UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FAKULTI KEJURUTERAAN AWAM DAN ALAM SEKITAR

PERANCANGAN KURSUS
COURSE PLAN

MAKLUMAT KURSUS *(COURSE INFORMATION)*

SEMESTER / SESI *(SEMESTER / SESSION)* : SEMESTER II / 2015/2016

KOD KURSUS *(COURSE CODE)* : BFC 43402 / BFC 4022

NAMA KURSUS *(COURSE NAME)* : FINAL YEAR PROJECT 1

BEBAN AKADEMIK PELAJAR *(STUDENT ACADEMIC LOAD)*

Kategori Aktiviti *Category of Activities*	**Aktiviti** *Activities*	**Jumlah Jam / Sem** *Total Hours / Sem*
Pembelajaran terpandu *Guided learning*	Kuliah *Lectures*	-
	Tutorial / Praktikal *Tutorial / Practical*	56
	Aktiviti pembelajaran berpusatkan pelajar *Student centered learning activities*	-
Aktiviti pembelajaran kendiri *Self learning activities*	Persediaan untuk tugasan / projek *Preparation for assignments / projects*	22
	Pembelajaran kendiri / ulangkaji *Independent study / revisions*	-
	Persediaan untuk penilaian *Preparation for assessment*	1
Penilaian formal *Formal assessments*	Penilaian berterusan *Continuous assessments*	1
	Menduduki peperiksaan akhir *Take final examination*	-
	Jumlah Jam Belajar Pelajar *Total Student Learning Hours*	80

KURSUS PRA-SYARAT *(PRE-REQUISITE COURSES)* : NIL

NAMA PENSYARAH *(LECTURER'S NAME)* : ALL ACADEMIC STAFF WHO HAVE BEEN APPOINTED AS SUPERVISORS

Disediakan oleh (*Prepared by) :*	**Disahkan oleh** (*Approved by) :*
Nama (*Name) : DR. BASIL DAVID DANIEL*	**Nama** (*Name) : ASSOC. PROF. DR. ABD. HALID BIN ABDULLAH*
Tarikh (*Date) : 17 FEBRUARY 2016*	**Tarikh** (*Date) : 17 FEBRUARY 2016*

MATLAMAT (*GOALS) :*

To expose students to civil and environmental engineering application through research work.

SINOPSIS (*SYNOPSIS) :*

Final Year Project (FYP) is a form of training and exposure to engineering research undertaken by students independently and systematically under the guidance of a supervisor selected among academicians. The project focuses on a particular field of knowledge, the use of principles and related concepts and the application of techniques dealing with complex yet relevant engineering problems. Students are required to carry out the project individually. The project consists of 2 phases, i.e. FYP 1 and FYP 2, which are conducted consecutively in the final year of the program. Two credit hours are assigned to FYP 1 and four credit hours are assigned to FYP 2.

For this course, students are required to plan and organise the research project that will be executed in FYP 2 and determine the expected results. Students will have to identify the research aim and objectives, prepare the literature review, design the research methodology and draft a proposed work plan. At the end of this course, each student is required to submit a project proposal report. The report should comply with the prescribed format. The student is also required to present his/her project proposal in front of an examination panel.

HASIL PEMBELAJARAN (*LEARNING OUTCOMES) :*

Upon completion of this course, students will be able to:

1. Plan research work using proper research techniques, and existing knowledge and skills (PLO10 C5).
2. Organise planned research work systematically and communicate the findings effectively through report writing and oral presentation (PLO3 P5).
3. Adapt to changes required to research, based on availability of resources, technological improvements, and recommendations from the research supervisor and/or examination panel (PLO6 A4).

PENILAIAN *(ASSESSMENT) :*

Seminar Presentation:	35%
Project Report:	65%

RUJUKAN *(REFERENCES) :*

1. Guidelines To The Implementation Of Final Year Project, Faculty of Civil and Environmental Engineering, Universiti Tun Hussein Onn Malaysia, 2015.
2. Kumar, R., Research Methodology: A Step-by-step Guide for Beginners, Sage Publication, 2005.
3. McBurney, D.H. and White,T.L., Research Methods, Thomson Learning, 2007.
4. Wood, G., Research Paper for Dummies, Hungry Mind, 2002.
5. Creedy, J., Research Without Tears : From the First Ideas to Published Output, Edward Elgar Publication, 2008.
6. Fellow, R. and Lui, A., Research Method for Construction, Wiley Blackwell, 2008.

KEHADIRAN / PERATURAN SEMASA KULIAH *(LECTURE ATTENDANCE / REGULATION)*

(1) Pelajar mesti hadir tidak kurang dari 80% masa pertemuan yang ditentukan bagi sesuatu mata pelajaran termasuk mata pelajaran Hadir Wajib (HW) dan mata pelajaran Hadir Sahaja (HS).
Students must attend lectures not less than 80% of the contact hours for every subject including Compulsory Attendance Subjects (Hadir Wajib – HW) and Attendance Only Subjects (Hadir Sahaja – HS).

(2) Pelajar yang tidak memenuhi perkara (1) di atas tidak dibenarkan menghadiri kuliah dan menduduki sebarang bentuk penilaian selanjutnya. Markah sifar (0) akan diberikan kepada pelajar yang gagal memenuhi perkara (1). Manakala untuk mata pelajaran Hadir Wajib (HW), pelajar yang gagal memenuhi perkara (1) akan diberi Hadir Gagal (HG).
Students who do not fulfill (1) will not be allowed to attend further lectures and sit for any further examination. Zero mark (0) will be given to students who fail to comply with (1). While for Compulsory Attendance Subjects (Hadir Wajib – HW), those who fail to comply with (1) will be given Failure Attendance (Hadir Gagal – HG).

(3) Pelajar perlu mengikut dan patuh kepada peraturan berpakaian yang berkuatkuasa dan menjaga disiplin diri masing-masing untuk mengelakkan dari tindakan tatatertib diambil terhadap pelajar.
Students must obey all rules and regulations of the university and must discipline themselves in order to avoid any disciplinary actions against them.

(4) Pelajar perlu mematuhi peraturan keselamatan semasa pengajaran dan pembelajaran.
Student must obey safety regulations during learning and teaching process

MATRIK HASIL PEMBELAJARAN SUBJEK DAN HASIL PEMBELAJARAN PROGRAM *(SUBJECT LEARNING OUTCOMES AND PROGRAMME LEARNING OUTCOMES MATRIX)*

Course Learning Outcome (CLO), Delivery and Assessment Template

Faculty: FACULTY OF CIVIL AND ENVIRONMENTAL ENGINEERING
Programme: BACHELOR OF CIVIL AND ENVIRONMENTAL ENGINEERING
Course: FINAL YEAR PROJECT 1
Code: BFC 43402 / BFC 4022

This template is to be used together with:
1. Programme Educational Objective (PEO)
2. Programme Learning Outcome (PLO)

No	Course Learning Outcomes	Compliance to PLO													Delivery	Assessment	KPI
		LO-1	LO-2	LO-3	LO-4	LO-5	LO-6	LO-7	LO-8	LO-9	LO-10	LO-11	LO-12	LO-13			
1	Plan research work using proper research techniques, and existing knowledge and skills										X				Project / Discussions / Seminar Presentation	Panel : Seminar Presentation & Proposal Report Supervisor: Log Book & Proposal Report	50% of the students obtain Grade C and above
											C5						
2	Organise planned research work systematically and communicate the findings effectively through report writing and oral presentation			X													
				P5													
3	Adapt to changes required to research, based on availability of resources, technological improvements, and recommendations from the research supervisor and/or examination panel						X										
							A4										
	TOTAL			**1**			**1**				**1**						

Level of Learning Taxonomy					
Psychomotor		**Cognitive**		**Affective**	
P1	Perception	**C1**	Knowledge	**A1**	Receiving
P2	Set	**C2**	Comprehension	**A2**	Responding
P3	Guided Response	**C3**	Application	**A3**	Valuing
P4	Mechanism	**C4**	Analysis	**A4**	Organising
P5	Complex Overt Response	**C5**	Synthesis	**A5**	Internalising
P6	Adaptation	**C6**	Evaluation		
P7	Origination				

Faculty of Civil and Environmental Engineering, UTHM
Programme Educational Objectives (PEO) for BFF Programme

Programme Educational Objectives (PEO) for Bachelor in Civil Engineering with Honours (BFF):		
1	Knowledgeable and technically competent in civil engineering discipline in-line with the industry requirement. *Berpengetahuan dan berketrampilan teknikal dalam bidang kejuruteraan awam selaras dengan kehendak industri.*	PLO 1, 2, 10
2	Effective in communication and demonstrate good leadership quality in an organization. *Berkomunikasi secara berkesan dan menunjukkan kualiti kepemimpinan yang baik di dalam sesebuah organisasi.*	PLO 3, 5, 9, 13
3	Capable to solve civil engineering problems innovatively, creatively and ethically through sustainable approach. *Berkebolehan menyelesaikan masalah bidang kejuruteraan awam secara inovatif, kreatif dan beretika melalui pendekatan yang mampan.*	PLO 4, 8, 11, 12
4	Able to demonstrate entrepreneurship skills and recognize the need of lifelong learning for successful career advancement. *Mampu menunjukkan kemahiran keusahawanan dan menyedari keperluan pembelajaran sepanjang hayat untuk pembangunan kerjaya yang berjaya.*	PLO 6, 7

Faculty of Civil and Environmental Engineering, UTHM
Programme Learning Outcomes (PLO) for BFF Programme

Programme Outcomes are statements that describe what students are expected to know and be able to perform or attain by the time of graduation. These relate to the skills, knowledge, and behaviour that students acquire through the programme. Students of an engineering programme are expected to attain the following:

	Key Idea	Description	Primary domain type
1.	**Engineering Knowledge (K)**	Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialisation to the solution of complex civil engineering problems. *Mengaplikasikan pengetahuan matematik, sains, asas kejuruteraan dan pengkhususan kejuruteraan kepada penyelesaian masalah kejuruteraan awam yang kompleks.*	Cognitive
2.	**Practical / Technical Skills/ Modern Tool Usage (PS)**	Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex civil engineering activities, with an understanding of the limitations. *Membangun, memilih dan mengaplikasikan teknik yang sesuai, sumber, dan kejuruteraan moden dan alat IT, termasuk ramalan dan pemodelan, untuk aktiviti-aktiviti kejuruteraan awam yang kompleks, dengan pemahaman tentang batasannya.*	Psychomotor
3.	**Communication Skills (CS)**	Communicate effectively on complex civil engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. *Berkomunikasi secara berkesan terhadap aktiviti-aktiviti kejuruteraan awam yang kompleks terutamanya dengan komuniti kejuruteraan dan dengan masyarakat secara umumnya, seperti berkebolehan untuk memahami dan menulis laporan yang berkesan dan dokumentasi reka bentuk, membuat pembentangan yang berkesan, dan memberi dan menerima arahan dengan jelas.*	Psychomotor
4.	**Critical Thinking and Problem Solving / Investigation (CTPS)**	Conduct investigation into complex problems using research based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions. *Menjalankan penyiasatan terhadap permasalahan yang kompleks dengan menggunakan pengetahuan berasaskan penyelidikan dan kaedah penyelidikan termasuk rekabentuk eksperimen, analisis dan interpretasi data, dan sintesis maklumat untuk menyediakan kesimpulan yang sah.*	Cognitive

5.	**Individual and Team Work (TW)**	Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings. *Berfungsi dengan berkesan sebagai individu dan sebagai ahli atau pemimpin dalam pelbagai pasukan dan dalam penetapan pelbagai disiplin.*	Affective
6.	**Life Long Learning (LL)**	Recognise the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. *Mengiktiraf keperluan untuk kesediaan dan keupayaan untuk melibatkan diri dalam pembelajaran kendiri dan sepanjang hayat dalam konteks yang luas untuk perubahan teknologi.*	Affective
7.	**Entrepreneurship Skills (ES)**	Self motivate and enhance entrepreneurship skills for career development. *Memotivasikan diri dan meningkatkan kemahiran keusahawanan untuk pembangunan kerjaya.*	Psychomotor
8.	**Ethics and Professionalism Values (ET)**	Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice. *Mengaplikasikan prinsip etika dan komited kepada etika profesional dan tanggungjawab dan norma amalan kejuruteraan*.	Affective
9.	**Leadership Skills / Project Management and Finance (LS)**	Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. *Mempamerkan pengetahuan dan kefahaman tentang kejuruteraan dan prinsip-prinsip pengurusan dan amalan dalam kerja-kerja sendiri, sebagai ahli dan pemimpin dalam satu pasukan, untuk menguruskan projek dan dalam persekitaran yang pelbagai disiplin*.	Psychomotor
10.	**Design / Development of Solutions (DDS)**	Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations. *Merekabentuk penyelesaian untuk masalah kejuruteraan yang kompleks dan sistem rekabentuk , komponen atau proses yang memenuhi keperluan tertentu dengan pertimbangan yang sesuai untuk keselamatan dan kesihatan awam, kebudayaan, kemasyarakatan , dan pertimbangan alam sekitar.*	Cognitive
11.	**Problem Analysis (PA)**	Identify, formulate, research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences. *Mengenalpasti, merumus, kajian literature dan menganalisis masalah kejuruteraan yang kompleks bagi mencapai kesimpulan berasas menggunakan prinsip pertama matematik, sains semula jadi dan sains kejuruteraan.*	Cognitive

12.	**Environment and Sustainability (ESus)**	Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development. *Memahami kesan penyelesaian kejuruteraan secara profesional dalam konteks masyarakat dan alam sekitar dan menunjukkan pengetahuan dan keperluan untuk pembangunan lestari*.	Affective
13.	**The Engineer and Society (ESoc)**	Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice. *Mengaplikasi pernyataan bersebab berdasarkan konteks pengetahuan untuk menilai isu-isu kemasyarakatan, kesihatan, keselamatan, perundangan dan kebudayaan dan tanggungjawab relevan yang berbangkit bagi amalan kejuruteraan yang profesional.*	Affective