing land development.

Relate the development laws to the environmental management aspect of sustainable development.

Apply the above knowledge in considering requirements and restrictions to be adhered to in land development procedures.

Assessment:

Continuous Assessment 40%

Final Examination 60%

Soft Skills: CT1-CT2, LL1, EM1

BIE2002
3 credits

REAL ESTATE INVESTMENT ANALYSIS

Synopsis of Course Contents

The course provides an in-depth understanding of various types of property investment, the risk elements in capital investment and anticipated return, capital budgeting and a series of investment analysis techniques for capital budgeting and portfolio analysis, Capital Cost and Capital Structure Policy.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the principles of real estate investment.
2. Demonstrate relevant techniques to analyse investment.
3. Justify the real estate investment decisions.

Assessment:

Continuous Assessment 60%

Final Examination 40%

Soft Skills: CS1-CS2, CT1-CT2, LL1

BIE2003
3 credits

URBAN PLANNING PRACTICE

Synopsis of Course Contents

The course exposes students to a more advanced knowledge in the implementation of development plan, development policy, planning standard and regulations. The course emphasises on the understanding of the practical aspect of the planning process, the procedure and legal framework involved in governing the process. The students are examined on the ability to comprehend the above aspects in the property development process. This is a studio-based course

Learning Outcomes

At the end of the course, students are able to:

1. Explain the planning approval process with regards to property development.
2. Identify the planning standards and application procedures for planning permission.
3. Analyse other authorities' requirements in preparation of layout plan.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1-CS3, CT1-CT3, TS1-TS2

BIE2004
3 credits

MAINTENANCE MANAGEMENT

Synopsis of Course Contents

This course provides a theoretical foundation to understanding building services. The course exposes students to the various components of building services such as plumbing and sanitary systems, mechanical transportation, firefighting system, communication systems, air conditioning system and security system as well as building automation system. The course will guide the students on the preparation of Defects Report. The course tests the students' understanding in comprehending the theories into a studio based coursework and assessment.

Learning Outcomes

At the end of the course, students are able to:

1. Identify types of building defect, causes and remedies.
2. Explain the importance of building maintenance and building services system.
3. Explain the building services system and its operation.

Assessment:

Continuous Assessment	60%
Final Examination	40%
Soft Skills:	CS1, CT1-CT2, LL1

BIE2005
4 credits

SPECIAL PROPERTY VALUATION

Synopsis of Course Contents

The course develops application of concept and approaches in determining the valuation of special properties. The course tests the students' competency to determine the values of a range of special properties which includes hotels and conference centres, petrol stations and cinemas, theme parks and recreation centres and golf courses, plantation, plant and machinery and concessions.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the concepts and approaches in valuing special properties.
2. Determine the market value for various purposes of valuation in relation to special properties.
3. Demonstrate the decision on choosing the appropriate method in determining the market value of special properties.

Assessment:

Continuous Assessment	60%
Final Examination	40%
Soft Skills:	CS1-CS3, CT1-CT3, TS1-TS2

BIE2006
3 credits

BUILDING LAWS

Synopsis of Course Contents

The course offers an insight into legislations throughout building lifecycle including the Strata Titles Act 1985, Strata Management Act 2013, Street, Drainage and Building Act 1974 and Uniform Building By-Law 1984, Local Government Act 1976, National Heritage Act 2005 and Housing Development (Control and Licensing) Act 1966.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the specific legal provisions in relation to building.
2. Relate the importance of the different building law provisions throughout the building lifecycle.
3. Discuss the understanding of the various provisions of the law in relation to current issues.

Assessment:

Continuous Assessment	40%
Final Examination	60%

Soft Skills: CS1-CS2, CT1-CT2, LL1

BIE2007
3 credits

PROPERTY TAXATION

Synopsis of Course Contents

This course provides basic understanding of legislation related to property taxation. This course consists of related legal statute: Local Government Act 1976, Town and Country Planning Act 1976, the Stamp Duty Act 1949, the Real Property Gains Tax Act 1967, Customs Act 1967 and the Income Tax Act 1967. This course also introduces valuation practice related to rating, development charges and purchase notice.

Learning Outcomes

At the end of the course, students are able to:

1. Describe the legislative provisions relating to property taxation practice.
2. Relate the provisions of taxation laws with property valuation practice.
3. Apply appropriate valuation methods to evaluate various types of property for taxation purposes.

Assessment:

Continuous Assessment 60%

Final Examination 40%

Soft Skills: CS1-CS3, CT1-CT2, TS1-TS2

BIE2008
3 credits

PROPERTY MANAGEMENT

Synopsis of Course Contents

The course provides knowledge on theories and concepts of actual management and maintenance of different types of properties such as residential, commercial, retail and industrial properties.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the functions of management and their relation to property management.
2. Identify the various roles of a property manager and the scope of work in property management.
3. Prepare property management case study report

Assessment:

Continuous Assessment 60%

Final Examination 40%

Soft Skills: LL1-LL2, LS1-LS2

BIE2009
3 credits

CORPORATE REAL ESTATE & FACILITIES MANAGEMENT

Synopsis of Course Contents

This course provides an understanding on the concepts of management and planning strategies on operational real estate and facilities management. The course also includes space planning, maintenance, outsourcing and performance monitoring.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the role of corporate real estate and facilities management in an organisation.
2. Plan strategic decision-making in corporate real estate and facilities.
3. Apply strategic planning and management on corporate real estate and facilities.

Assessment:

Continuous Assessment 60%

Final Examination 40%

Soft Skills: CS1-CS2, CT1-CT3, LL1-LL2

BIE3001
3 credits

LAND ACQUISITION AND COMPENSATION

Synopsis of Course Contents

This course provides a core understanding of the Land Acquisition Act 1960 (Amended). The students will be exposed to the land acquisition process: purpose of acquisition, acquisition procedure and the determination of adequate compensation. Students will apply appropriate valuation methods for compensation purposes in accordance to the Schedule 1 of Land Acquisition Act 1960.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the specific legal provisions in relation to land acquisition and compensation.
2. Relate the importance of the Land Acquisition Act 1960 to the valuation practice.
3. Demonstrate the understanding and reproduce appropriate valuation methods in determining the adequate compensation of different types of properties.

Assessment:

Continuous Assessment	60%
Final Examination	40%
Soft Skills:	CS1-CS3, CT1-CT3, TS1-TS2

BIE3002
3 credits

REAL ESTATE FINANCE

Synopsis of Course Contents

The course exposes the students to the application of financial theory and policy in real estate sector. The course commences with an understanding of financial institutional framework related to property finance. It also comprises various aspects of securities mortgages. The course concludes with an exposure to relevant legislations governing property finance.

Learning Outcomes

At the end of the course, students are able to:

1. Integrate the concepts of property finance.
2. Justify the types of financing, its creation and sources for financing.
3. Determine the lending process, repayment methods and determination of borrower capability (underwriting).

Assessment

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1-CT2, LL1, KK1

BIE3003
3 credits

REAL ESTATE MARKETING & AGENCY

Synopsis of Course Contents

This course provides a theoretical foundation to the knowledge of marketing in real estate. The course also exposes the students to the principles of marketing and their application to real estate profession in accordance to relevant regulations such as Malaysian Estate Agency Standards.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the scope and the principles of marketing.
2. Explain marketing concepts based on real estate practice in accordance to relevant regulations.
3. Relate the principles in real estate marketing practice

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CS1-CS3, CT1, LL1

BIE3004
3 credits

ETHICS AND PROFESSIONAL PRACTICE

Synopsis of Course Contents

The course introduces ethics and professional practices governed by the Valuers, Appraisers and Estate Agent Act 1981 and Rules, Malaysian Valuation Standards and Malaysia Estate Agency Standards.

Learning Outcomes

At the end of the course, students are able to:

1. Describe the acts, rules, standards, guidelines and body that regulate the real estate practice.
2. Clarify the rules and regulations pertaining to the real estate practice.
3. Apply the processes and procedures in compliance with the professional legislation related to real estate.

Assessment:

Continuous Assessment	40%
Final Examination	60%
Soft Skills:	CT1-CT2, LL1-LL2, EM1-EM2

BIE3005
3 credits

REAL ESTATE MARKET RESEARCH

Synopsis of Course Contents

The course exposes the students to the contemporary requirement of real estate market research in real situation. The course commences with an understanding of demand and supply analysis and marketability analysis. It focuses on market research for mix development, residential, commercial (office, retail, hotel) and resort development. The course concludes with the financial evaluation of the product mix formulated from the research outcomes.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the principles of real estate market research.
2. Apply the techniques used in real estate market research.
3. Formulate the product mix and financial assessment based on the research outcomes.

Assessment:

Continuous Assessment	60%
Final Examination	40%
Soft Skills:	CS1-CS3, CT1-CT2, TS1-TS2

BIE3006
3 credits

PROPERTY DEVELOPMENT

Synopsis of Course Contents

The course commences with an introduction to urban real estate development process. The course will also expose the students to an understanding of the development cycle, structure and agencies in the development, redevelopment, conservation and rehabilitation of city. The final part of this course develops the skills to undertake property market study and assess the feasibility and viability of land development projects.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the concepts of development and redevelopment.
2. Organise the stages involved in land development.
3. Appraise potential development sites.

Assessment:

Continuous Assessment	60%
Final Examination	40%
Soft Skills:	CS1-CS3, CT1-CT3, TS1-TS2

BIE3007
4 credits

ACADEMIC PROJECT

Synopsis of Course Contents

This is the second stage of the research project, which requires the students to produce the academic project report under lecturer supervision.

Learning Outcomes

At the end of the course, students are able to:

1. Determine suitable research methods and techniques in recommending solutions for real estate issues.
2. Analyse data and information through writing.
3. Produce an academic project report that observes academic writing guidelines.

Assessment:

Continuous Assessment 100%

Soft Skills: CT1-CT3, LL1-LL2, EM1-EM2

BIE3008
4 credits

INTEGRATED PROJECT

Synopsis of Course Contents

This course requires students to carry out projects which involve research and report preparation. The course constitutes a combination of a number of core subjects such as valuation, planning, law, finance and economics.

Learning Outcomes

At the end of the course, students are able to:

1. Identify the higher knowledge within the realm of real estate.
2. Apply the understanding of the concepts, principles, techniques, and academic knowledge gained to resolve given problems.
3. Prepare a project report of acceptable quality.

Assessment:

Continuous Assessment 100%

Soft Skills: CS1-CS4, CT1-CT3, TS1-TS2

BIE4001
10 credits

CORPORATE ATTACHMENT PROGRAMME

Synopsis of Course Contents

Students are required to undergo a structured training programme at corporate organisations or public agencies. In this module, the industry plays a role in giving input to students.

Learning Outcomes

At the end of the course, students are able to:

1. Employ suitable valuation techniques and technology in performing working tasks.
2. Practice ethical and professionalism in property consultancy
3. Apply theories and concepts of property consultancy into working practice

Assessment:

Continuous Assessment 100%

Soft Skills: CS1-CS5, LL1-LL3, EM1-EM3

PROGRAMME ELECTIVE COURSES

BIE2010

4 credits

REAL ESTATE INVESTMENT VALUATION

Synopsis of Course Contents

The course introduces the theoretical investment methods and approaches in determining values of a wide range of interests in investment property. The course will also describe the valuation of respective interests of landlord and tenant for different purposes such as lease purpose, marriage value, and the valuation of premium, surrender and leaseback.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the principles of investment valuation.
2. Apply the principles of investment valuation in determining values of a range of interests in investment properties.
3. Appraise the various interests in investment properties.

Assessment:

Continuous Assessment	60%
Final Examination	40%
Soft Skills:	CS1-CS3, CT1-CT2, TS1

BIE2011

4 credits

ADVANCED VALUATION TECHNIQUE

Synopsis of Course Contents

This course provides a core understanding of the various advanced valuation techniques to value property. The students will be exposed to Contingent Valuation Methods (i.e. Willingness-to-Pay and Hedonic Technique), Multiple Regression Analysis and Monte Carlo Simulation. Students will apply appropriate advanced valuation techniques to non-marketable properties valuation, mass appraisal and value simulation.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the specific advanced valuation techniques to value properties.
2. Relate the importance of the advanced valuation techniques to the valuation practice.
3. Apply appropriate valuation techniques to value non-marketable properties and perform mass appraisal and value simulation.

Assessment:

Continuous Assessment	60%
Final Examination	40%
Soft Skills:	CS1-CS3, CT1-CT3, TS1-TS2

BIE2012

3 credits

BUSINESS VALUATION

Synopsis of Course Contents

This course provides a core understanding of the business valuation. The students will be exposed to financial statements, risk, goodwill and intangible assets for valuation purposes. Students will apply appropriate valuation techniques for valuation of various types of businesses.

Learning Outcomes

At the end of the course, students are able to:

1. Explain the specific approaches to value business entities.
2. Relate the importance of goodwill and intangible assets in reflecting the value of businesses.
3. Apply appropriate valuation methods in determining the value of different types of businesses.

Assessment:

Continuous Assessment	60%
Final Examination	40%
Soft Skills:	CS1-CS3, CT1-CT4, TS1-TS2

