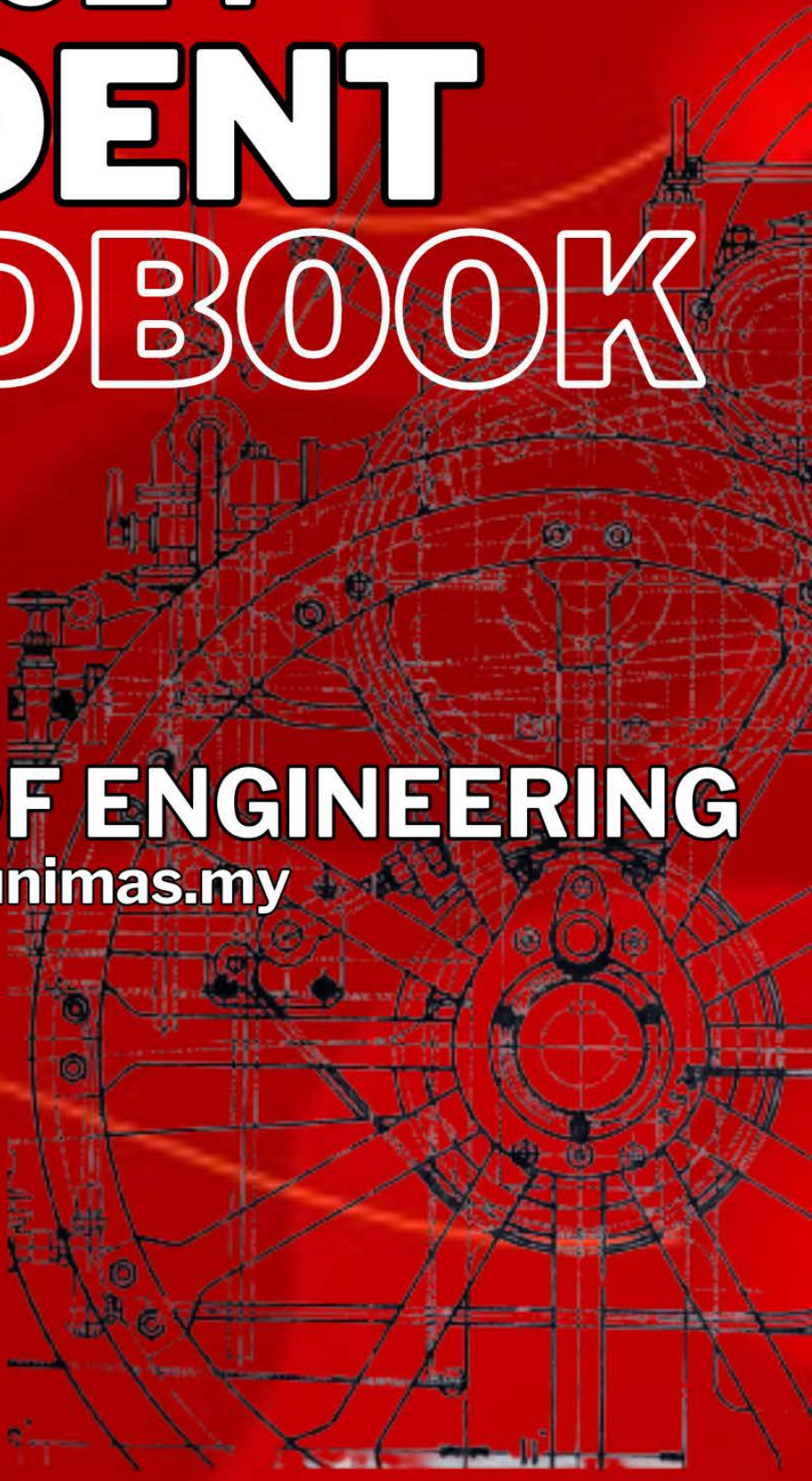
UNIMAS
UNIVERSITI MALAYSIA SARAWAK

2023/2024 STUDENT HANDBOOK



FACULTY OF ENGINEERING

http://www.feng.unimas.my

Community-Driven University For A Sustainable World

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Programme :
Address in Campus :

Permanent Address :

HP No :
Email :

In case of emergency please contact:

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Contact No. :
Relationship with student :

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FOREWORD BY THE DEAN

Engineers today, play an increasingly important role in the future of our nation and the world. The Faculty of Engineering UNIMAS is uniquely positioned to provide innovative and systematic engineering education and produce engineers with strong technical and interpersonal skills through the dedication and commitment of its faculty members having expertise in diverse niche areas. Through innovative curricula, teamwork approach, problem-based learning, soft skills programme and leadership-building experiences, the Faculty of Engineering imparts to its students' vital communication and critical-thinking skills.

I invite you to become better acquainted with the UNIMAS Faculty of Engineering, where you will discover not only engineering merit but also a campus alive with intellectual, cultural and health activities.

ASSOCIATE PROFESSOR Ir DR NORAZZLINA M. SA'DON
DEAN
FACULTY OF ENGINEERING

UNIMAS VISION

A leading global university for a sustainable future.

UNIMAS MISSION

To enhance the social and economic impacts on the global community through the pursuit of excellence in teaching, research and strategic engagement.

UNIMAS CORE VALUES

Exemplary
We continuously strive to become role models to others through outstanding conducts in both professional and personal contexts.

Collegiality
We value unity. We collaborate and cooperate towards achieving collective goals for the betterment of the University.

Integrity
We uphold accountability and fully commit to exceptional work ethic.

Tenacity
We do not give in to hardships. We practice persistence and resilience in managing and solving challenges.

Equity
We embrace differences and work towards a safe environment that values, respects and offers fair opportunities to everyone in our community.

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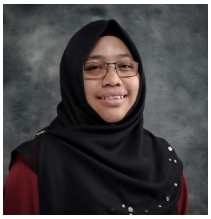

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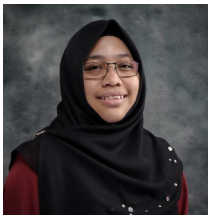

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FACULTY VISION

A leading global engineering faculty for sustainable future.

FACULTY MISSION

To provide quality engineering education through excellence in teaching, research and development by scholarly faculty members and to improve society and economic impacts through innovative knowledge.

FACULTY OBJECTIVES

To ensure all activities are appropriate to the development and advancement of new technologies and the future, relevant to the development of the country and in line with efforts to improve professionalism. All this is done by offering various opportunities in engineering education, training and services through the application of scholarship and knowledge in strategic and innovative ways to improve the quality of the nation's culture and prosperity of its citizens.

FACULTY HISTORY

The Faculty of Engineering is one of ten faculties in UNIMAS and was formed on 30th December 1993. The faculty started off with only two engineering programmes namely Civil Engineering and Electronics and Telecommunications Engineering with the first intake in July 1994. The Mechanical Engineering and Manufacturing Programme was introduced in 1996 and the Electronics and Computer Engineering Programme was introduced in May 2000 in order to fulfill the need and broaden the range of opportunities in the world of engineering. In 2008, as our commitment to support the workforce in the Chemical Engineering industries, the Department of Chemical Engineering and Energy Sustainability was established.

ACADEMIC STRUCTURE

Each programme at UNIMAS has been designed in accordance with the curriculum that is based on individual development as an autonomous citizen but working together in the community.

CORE COURSE

The courses provide knowledge and skills specializing in a particular field required for a programme. Each programme not only focuses on the theory and practice of specialization, but also on technology and management.

GENERAL EDUCATION COURSES (MPU)

General Education Courses (Mata Pelajaran Umum – MPU) are compulsory university courses which are the pre-requisite for the undergraduate award. Courses under the category of MPU are able to produce holistic graduates, appreciate the values of patriotism and Malaysian-born identity and mastering soft skills towards fulfilling job-oriented skills. The course code under this category starts with MPU.

UNIVERSITY ELECTIVE COURSES (KEU)

Courses from other faculties that provide opportunities for students to explore another area of study beside its own specialization, to the extent that is meaningful and satisfying. Minimum requirement is 9 credits.

PPD1041 SOFTSKILLS AND BASIC VOLUNTEERISM

PPD1041 Softskills and Basic Volunteerism is a compulsory course for all UNIMAS students which aims to promote volunteerism and enhance softskills in the students. This course exposes first year undergraduate students to the personal, social and academic skills that are essential to ensure the survival and self-efficacy in ensuring their success throughout their studies. This course places strong emphasis on personal skills, academic writing, information literacy, understanding career profiles and professional conduct in collaborative environment.

PBI ENGLISH COURSES

English courses which aim to improve students' English proficiency in both writing and oral presentation for more effective communication. The English courses are segmented for these MUET results:

MUET **BAND 1 – 2**	PBI1112 Preparatory English I (Compulsory Remedial English for Band 1&2) PBI1122 Preparatory English II (Compulsory Remedial English for Band 1&2) **prerequisite for PBI1102 & PBI1072*
MUET **BAND 1 – 3**	PBI1102 Academic English I PBI1072 English for Professional Communication
MUET **BAND 4 – 6**	PBI1092 Academic English 2 PBI1082 English for Occupational Purposes

BAHASA MELAYU COURSES

Bahasa Melayu courses for communication :-

PBM2072 BM (for Malaysian)
PBM2082 BM Komunikasi Lanjutan (for non-Malaysian)

PRE-REQUISITES & REQUISITES

PRE-REQUISITES are courses which must be PASSED as a condition before registering for a specific course.
REQUISITES = courses which must be TAKEN as a condition before registering for a specific course

Example: KNF1013 Engineering Mathematics I is a pre-requisite for KNF1023 Engineering Mathematics II. (The students must PASS KNF1013 before they are allowed to register for KNF1023)

COURSE REGISTRATION

Registration for all courses must be done on time and within a specific period.
(Refer to Undergraduate Studies Division)

PROGRAMME DURATION

Minimum Semesters = 8 semesters (4 years)
Maximum Semesters = 14 semesters (upon Year of Admission)

CREDIT TRANSFER (WITHOUT GRADE)

Credit Transfer is applicable for equivalent course credits and 80% course contents in the course. The result to be used for the transfer of credit without grade must be obtained within the recent FIVE (5) years. The allowed course content to be equated must be not more than two courses if to be combined, and the total credit without grade must be not less than the course credit value to be equated. The course applied for the transfer of credit must be part of a Certified Accreditation academic programme recognized by MQA.

Minimum grade for transfer is Grade B and must be supported by the Programme Coordinator / Head of Department before subject to approval by the Faculty DEAN.

Transfer of credit without grade will not be allowed in the event of the following cases:

a) All courses in a Foundation/ Matriculation level to a Bachelor's Degree programme.
b) Industrial Training is not eligible for transfer of credit.
c) General Education Subject courses (MPU) at a Diploma level except for the following courses under U1 MPU cluster:
    i) Philosophy and Current Issue/ Falsafah dan Isu Semasa
    ii) Ethical Appreciation and Civilisation/ Penghayatan Etika dan Peradaban

CREDIT TRANSFER (WITH GRADE)

Subjected to approval from Faculty/ Centre, Transfer of Credit with Grade by student, will only be allowed for the following situation:

a) For students currently undertaking programmes in UNIMAS:
    i. Student switching study programme in UNIMAS.
    ii. Student undertaking the mobility programme.

b) For students currently undertaking programmes at other IHL:
    i. Students from other IHL who are continuing their studies in UNIMAS at the same level and programme.
    ii. Students from other IHL who are continuing their studies in UNIMAS at the same level but a different programme.

For Transfer of Credit Application, the following general regulation must be complied:

a) The minimum grade requirement for the requested course for transfer of credit is Grade C;
b) The course content equivalent must not be less than 80%;
c) The allowed course content to be equated must be not more than two courses if to be combined, and the total credit without grade must be not less than the course credit value to be equated;
d) For University Elective Courses, transfer of credit with grade will only be considered if the said course is part of the listed University Elective courses under a different cluster/ programme from the the student's programme; and
e) Students who switch universities, therefore the transfer of credit is subjected to the student residential year regulation, at least after a year of undertaking the programme at UNIMAS.

Grade obtained by the previous course is given to the approved course for transfer of credit. The grade is then used for the calculation of CGPA of the affected student following course of studies.

Transfer of Credit with Grade IS NOT ALLOWED for students who have been dismissed from their studies due to academic failure and henceforth continuing their studies in a same/different programme.

PROGRAMME ACCUMULATED CREDIT

All students must undertake the following remedial courses:

- Credited Co-Curriculum Course (For 2019/2020 intake and below)
- Soft Skills and Basic Entrepreneurship course
- Preparatory English Course 1 and Preparatory English Course 2 for students with MUET Band 2

For students undertaking any uniform body courses by fulfilling the Uniform Body Course Training 1, 2 and 3 with a total of three (3) credit are exempted from taking Soft Skills and Basic Entrepreneurship, and Credited Co-Curriculum Course. Students may opt to continue their Uniform Body training 4, 5 and 6 in order to qualify them for commissioning. However, students who do not fulfil the three (3) credit hours must undertake either one of the following; Soft Skills; Basic Entrepreneurship or Credited Co-Curriculum Course.

Scoring and grade will be awarded to all listed courses mentioned above except for Soft Skills and Basic Entrepreneurship which are graded with a Pass/Fail.

ASSESSMENT SYSTEM

In the event where a student failed to undertake the final examination of a course, the scoring of marks for the overall course will still take into account the carry mark and final examination mark. The Schedule of Grade and Grade Value applicable to all Core Courses for all Faculty of Engineering programmes:-

Grade	Score Range	Grade Point	Core Course Achievement Standards
A	80-100	4.00	**Excellent**
A-	75-79	3.67	
B+	70-74	3.33	**Credit**
B	65-69	3.00	
B-	60-64	2.67	**Good**
C+	55-59	2.33	
C	50-54	2.00	**Pass**
C-	45-49	1.67	**Fail**
D	40-44	1.00	
F	< 40	0.00	

In the event where a student fails repetitively, the grade taken into account will be the best grade.

PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

Programme Educational Objectives are broad statements that describe quality that are supposed to be acquired by the graduates upon graduation and after a few years of employment.

PROGRAMME LEARNING OUTCOMES (PLO)

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 acquired upon completion of the programme.

IMPORTANT: For engineering students, all TWELVE (12) Programme Learning Outcomes must be achieved before graduation in compliance with the requirement from the Engineering Accreditation Council (EAC). Students who do not achieve all complete 12 PLOs will have to sit for supplementary remedial assessments before their completion of studies for graduation purposes.

ACADEMIC ADVISOR

A student (Mentee) is assigned to an Academic Advisor (Mentor) at the beginning of their studies in UNIMAS. The Academic Advisor shall advise the students on various matters as well as the monitor the academic performances of the student.

The Academic Advisor responsibilities also include:

- Set appointments with mentees at least two times per semester
- Monitor academic progress and development of the mentees
- Provide guidance and offer advices to mentees with problems
- Refer mentees to counsellors in case of extended problems
- Assist mentees to make decisions with regards to academic and career planning
- Retain a good relationship with mentee for an effective implementation of ACAD system
- Allow mentees to “Print Examination Slip” in the ACAD system after end of semester meetings

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1.0 PROGRAMME ESTABLISHMENT

Knowledge in Civil Engineering is important in developing highly competent and technically sound engineers in planning, design, construction and operation of building structures, bridges, wharves, dams, power stations, highways, railways, airports, water distribution system, solid waste, wastewater, and flood mitigation and erosion. The main objective of Civil Engineering programme is to meet the nation's aspiration of having educated, trained and specialized engineers capable of integrating various Civil Engineering fields aligned with the current rapid economic and industrial development growth. The programme is also aimed at generating highly competent, responsible, forward looking and professionals in the engineering field.

2.0 PROGRAMME EDUCATIONAL OBJECTIVES

PEO 1	Practice professionalism, ethics and responsibility of Civil engineering profession
PEO 2	Broaden knowledge, skills and abilities through lifelong learning and continuously improve competency, to be abreast with technology advancement
PEO 3	Engage with government and industry, domestically or globally to contribute to engineering community and beyond

3.0 PROGRAMME LEARNING OUTCOMES

Upon completion of this programme, the students are expected to :

PLO 1	Apply knowledge of mathematics, natural science, engineering fundamentals and an engineering specialization to the solution of complex Civil Engineering problems. (WK1-WK4)
PLO 2	Identify, formulate, conduct research literature and analyse complex Civil Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences. (WK1-WK4)
PLO 3	Design solutions for complex Civil 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 (WK5)
PLO 4	Conduct investigation of complex Civil Engineering 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 (WK8)
PLO 5	Create, select and apply appropriate techniques, resources, and modern engineering and IT Tools, including prediction and modelling, to complex Civil Engineering problems, with an understanding of the limitations (WK6)
PLO 6	Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional Civil Engineering practice and solutions to complex Civil Engineering problems (WK7)
PLO 7	Understand and evaluate the sustainability and impact of professional Civil Engineering work in the solutions of complex Civil Engineering problems in societal and environmental contexts (WK7)
PLO 8	Apply ethical principles and commit to professional ethics and responsibilities and norms of Civil Engineering practice (WK7)
PLO 9	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
PLO 10	Function effectively as an individual, and as a member or leader in diverse teams and multi-disciplinary settings

PLO 11	Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change
PLO 12	Demonstrate knowledge and understanding of engineering management principles and economic decision making and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments

4.0 CONCEPT OF PROGRAMME

The programme offers Civil Engineering modules in the following fields:

(i) Geotechnical Engineering

Geotechnical engineers are responsible to identify the earth subsurface structures, in which are the foundations to construction of engineering structures such as buildings, retaining walls, underground pipelines, tunnels and dams. Design of these structures depend largely on the strength and geologic properties of soil layers, as well as other factors related to safety and economy.

(ii) Construction Engineering

Construction engineers oversee an engineering project from planning stage until completion stage of the project. It is their responsibility to ensure the project is conducted as per planned and within the allocated time and budget, and conformed to given specifications. They manage the workloads and work schedules to ensure that the project runs smoothly and financially sound. They have to be responsive to ever changing natures of the construction processes as the project progresses to make sure the resources and workforce and utilized efficiently.

(iii) Structural Engineering

Structural engineers are responsible to design structures such as bridges, buildings and power stations. They utilize materials like steel, timber and concrete and work with architects in ensuring the beautiful structures inspired by architects are securely built for occupation.

(iv) Water Resources Engineering

Water resources engineers analyze the availability and reliability of water sources and design reservoirs, distribution system, dams, water engineering structures, pump stations and other projects related to river and coastal engineering.

(v) Transportation Engineering

Transportation engineering is the application of technology and scientific principles to the planning, functional design, operation and management of facilities for any mode of transportation in order to provide safe, efficient, rapid, comfortable, convenient, economical and environmentally compatible for the movement of people and goods.

CURRICULUM STRUCTURE

YEAR 1 SEMESTER 1

CORE	KNF1013 Engineering Mathematics 1		3 credits
	KNS1022 Engineering Drawing		2 credits
	KNS1042 Civil Engineering Materials		2 credits
	KNS1451 Civil Engineering Laboratory 1		1 credit
	KNS1472 Cvil Engineering Management		2 credits
	KNS1633 Engineering Mechanics		3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	PBI1102 Academic English 1 (MUET 1-3 or IELTS 5.5) PBI1072 English for Academic Purposes (MUET 4-6 or IELTS 6) PBI1112 Preparatory English 1*		2 credits
	MPU3192 Appreciation of Ethics and Civilization MPU3142 Malay Language for Communication 2 (non-Malaysian)		2 credits
	PPD1041 Softskills and Basic Volunteerism		1 credit

YEAR 1 SEMESTER 2

CORE	KNF1023 Engineering Mathematics 2	Pre-requisite: KNF1013	3 credits
	KNS1063 Strength of Materials	Requisite: KNS1633	3 credits
	KNS1073 Engineering Survey		3 credits
	KNS1102 Engineering Geology		2 credits
	KNS1461 Civil Engineering Laboratory 2		1 credit
	KNS1482 Engineering Programming		2 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	PBI1072 English for Professional Communication (MUET 1-3 or IELTS 5.5) PBI1082 English for Occupational Purposes (MUET 4-6 or IELTS 6) PBI1122 Preparatory English 2*		2 credits
	MPU3432 / MPU3442 / MPU3452 / MPU3462 / MPU3472 / MPU3482 / MPU3492 / MPU34102 – Co-curricular		2 credits
	MPU3332 National Heritage / MPU3352 Government and Administration in Malaysia / MPU3362 Introduction to Organization Behaviour in Malaysia / MPU3372 Integrity and Anti-Corruption MPU3342 Culture and Ethnicity in Malaysia (non-Malaysian)		2 credits

YEAR 2 SEMESTER 1

CORE	KNF2033 Engineering Mathematics 3	Pre-requisite: KNF1023	3 credits
	KNS2093 Theory of Structure	Requisite: KNS1063	3 credits
	KNS2113 Fluid Mechanics		3 credits
	KNS2123 Soil Mechanics		3 credits
	KNS2591 Civil Engineering Laboratory 3		1 credit
MPU, GENERIC, REMEDIAL, ELECTIVE	PBM2072 Bahasa Melayu PBM2082 Bahasa Melayu Komunikasi Lanjutan (non-Malaysian)		2 credits
	MPU3222 Foundation of Entrepreneurship Inculturation		2 credits
	PBI1102 Academic English 1(MUET 1-3 or IELTS 5.5) *		2 credits*

YEAR 2 SEMESTER 2

CORE	KNS2133 Structural Analysis	Pre-requisite: KNS2093	3 credits
	KNS2153 Hydraulics	Pre-requisite: KNS2113	3 credits
	KNS2163 Geotechnical Engineering	Pre-requisite: KNS2123	3 credits
	KNS2601 Civil Engineering Laboratory 4		1 credit
	KNS2723 Numerical Methods and Statistics	Pre-requisite: KNF2033	3 credit
MPU, GENERIC, REMEDIAL, ELECTIVE	KEU 01 – University Elective Course 1		3 credits
	MPU3182 Philosophy and Current Issues		2 credits
	PBI1072 English for Professional Communication (MUET 1-3 or IELTS 5.5)		2 credits*

YEAR 3 SEMESTER 1

CORE	KNS3143 Engineering Hydrology	Requisite: KNS2153	3 credits
	KNS3243 Foundation Engineering	Requisite: KNS2163	3 credits
	KNS3493 Highway Engineering		3 credits
	KNS3611 Civil Engineering Laboratory 5		1 credit
	KNS3742 Reinforced Concrete Design 1	Pre-requisite: KNS2133	2 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	KEU 02 – University Elective Course 2		3 credits

YEAR 3 SEMESTER 2

CORE	KNS3233 Water and Wastewater Engineering		3 credits
	KNS3333 Construction Technology	Requisite: KNS1472	3 credits
	KNS3433 Traffic Engineering		3 credits
	KNS3621 Civil Engineering Laboratory 6		1 credit
	KNS3753 Reinforced Concrete Design 2	Pre-requisite: KNS3742	3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	KEU 03 – University Elective Course 3		3 credits

YEAR 3 INTERSESSION

CORE	KNF3065 Industrial Training		5 credits

YEAR 4 SEMESTER 1

CORE	KNS4193 Water Resources Engineering	Requisite: KNS3143	3 credits
	KNS4222 Final Year Project 1		2 credits
	KNS4442 Integrated Design Project 1	Requisite: KNS3243&KNS3753	2 credits
	KNS4713 Project Management		3 credits
	KNS4793 Structural Steel Design	Requisite: KNS2133	3 credits
	KNS4xx3 Elective 1		3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE			

YEAR 4 SEMESTER 2

CORE	KNS4254 Final Year Project 2	Pre-requisite: KNS4222	4 credits
	KNS4343 Engineering Economy		3 credits
	KNS4673 Integrated Design Project 2	Pre-requisite: KNS4442	3 credits
	KNS4732 Ethics in Civil Engineering		2 credits
	KNS4xx3 Elective 2		3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE			

TOTAL CREDITS FOR GRADUATION = 140 (144*)

PROGRAMME ELECTIVE COURSES
KNS4313 Bridge Engineering
KNS4393 Hydraulics Structures
KNS4403 River and Coastal Engineering
KNS4423 Timber Engineering
KNS4503 Housing Technology
KNS4523 Energy Management
KNS4533 Concrete Technology
KNS4543 Geo-Environmental Engineering
KNS4553 Soil Dynamics
KNS4573 Urban Transportation System and Planning
KNS4583 Pre-stressed Concrete Design
KNS4683 Environmental Impact Assessment and Waste Management
KNS4763 Pavement Design, Construction and Maintenance
KNS4773 Introduction to Earthquake Engineering
KNS4783 Engineering Contract Management
KNS4803 Water for a Sustainable Future

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1.0 PROGRAMME ESTABLISHMENT

Electrical and Electronics Engineering is an important professional field in Malaysia where it has been identified as the catalytic activities of public or private sector needs in electrical and electronics industries that can contribute to the national economy. With this programme, it is hoped that it can accommodate the shortage of professionals in this field.

2.0 PROGRAMME EDUCATIONAL OBJECTIVES

PEO 1	Apply Electrical and Electronics Engineering knowledge at their respective career in globally competitive environment.
PEO 2	Uphold the importance of professionalism and ethics in engineering profession to contribute to the society.
PEO 3	Practice leadership and management skills in workplace and/or society

3.0 PROGRAMME LEARNING OUTCOMES

Upon completion of this programme, the students are expected to :

PLO 1	Apply knowledge of mathematics, natural science, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to solve complex Electrical and Electronics engineering problems.
PLO 2	Identify, formulate, conduct research literature and analyse complex Electrical and Electronics engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences (WK1 to WK4).
PLO 3	Design solutions for complex Electrical and Electronics engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural societal, and environment considerations (WK5).
PLO 4	Conduct investigation into complex Electrical and Electronics engineering problems using research- based knowledge (WK8) and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.
PLO 5	Create, select and apply appropriate techniques, resources and modern engineering and IT tools, including prediction and modelling, to complex Electrical and Electronics engineering problems, with an understanding of the limitations (WK6).
PLO 6	Apply reasoning informed by contextual knowledge to assess societal, health, safety and cultural issues and the consequent responsibilities relevant to professional Electrical and Electronics engineering practice and solutions to complex Electrical and Electronics engineering problems (WK7).
PLO 7	Understand and evaluate the sustainability and impact of professional Electronics Engineering works in the solutions of complex Electrical and Electronics engineering problems in societal and environmental contexts (WK7).
PLO 8	Apply ethical principles and commit to professional ethics and responsibilities and norms of Electrical and Electronics Engineering practice (WK7).
PLO 9	Communicate effectively on Electrical and Electronics 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.
PLO 10	Function effectively as an individual, and as a member or leader in diverse teams and multi-disciplinary settings.
PLO 11	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
PLO 12	Demonstrate knowledge and understanding of engineering and management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

4.0 CONCEPT OF PROGRAMME

Sarawak State Government has announced a new economic corridor, Sarawak Corridor of Renewable Energy (SCORE) which is based along the coast from Tanjung Manis to Samalaju. UNIMAS as a center of research and development of human resource in the country, has been called to intensify the human capital development especially in the field of electrical and electronics engineering to accommodate skilled workers and professionals. Electrical and Electronics Engineering programme is offered in order to produce graduates that meet the needs of manpower in power generation sector, power distribution and transmission sector, and other sectors in the field of Electrical and Electronic Engineering.

CURRICULUM STRUCTURE

YEAR 1 SEMESTER 1

CORE	KNR1723 Circuit Theory 1		3 credits
	KNR1073 Electrical Instrumentation		3 credits
	KNR1743 Object Oriented Programming		3 credits
	KNF1013 Engineering Mathematics 1		3 credits
	KNR1042 Measurement and Instrumentation		2 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	PBI1102 Academic English 1 (MUET 1-3 or IELTS 5.5) PBI1072 English for Academic Purposes (MUET 4-6 or IELTS 6) PBI1112 Preparatory English 1*		2 credits
	PBM2072 Bahasa Melayu PBM2082 Bahasa Melayu Komunikasi Lanjutan (non-Malaysian)		2 credits
	PPD1041 Softskills and Basic Volunteerism		1 credit

YEAR 1 SEMESTER 2

CORE	KNR1733 Circuit Theory 2		3 credits
	KNR1063 Digital Electronics		3 credits
	KNR1053 Analog Electronics		3 credits
	KNF1023 Engineering Mathematics 2	Pre-requisite: KNF1013	3 credits
	KNR1082 Engineering Design Foundation		2 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	PBI1072 English for Professional Communication (MUET 1-3 or IELTS 5.5) PBI1082 English for Occupational Purposes (MUET 4-6 or IELTS 6) PBI1122 Preparatory English 2*		2 credits
	MPU3432 / MPU3442 / MPU3452 / MPU3462 / MPU3472 / MPU3482 / MPU3492 / MPU34102 – Co-curricular		2 credits

YEAR 2 SEMESTER 1

CORE	KNR2113 Signals & Systems		3 credits
	KNR2463 Safety and Health in Engineering		3 credits
	KNR2443 Electrical Engineering Technology		3 credits
	KNF2033 Engineering Mathematics 3	Pre-requisite: KNF1023	3 credits
	KNR2452 Analog and Digital Electronic Application		2 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	MPU3192 Appreciation of Ethics and Civilization MPU3142 Malay Language for Communication 2 (non-Malaysian)		2 credits
	MPU3222 Foundation of Entrepreneurship Inculturation		2 credits

YEAR 2 SEMESTER 2

CORE	KNR2103 Telecommunication Engineering Principles		3 credits
	KNR2153 Electrical Machines		3 credits
	KNR2433 Electromagnetic Theory		3 credits
	KNR2473 Numerical Methods and Statistics	Pre-requisite: KNF2033	3 credits
	KNR2753 Computer Systems Architecture		3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	MPU3182 Philosophy and Current Issues		2 credits
	MPU3332 National Heritage / MPU3352 Government and Administration in Malaysia / MPU3362 Introduction to Organization Behaviour in Malaysia / MPU3372 Integrity and Anti-Corruption MPU3342 Culture and Ethnicity in Malaysia (non-Malaysian)		2 credits

YEAR 3 SEMESTER 1

CORE	KNR3183 Control System Engineering		3 credits
	KNR3193 Microprocessor		3 credits
	KNR3233 Electrical Power System		3 credits
	KNR3492 Electrical Laboratory 1		2 credits
	KNF3102 Engineering Ethics		2 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	KEU 01 – University Elective Course 1		3 credits
	PBI1102 Academic English I *		2 credits *

YEAR 3 SEMESTER 2

CORE	KNR3243 Power Electronics		3 credits
	KNR3483 Power Quality and Reliability		3 credits
	KNR3522 Electrical Laboratory 2		2 credits
	KNR3762 Integrated Design Project 1		2 credits
	KNR3xx3 Elective 1		3 credits
	KNR3xx3 Elective 2		3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	PBI1082 English for Occupational Purposes *		2 credits *

YEAR 3 SEMESTER INTERSESSION

CORE	KNF3065 Industrial Training		5 credits

YEAR 4 SEMESTER 1

CORE	KNR4553 Engineering Management		3 credits
	KNR4272 Final Year Project 1	Pre-requisite: KNR4272	2 credits
	KNR4543 Integrated Design Project 2	Pre-requisite: KNR3762	3 credits
	KNR4xx3 Elective		3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	KEU 02 – University Elective Course 2		3 credits

YEAR 4 SEMESTER 2

CORE	KNR4593 High Voltage Technology		3 credits
	KNR4344 Final Year Project 2		4 credits
	KNR4xx3 Elective		3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	KEU 03 – University Elective Course 3		3 credits

TOTAL CREDITS FOR GRADUATION = 138 (142*)

PROGRAMME ELECTIVE COURSES

3rd YEAR

(ELECTRICAL OPTIONS)

KNR3503 Power System Protection
KNR3513 Power System Analysis

(ELECTRONIC OPTIONS)

KNR3693 Digital Signal Processing
KNR3703 Microelectronics

4th YEAR

(POWER)

KNR4303 Renewable Energy Technology
KNR4373 Energy Economics and Planning
KNR4603 High Power Transmission and Distribution

(TELECOMMUNICATION)

KNR4653 Optical Fiber Communication
KNR4663 Wireless Telecommunication System
KNR4673 Microwave and Antenna Technology
KNR4683 Data and Computer Networking

(COMPUTER)

KNR4613 VLSI Design
KNR4623 Embedded System Design
KNR4633 Machine Learning
KNR4643 Image Processing

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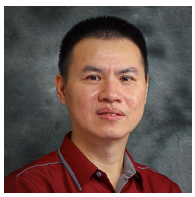

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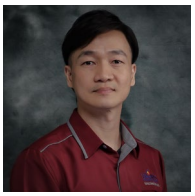

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1.0 PROGRAMME ESTABLISHMENT

Work force in the field of Mechanical and Manufacturing Engineering is extremely required. This is in accordance with its position as one of the oldest, biggest and widest field of studies in developed countries. This field of engineering covers a wide scope of specialization, including energy and petroleum, materials research, systems designs, fluid mechanics research and manufacturing. These research areas are important for the development of industries and technologies. Malaysia as a developing nation requires graduates in the field of Mechanical and Manufacturing Engineering to ensure continuous development to achieve a strong economic and industrial growth in the future.

This programme aims to produce graduates who are capable of facing challenges and changes in science and technology, with critical thinking and higher problem solving skills. This programme also aims to equip graduates with attributes that include professionalism, ethics and moral values; in addition to the graduates capable of applying engineering knowledge. Finally, this programme aims to produce graduates with leadership skills, proactive and sensitive to society's needs and forward looking in order to support nation's growth through research and development.

2.0 PROGRAMME EDUCATIONAL OBJECTIVES

PEO 1	Uphold the professionalism and ethics of the Mechanical and Manufacturing Engineering profession in national and/or international area
PEO 2	Enhance knowledge by practicing independence and lifelong learning in order to contribute to the advancement of the profession through involvement in research and development activities
PEO 3	Promote multicultural harmony and unity amongst different races and cultures through involvement in the technical and/or non-technical societies

3.0 PROGRAMME LEARNING OUTCOMES

Upon completion of this programme, the students are expected to :

PLO 1	Apply knowledge of mathematics, natural science, engineering fundamentals and an engineering specialisation to the solution of complex Mechanical and Manufacturing Engineering problems (WK1-WK4)
PLO 2	Identify, formulate and analyse complex Mechanical and Manufacturing Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences (WK1-WK4)
PLO 3	Design solutions for complex Mechanical and Manufacturing 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 (WK5)
PLO 4	Conduct investigation of complex Mechanical and Manufacturing Engineering 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 (WK8)
PLO 5	Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex Mechanical and Manufacturing Engineering problems, with an understanding of the limitations (WK6)
PLO 6	Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional Mechanical and Manufacturing Engineering practice and solutions to complex Mechanical and Manufacturing Engineering problems (WK7)
PLO 7	Understand and evaluate the sustainability and impact of professional Mechanical and Manufacturing Engineering work in the solutions of complex Mechanical and Manufacturing Engineering problems in societal and environmental contexts.

PLO 8	Apply ethical principles and commit to professional ethics and responsibilities and norms of Mechanical and Manufacturing Engineering practice.
PLO 9	Communicate effectively on complex Mechanical and Manufacturing 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.
PLO 10	Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
PLO 11	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change
PLO 12	Demonstrate knowledge and understanding of engineering management principles and economic decision making and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environment.

4.0 CONCEPT OF PROGRAMME

The department offers programme in Mechanical Engineering including elements of Manufacturing Engineering which equips engineers in the following fields:

(i) Mechanical Engineering

Careers as Mechanical Engineer are diverse which includes conducting research, giving advice and designing machineries, plants and industrial equipment. They are also responsible for the development of industrial systems, ensuring that the systems function, as well as maintaining the systems. Mechanical Engineers also conduct research and give consultations on materials' technology and processes, as well as certain maintenance procedures. Mechanical engineers could practice in sectors that include technology, manufacturing and process, mechanical system design, metal fabrication, rubber and plastic, automotive, electrical and electronic and oil and gas.

(ii) Manufacturing Engineering

Careers as Manufacturing Engineer are also diverse and highly demanded by the manufacturing industry. Manufacturing Engineers have a high level of technical expertise and skills, which they utilize to plan, design, setup, modify, optimize and monitor manufacturing processes. Amongst others, a Manufacturing Engineer could work in quality planning and control section, industrial safety, maintenance or design new systems and processes in local or international companies.

CURRICULUM STRUCTURE

YEAR 1 SEMESTER 1

CORE	KNJ1013 Statics		3 credits
	KNJ1072 Engineering Drawing		2 credits
	KNJ1033 Thermodynamics 1		3 credits
	KNP1091 Workshop Practice		1 credit
	KNJ1433 Engineering Materials		3 credits
	KNF1013 Engineering Mathematics 1		3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	PBI1102 Academic English 1 (MUET 1-3 or IELTS 5.5) PBI1092 Academic English 2 (MUET 4-6 or IELTS 6) PBI1112 Preparatory English 1*		2 credits
	MPU3192 Appreciation of Ethics and Civilization MPU3142 Malay Language for Communication 2 (non-Malaysian)		2 credits
	PPD1041 Soft skills and Basic Volunteerism		1 credit

YEAR 1 SEMESTER 2

CORE	KNJ1023 Dynamics	Pre-requisite: KNJ1013	3 credits
	KNJ1083 Solid Mechanics 1	Pre-requisite: KNJ1013	3 credits
	KNJ1231 Engineering Laboratory 1		1 credit
	KNJ1053 Fluid Mechanics 1		3 credits
	KNF1023 Engineering Mathematics 2	Pre-requisite: KNF1013	3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	PBI1072 English for Professional Communication (MUET 1-3 or IELTS 5.5) PBI1082 English for Occupational Purposes (MUET 4-6 or IELTS 6) PBI1122 Preparatory English 2*		2 credits
	MPU3182 Philosophy and Current Issues		2 credits
	PBM2072 Bahasa Melayu PBM2082 Bahasa Melayu Komunikasi Lanjutan (non-Malaysian)		2 credits

YEAR 2 SEMESTER 1

CORE	KNJ2133 Solid Mechanics 2	**Requisite: KNJ1083	3 credits
	KNJ2093 Thermodynamics 2	Requisite: KNJ1033	3 credits
	KNJ2472 Electrical Engineering Technology		2 credits
	KNJ2511 Engineering Laboratory 2	Requisite: KNJ1023 & KNJ1083	1 credit
	KNF2033 Engineering Mathematics 3	Pre-requisite: KNF1023	3 credits
	KNJ2222 Analysis of Mechanics and Machines	Requisite: KNJ1023	2 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	MPU3222 Foundation of Entrepreneurship Inculturation		2 credits
	KEU 01 – University Elective Course 1		3 credits

YEAR 2 SEMESTER 2

CORE	KNP2013 Manufacturing Technology		3 credits
	KNJ2103 Fluid Mechanics 2	Requisite: KNJ1053	3 credits
	KNJ2251 Engineering Laboratory 3	Requisite: KNJ2093	1 credit
	KNJ2523 Heat Transfer	Requisite: KNJ2093	3 credits
	KNJ2463 Electronics and Microprocessors		3 credits
	KNJ2332 Engineering Programming		2 credits
MPU, GENERIC, REMEDIAL, ELECTIVE			
	MPU3432 / MPU3442 / MPU3452 / MPU3462 / MPU3472 / MPU3482 / MPU3492 / MPU34102 – Co-curricular		2 credits
	MPU3332 National Heritage / MPU3352 Government and Administration in Malaysia / MPU3362 Introduction to Organization Behaviour in Malaysia / MPU3372 Integrity and Anti-Corruption MPU3342 Culture and Ethnicity in Malaysia (non-Malaysian)		2 credits

YEAR 3 SEMESTER 1

CORE	KNP3053 Manufacturing System	Requisite: KNP2013	3 credits
	KNF3102 Engineering Ethics		2 credits
	KNJ3423 Engineering Economy & Finance		3 credits
	KNP3483 Engineering Design 1	Requisite: KNJ2133 & KNJ1072	3 credits
	KNJ3543 Instrumentation and Measurement		3 credits
	KNJ3531 Engineering Laboratory 4	Requisite: KNJ2103	1 credit
MPU, GENERIC, REMEDIAL, ELECTIVE	KEU 02 – University Elective Course 2		3 credits
	PBI1102 Academic English I *		2 credits *

YEAR 3 SEMESTER 2

CORE	KNJ3373 Finite Element Analysis (FEA)		3 credits
	KNP3063 Robotics and Automation		3 credits
	KNJ3553 Mechanical Vibration	Requisite: KNJ3543	3 credits
	KNP3493 Engineering Design 2	Pre-requisite: KNP3483	3 credits
	KNJ3562 Numerical Methods	Requisite: KNF2033 & KNJ2332	2 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	KEU 03 – University Elective Course 3		3 credits
	PBI1072 English for Professional Communication *		2 credits *

YEAR 3 SEMESTER INTERSESSION

CORE	KNF3065 Industrial Training		5 credits

YEAR 4 SEMESTER 1

CORE	KNJ4192 Final Year Project 1		2 credits
	KNP4414 Integrated Design	Requisite: KNP3493	4 credits
	KNP4073 Advanced Manufacturing Systems	Requisite: KNP3053	3 credits
	KNJ4573 Control Engineering	Requisite: KNJ3543	3 credits
	KNJ4xx2 Elective A		2credits
MPU, GENERIC, REMEDIAL, ELECTIVE			

CORE	KNJ4214 Final Year Project 2	Pre-requisite: KNJ4192	4 credits
	KNP4083 Quality Control & Reliability		3 credits
	KNP4443 Engineering Management		3 credits
	KNJ4xx2 Elective B		2 credits
MPU, GENERIC, REMEDIAL, ELECTIVE			

TOTAL CREDITS FOR GRADUATION = 143 (147*)

PROGRAMME ELECTIVE COURSES		
KNJ4302	Computational Fluid Dynamics	Requisite: KNJ1033 & KNJ2103
KNP4042	Energy Resources and Management	Requisite: KNJ1033 & KNP2013
KNJ4392	Polymer and Composite	Requisite: KNJ1433
KNJ4582	Engineering Statistics	
KNP4592	Manufacturing Modeling and Simulation	
KNJ4312	Tribology	
KNJ4322	Internal Combustion Engine	Requisite: KNJ2093
KNP4342	Operations Research	Requisite: KNJ3423
KNP4602	Manufacturing Systems Analysis	Requisite: KNP3053
KNP4612	Remanufacturing Operations and Management	

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1.0 PROGRAMME ESTABLISHMENT

This programme offers chemical engineering courses which are focusing more on the specialization in energy engineering application and natural resources which are abundance in our country. Natural resources such as oil, gas, fossil, agricultural products biochemistry as well as renewable energy have the potential to be utilized and developed for the benefit of the country. In order to solve the problems in energy management and pollution which is related to these natural resources processes namely air, water and environmental pollution, require the latest knowledge in engineering. In line with country rapid development, more chemical engineers are needed to cater for the inadequacy of this profession.

2.0 PROGRAMME EDUCATIONAL OBJECTIVES

The goal of this programme is to produce future engineer who is skillful, efficient and high caliber based on the department programme objectives as follows:

PEO 1	Graduates are able to apply engineering knowledge at their respective career.
PEO 2	Graduates are able to pursue their career in national and multinational organisations.
PEO 3	Graduates are competent to explore, utilise and diversify natural resources sustainably.
PEO 4	Graduates utilise engineering tools and skills necessary to perform job as professional in their workplace.

3.0 PROGRAMME LEARNING OUTCOMES

Upon completion of this programme, the students are expected to :

PLO 1	Apply knowledge of mathematics, natural science, engineering fundamentals and an engineering specialization to the solution of complex Chemical Engineering problems (WK1-WK4)
PLO 2	Identify, formulate, conduct research literature and analyse complex Chemical Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences (WK1-WK4)
PLO 3	Design solutions for complex Chemical 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 (WK5)
PLO 4	Conduct investigation of complex Chemical Engineering 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 (WK8)
PLO 5	Create, select and apply appropriate techniques, resources and modern engineering and IT tools, including prediction and modelling, to complex Chemical Engineering problems, with an understanding of the limitations (WK6)
PLO 6	Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems (WK7)
PLO 7	Understand and evaluate the sustainability and impact of professional engineering work in the solutions of complex engineering problems in societal and environmental contexts
PLO 8	Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice

PLO 9	Communicate effectively on complex 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
PLO 10	Function effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary settings
PLO 11	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change
PLO 12	Demonstrate knowledge and understanding of engineering management principles and economic decision making and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments and to cultivate entrepreneurship skills

4.0 CONCEPT OF PROGRAMME

This programme offers specialization in chemical engineering field. Chemical Engineering is an important professional field which has been acknowledged as the catalyst to the public and private sector activities or to the needs of the chemical industry sectors which contributes to the economy of the country.

CURRICULUM STRUCTURE

YEAR 1 SEMESTER 1

CORE	KNC1013 Fluid Mechanics		3 credits
	KNC1023 Engineering Physical Chemistry		3 credits
	KNC1032 Engineering Drawing		2 credits
	KNC1041 Workshop Practice		1 credit
	KNC1472 Introduction to Chemical Engineering		2 credits
	KNC1482 Engineering Mathematics 1		2 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	PBI1102 Academic English 1 (MUET 1-3 or IELTS 5.5) PBI1072 English for Academic Purposes (MUET 4-6 or IELTS 6) PBI1112 Preparatory English 1*		2 credits
	MPU3192 Appreciation of Ethics and Civilization MPU3142 Malay Language for Communication 2 (non-Malaysian)		2 credits
	PPD1041 Softskills and Basic Volunteerism		1 credit

YEAR 1 SEMESTER 2

CORE	KNC1052 Engineering Programming		2 credits
	KNC1063 Engineering Organic Chemistry		3 credits
	KNC1073 Thermodynamics 1		3 credits
	KNC1101 Chemical Engineering Laboratory 1		1 credit
	KNC1492 Engineering Mathematics 2	Pre-requisite: KNC1482	2 credits
	KNC1503 Mass Balance		3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	PBI1072 English for Professional Communication (MUET 1-3 or IELTS 5.5) PBI1082 English for Occupational Purposes (MUET 4-6 or IELTS 6) PBI1122 Preparatory English 2*		2 credits
	MPU3432 / MPU3442 / MPU3452 / MPU3462 / MPU3472 / MPU3482 / MPU3492 / MPU34102 – Co-curricular		2 credits
	PBM2072 Bahasa Melayu PBM2082 Bahasa Melayu Komunikasi Lanjutan (non-Malaysian)		2 credits

YEAR 2 SEMESTER 1

CORE	KNC2113 Thermodynamic 2	Requisite : KNC1073	3 credits
	KNC2123 Heat and Mass Transfer		3 credits
	KNC2133 Analytical Chemistry		3 credits
	KNC2141 Chemical Engineering Laboratory 2		1 credit
	KNC2513 Energy Balance	Requisite : KNC1503	3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	KEU 01 – University Elective Course 1		3 credits
	MPU3222 Foundation of Entrepreneurship Inculturation		2 credits
	PBI1102 Academic English 1 (MUET 1-3 or IELTS 5.5) *		2 credits *

YEAR 2 SEMESTER 2

CORE	KNC2093 Material and Polymer Engineering		3 credits
	KNC2153 Transport Process		3 credits
	KNC2443 Numerical Methods and Statistics	Pre-requisite : KNC1492	3 credits
	KNC2462 Process Instrumentation		2 credits
	KNC2523 Unit Operations 1		3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	MPU3182 Philosophy and Current Issues		2 credits
	MPU3332 National Heritage / MPU3352 Government and Administration in Malaysia / MPU3362 Introduction to Organization Behaviour in Malaysia / MPU3372 Integrity and Anti-Corruption MPU3342 Culture and Ethnicity in Malaysia (non-Malaysian)		2 credits
	072 English for Professional Communication (MUET 1-3 or IELTS 5.5)		2 credits *

YEAR 3 SEMESTER 1

CORE	KNC3181 Chemical Engineering Laboratory 3		1 credit
	KNC3203 Chemical Reaction Process		3 credits
	KNC3213 Process Control System	Requisite : KNC2462	3 credits
	KNC3453 Engineering Management		3 credits
	KNC3533 Unit Operations 2		3 credits
	KNF3102 Engineering Ethics		2 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	KEU 02 – University Elective Course 2		3 credits

YEAR 3 SEMESTER 2

CORE	KNC3221 Chemical Engineering Laboratory 4		1 credit
	KNC3262 Engineering Economics		2 credits
	KNC3413 Process Integration and Optimisation		3 credits
	KNC3543 Occupational Safety and Health		3 credits
	KNC3553 Integrated Design Project 1		3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE	KEU 03 – University Elective Course 3		3 credits

YEAR 3 SEMESTER INTERSESSION

CORE	KNF3065 Industrial Training		5 credits

YEAR 4 SEMESTER 1

CORE	KNC4233 Environmental Engineering		3 credits
	KNC4283 Energy Resources and Applications		3 credits
	KNC4312 Energy and Environmental Management		2 credits
	KNC4322 Final Year Project 1		2 credits
	KNC4564 Integrated Design Project 2	Pre-requisite : KNC3553	4 credits
MPU, GENERIC, REMEDIAL, ELECTIVE			

YEAR 4 SEMESTER 2

CORE	KNC4293 Quality Control & Reliability		3 credits
	KNC4344 Final Year Project 2	Pre-requisite : KNC4322	4 credits
	KNC4xx3 Elective 1		3 credits
	KNC4xx3 Elective 2		3 credits
MPU, GENERIC, REMEDIAL, ELECTIVE			

TOTAL CREDITS FOR GRADUATION = 139 (143*)

PROGRAMME ELECTIVE COURSES
KNC4333 Polymer for Engineering Application
KNC4353 Biodiesel and Fuel Cell for Transportation
KNC4383 Natural Gas Engineering
KNC4393 Sustainability in Energy Industry
KNC4423 Multiphase Systems
KNC4363 Bio-Energy
KNC4373 Water and Wastewater Treatment Engineering
KNC4403 Processing Technology in Industry
KNC4433 Fundamental Rheology

MATA PELAJARAN PENGAJIAN UMUM (MPU) COURSES

MPU-U1	MPU3192 Appreciation of Ethics and Civilizations (for Malaysian) MPU3142 Malay Language for Communication 2 (for non-Malaysian)
	MPU3182 Philosophy and Current Issues
MPU-U2	MPU3222 Foundation of Entrepreneurship Inculturation
MPU-U3	MPU3332 National Heritage (for Malaysian) / MPU3352 Government and Administration in Malaysia / MPU3362 Introduction to Organization Behaviour in Malaysia / **MPU3372 Integrity and Anti-Corruption** MPU3342 Culture and Ethnicity in Malaysia (for non-Malaysian)
MPU-U4	MPU3432 Credited Co-curricular (Initiative and Innovation)
	MPU3442 Credited Co-curricular (Culture)
	MPU3452 Credited Co-curricular (Leadership)
	MPU3462 Credited Co-curricular (Volunteerism)
	MPU3472 Credited Co-curricular (Entrepreneurship)
	MPU3482 Credited Co-curricular (Community Service)
	MPU3492 Credited Co-curricular (Sports)
	MPU34102 Credited Co-curricular (Public Speaking)
	Uniformed Bodies

UNIVERSITY ELECTIVE COURSES

FACULTY	COURSE CODE & NAME	SEMESTER OFFERED
FACULTY OF SOCIAL SCIENCES & HUMANITIES	SSU1013 Basics of Social Science	SEM 1 & 2
	SSU1023 Basics of Anthropology and Sociology	SEM 1 & 2
	SSU1033 Introduction to Psychology	SEM 1 & 2
	SSU1053 Introduction to Social Interaction	SEM 1 & 2
FACULTY OF APPLIED AND CREATIVE ARTS	GKU1013 Modern Malay Drama and Theatre of Malaysia	SEM 1
	GKU1033 Digital Photography and Social Media Imaging	SEM 1
	GKU1043 History of Malaysian Cinema	SEM 1
	GKU1053 History of Drama and Theater	SEM 2
	GKU1063 Introduction to Basic Music	SEM 2
	GKU1083 Introduction to Stage Directing	SEM 2
	GKU1093 Basic Figure Drawing	SEM 1
FACULTY OF BUILT ENVIRONMENT	BEU1013 Building Anatomy and Basic Estimating	SEM 1
	BEU1023 Creative Sketches	SEM 1
	BEU1033 Fundamentals of the Built Environment	SEM 2
FACULTY OF ENGINEERING	KNU1013 Introduction to Green Technology	SEM 1
	KNU 1033 Energy, Environment and Society	SEM 1
	KNU1073 Introduction to Solar Photovoltaic System	SEM 1
	KNU 1053 Safety Management in Workplace	SEM 2
	KNU1023 Engineers in Society	SEM 2
	KNU1103 Introduction to Hydro Power System	SEM 2
	KNU1093 Water Resources in Community Development	SEM 1 & 2

FACULTY	COURSE CODE & NAME	SEMESTER OFFERED
FACULTY OF RESOURCE SCIENCE AND TECHNOLOGY	STU1033 Aquatic Science and Daily Life	SEM 1 & 2
	STU1013 Introduction to Biotechnology	SEM 1 & 2
	STU1043 Introduction to Plant Physiology	SEM 1 & 2
	STU2063 Ecotourism Industry in Malaysia	SEM 1 & 2
	STU2073 Natural Resource Managements	SEM 1 & 2
FACULTY OF MEDICINE AND HEALTH SCIENCES	MDU 1123 Introduction to Learning Disabilities	SEM 1
	MDU 1033 Healthy Lifestyle	SEM 1
	MDU 1073 Introduction to Biomedical Physiology	SEM 1
	MDU 1043 Introduction to Medical Entomology	SEM 2
	MDU 1013 Basic First Aid	SEM 2
	MDU 1023 Introduction to Medical Genetics	SEM 2
	MDU 1083 Introduction to Health and Behaviour	SEM 1 & 2
FACULTY OF COGNITIVE SCIENCES AND HUMAN DEVELOPMENT	KMU1063 Introduction to Mental Health	SEM 1
	KMU1053 Theories and Concepts: Human Computer Interaction	SEM 1
	KMU1023 Introduction to Human Resource Development	SEM 2
	KMU1013 Helping Relationship	SEM 1 & 2
FACULTY OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY	TMU1013 Introduction to Computer Technologies	SEM 1 & 2
	TMU1023 Ethics in Information Technology	SEM 1 & 2
	TMU1043 Multimedia Technology	SEM 1 & 2
	TMU1053 Mathematics in Daily Life	SEM 1 & 2
FACULTY OF ECONOMICS AND BUSINESS	EBU1063 Smart Money Management	SEM 1 & 2
	EBU 2043 Introduction to Intellectual Property	SEM 1 & 2
	EBU 1023 Managing Small Business Accounts	SEM 1 & 2
	EBU 1053 Online Business Management	SEM 1 & 2
	EBU1033 Malaysian Economics Environments	SEM 1 & 2
FACULTY OF LANGUAGE AND COMMUNICATION	PBU1133 Arabic Language Level 1	SEM 1 & 2
	PBU2143 Arabic Language Level 2	SEM 1 & 2
	PBU3153 Arabic Level 3	SEM 1 & 2
	PBU1043 Japanese Language Level 1	SEM 1 & 2
	PBU2053 Japanese Language Level 2	SEM 1 & 2
	PBU3063 Japanese Level 3	SEM 1 & 2
	PBU1073 French Level 1	SEM 1 & 2
	PBU2083 French Level 2	SEM 1 & 2
	PBU3093 French Level 3	SEM 1 & 2
	PBU1103 Mandarin Level 1	SEM 1 & 2
	PBU2113 Mandarin Level 2	SEM 1 & 2
	PBU3123 Mandarin Level 3	SEM 1 & 2
	PBU0033 Iban Language for Communication	SEM 1 & 2

ENGLISH COURSES – INTENSIVE LANGUAGE PROGRAMME (ILP)
INTERNATIONAL STUDENTS

GRADE C+ AND C	PBI1112 Preparatory English I (Compulsory Remedial English for Band 1&2) PBI1122 Preparatory English II (Compulsory Remedial English for Band 1&2) * prerequisite for PBI1102 & PBI1072
GRADE B+	PBI1102 Academic English I PBI1072 English for Professional Communication
GRADE A & A-	PBI1092 Academic English 2 PBI1082 English for Occupational Purposes

ENGLISH COURSES – IELTS
INTERNATIONAL STUDENTS

BAND 5 AND BELOW	PBI1112 Preparatory English I (Compulsory Remedial English for Band 1&2) PBI1122 Preparatory English II (Compulsory Remedial English for Band 1&2) * prerequisite for PBI1102 & PBI1072
BAND 5.5 – 6.5	PBI1102 Academic English I PBI1072 English for Professional Communication
BAND 7 AND ABOVE	PBI1092 Academic English 2 PBI1082 English for Occupational Purposes

UNIFORMED BODIES / BADAN BERUNIFORM

CODE/KOD	COURSE NAME / NAMA KURSUS	
MPU34112	Military Training 1	Latihan Ketenteraan Darat 1
PPA1102	Military Training 2	Latihan Ketenteraan Darat 2
PPA2112	Military Training 3	Latihan Ketenteraan Darat 3
PPA2122	Military Training 4	Latihan Ketenteraan Darat 4
PPA3132	Military Training 5	Latihan Ketenteraan Darat 5
PPA3142	Military Training 6	Latihan Ketenteraan Darat 6
MPU34122	Airforce Training 1	Latihan Ketenteraan Udara 1
PPB1072	Airforce Training 2	Latihan Ketenteraan Udara 2
PPB2082	Airforce Training 3	Latihan Ketenteraan Udara 3
PPB2092	Airforce Training 4	Latihan Ketenteraan Udara 4
PPB3102	Airforce Training 5	Latihan Ketenteraan Udara 5
PPB3112	Airforce Training 6	Latihan Ketenteraan Udara 6
MPU34142	Civil Defence Training 1	Latihan Pertahanan Awam 1
PPJ1102	Civil Defence Training 2	Latihan Pertahanan Awam 2
PPJ2112	Civil Defence Training 3	Latihan Pertahanan Awam 3
PPJ2122	Civil Defence Training 4	Latihan Pertahanan Awam 4
PPJ3132	Civil Defence Training 5	Latihan Pertahanan Awam 5
PPJ3142	Civil Defence Training 6	Latihan Pertahanan Awam 6
MPU34132	Police Training 1	Latihan Kepolisan 1
PPP1102	Police Training 2	Latihan Kepolisan 2
PPP2112	Police Training 3	Latihan Kepolisan 3
PPP2122	Police Training 4	Latihan Kepolisan 4
PPP3132	Police Training 5	Latihan Kepolisan 5
PPP3142	Police Training 6	Latihan Kepolisan 6

KALENDAR AKADEMIK PENGAJIAN IJAZAH SARJANA MUDA SESI 2023/2024
(ACADEMIC CALENDAR FOR UNDERGRADUATE STUDIES SESSION 2023/2024)

Aktiviti /*Activity*	***SEMESTER 1***	
	Tarikh	**Catatan**
Pendaftaran Pelajar Baharu *(**New Student** Registration)* ***Online Registration***	**20 Sep 2023 – 1 Okt 2023** (12 hari / *12 days)*	**28 September 2023** ***(28 September 2023)*** • *Hari Keputeraan Nabi Muhammad S.A.W (Maulidur Rasul)*
Pendaftaran Kolej Kediaman Pelajar Baharu *(Residential College Registration)*	**30 Sept 2023 – 1 Okt 2023** (2 hari/*2 days)*	
Minggu Aluan Pelajar *(Student's Orientation Week) /* **Hari Bersama fakulti**	**2 Okt 2023 – 4 Okt 2023** *(*3 hari/*3 days)*	
Pendaftaran *Online* Pelajar Semasa ***(Returning Student's** Registration)* ***Online Registration***	**3 Okt 2023 – 8 Okt 2023** *(*6 hari/*6 days)*	
Pendaftaran Kolej Kediaman Pelajar Semasa *(Returning Student's Residential College Registration)*	**7 Okt 2023 – 8 Okt 2023** *(*2 hari/*2 days)*	
Perkuliahan ***(Lectures)***	**9 Okt 2023 – 26 Nov 2023** (7 minggu/*7 weeks)*	**14 Oktober 2023** ***(14 October 2023)*** • Hari Jadi TYT Sarawak *(Sarawak Governor's Birthday)* **12 November 2023** ***(12 November 2023)*** • Hari Deepavali (Semenanjung Malaysia sahaja)
Cuti Pertengahan Semester 1 *(Mid-Semester Break)*	**27 Nov 2023 – 3 Dis 2023** *(*7 hari/ 7 *days)*	
Perkuliahan ***(Lectures)***	**4 Dis 2023 – 21 Jan 2024** *(*7 minggu/ *7 weeks)*	**25 & 26 Disember 2023** ***(25 & 26 December 2023)*** • Hari Krismas *(Christmas)* **1 Januari 2024** ***(1 January 2024)*** • Cuti Tahun Baharu 2024 *(New Year)*
Minggu Ulangkaji *(Revision Week)*	**22 Jan 2024 – 28 Jan 2024** *(*7 hari/ *7 days)*	
Minggu Peperiksaan *(Examination Week)*	**29 Jan 2024 – 18 Feb 2024** *(*3 minggu/*3 weeks)*	**10, 11 & 12 Februari 2024** ***(10, 11 & 12 February 2024)*** • Tahun Baru Cina *(Chinese New Year)*
Cuti Semester 1 *(Semester Break)*	**19 Feb 2024 – 17 Mac 2024** *(*4 minggu */4 weeks)*	

***Aktiviti* /Activity**	***SEMESTER 2***	
	Tarikh	**Catatan**
Pendaftaran *Online* Pelajar Semasa *(Returning Student 's Registration/Online Semester Registration)*	**12 Mac 2024 – 15 Mac 2024** *(*4 hari/*4 days)*	
Pendaftaran Kolej Kediaman Pelajar Semasa *(Returning Student's Residential College Registration)*	**16 Mac 2024 – 17 Mac 2024** *(*2 hari/*2 days)*	
Perkuliahan ***(Lectures)***	**18 Mac 2024 – 5 Mei 2024** (7 minggu/ *7 weeks)*	**29 Mac 2024** ***(29 March 2024)*** • Good Friday **10 & 11 April 2024 (10** ***& 11 April 2024*****)** • Hari Raya Aidilfitri *(Eid Mubarak)* **1 Mei 2024** ***(1 May 2024)*** • Cuti Hari Pekerja *(Labour Day)*
Cuti Pertengahan Semester 2 *(Mid-Semester Break)*	**6 Mei 2024 – 12 Mei 2024** *(*7 hari/ *7 days)*	
Perkuliahan ***(Lectures)***	**13 Mei 2024 – 30 Jun 2024** (7 minggu/ *7 weeks)*	**22 Mei 2024** ***(22 May 2024)*** • Hari Wesak *(Wesak Day)* **1, 2 & 3 Jun 2024** ***(1, 2 & 3 June 2024)*** • Hari Gawai *(Gawai Day)* **3 Jun 2024** ***(3 June 2024)*** • *Hari Keputeraan YDP Agong (Agong's Birthday)* **17 Jun 2024** ***(17 June 2024)*** • Hari Raya Aidiladha *(Eid al-Adha)*
Minggu Ulangkaji *(Revision Week)*	**1 Jul 2024 – 7 Jul 2024** *(*7 hari/ *7 days)*	
Minggu Peperiksaan *(Examination Week)*	**8 Jul 2024 – 28 Jul 2024** (3 minggu/ *3 weeks)*	**8 Julai 2024** ***(8 July 2024)*** • Awal Muharram **22 Julai 2024** ***(22 July 2024)*** • Hari Sarawak *(Sarawak Day)*
Cuti Panjang *(Long Break)*	**29 Jul 2024 - 6 Okt 2024** *(*10 minggu/ *10 weeks)*	

***Aktiviti* /Activity**	***ANTARSESI***	
	Tarikh	**Catatan**
Pendaftaran Pelajar Semasa *(Returning Student 's Registration)* *Online Semester Registration*	**29 Jul 2024 – 4 Ogos 2024** (1 minggu/ *1 weeks*)	
Perkuliahan *(Lectures)*	**29 Jul 2024 – 22 Sept 2024** (8 minggu/ *8 weeks*)	
Latihan Industri	**29 Jul 2024 – 6 Okt 2024** (10 minggu/ *10 weeks*)	

Nota: Kelulusan Senat Bil 2/2023 ke-211 bertarikh 22 Februari 2023

Disediakan oleh:

Unit Pengambilan dan Kemasukan

Bahagian Pengajian Prasiswazah Universiti Malaysia Sarawak

UNIVERSITI MALAYSIA SARAWAK
PERATURAN BERPAKAIAN PELAJAR

Setiap pelajar adalah tertakluk kepada Peraturan Berpakaian Pelajar yang ditetapkan oleh Universiti ketika berada di dalam kampus

PAKAIAN PELAJAR LELAKI

a) **Setiap pelajar hendaklah berpakaian kemas, sopan dan berseuaian dengan keadaan sepertimana yang diarahkan oleh pihak Universiti** (berseluar panjang dengan berbaju kemeja atau kemeja-T atau berpakaian kebangsaan masing-masing yang sesuai).

b) **Berambut pendek, kemas dan tidak mencecah kolar baju** (Rujuk Akta Universiti dan Kolej Universiti, 1971, Perkara 26).

c) **Memakai pakaian sukan** yang sesuai semasa bersukan atau berekreasi.

d) **Memakai kasut** yang sesuai. Pemakaian selipar dan sandal adalah dilarang.

e) **Tidak memakai** perhiasan perempuan atau pakaian menyerupai perempuan.

CONTOH PAKAIAN PELAJAR LELAKI

PAKAIAN PELAJAR PEREMPUAN

a) Setiap pelajar **hendaklah berpakaian kemas dan sopan dan bersesuaian dengan keadaan sepertimana yang diarahkan oleh pihak Universiti** (pakaian kebangsaan, blaus atau pakaian etnik masing-masing yang sesuai dan **tidak menjolok mata**. Pakaian mestilah tidak ketat serta tidak menunjukkan bentuk tubuh badan.

b) **Memakai skirt** yang lnbuhnya hendaklah di bawah paras lutut.

c) **Memakai seluar** yang bersesuaian dan sopan.

d) **Memakai alat solek, aksesori dan pewangi** secara sederhana.

e) **Memakai kasut** yang sesuai.

CONTOH PAKAIAN PELAJAR PEREMPUAN

TEMPAT PENGUATKUASAAN PERATURAN BERPAKAIAN

a) Menghadiri kuliah, tutorial dan amali.

b) Pusat Khidmat Maklumat Akademik (PKMA).

c) Berurusan di Fakulti/Institut/Pusat/Bahagian.

d) Menghadiri majlis rasmi Universiti di dalam dan di luar kampus

e) Menduduki peperiksaan.

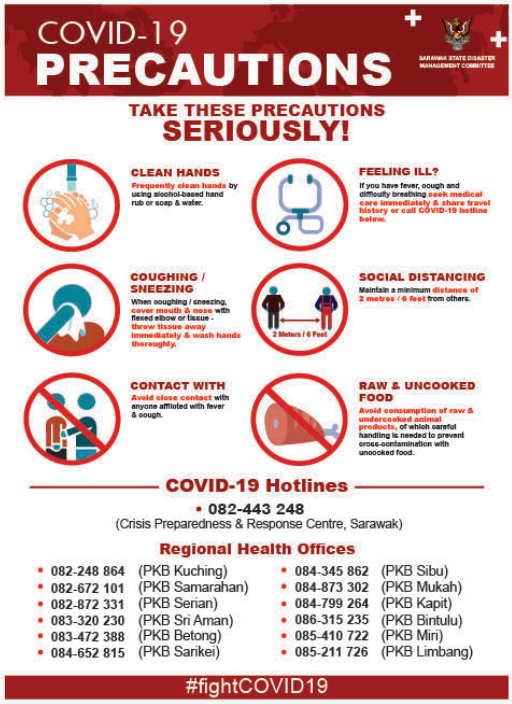
f) Menjalani latihan industri.

CONTOH RAMBUT LELAKI DAN RAMBUT WANITA

TINDAKAN TATATERTIB ATAU HUKUMAN TATATERTIB TERUS BOLEH DIAMBIL TERHADAP PELAJAR YANG TIDAK MEMATUHI PERATURAN DI ATAS:
i) AMARAN
ii) DENDA TIDAK LEBIH DARIPADA RM50

SEMUA PELAJAR WAJIB MEMPAMERKAN KAD PELAJAR SEMASA BERADA DI DALAM KAWASAN KAMPUS


COVID-19
LANGKAH BERJAGA-JAGA
SARAWAK STATE DISASTER MANAGEMENT COMMITTEE
AMBIL PERHATIAN
TERHADAP LANGKAH-LANGKAH INI!
TANGAN YANG BERSIH
Selalu cuci tangan menggunakan sabun, air ataupun dengan pembersih tangan berasaskan alcohol.
BERASA KURANG SIHAT?
Jika ada gejala seperti demam, batuk dan cukar bernafas, segeralah berjumpa dengan pakar kesihatan & kongsikan rekod perjalanan atau hubungi talian hotline COVID-19 di bawah.
BATUK / BERSIN
Semasa batuk / bersin, tutupkan mulut & hidung dengan tisu atau bahagian dalam siku. Segera buangkan tisu tersebut & basuhkan tangan dengan teliti.
PENJARAKKAN SOSIAL
Kekalkan jarak sekurang-kurangnya 2 meter / 6 kaki dari orang lain.
2 Meters / 6 Feet
HUBUNGAN DENGAN ORANG SAKIT
Elakkan berhubung rapat dengan orang yang dijangkiti demam & batuk.
MAKANAN MENTAH & BELUM MASAK
Elakkan memakan daging mentah atau yang separuh masak & penyediaan secara teliti adalah dipertukan bagi mengelakkan makanan tercemar oleh bahan / makanan mentah.
Talian Hotline COVID-19
• 082-443 248
(Pusat Kesediaan & Tindak Balas Krisis, Sarawak)
Pusat Kesihatan Daerah
• 082-248 864 (PKB Kuching)
• 082-672 101 (PKB Samarahan)
• 082-872 331 (PKB Serian)
• 083-320 230 (PKB Sri Aman)
• 083-472 388 (PKB Betong)
• 084-652 815 (PKB Sarikei)
• 084-345 862 (PKB Sibu)
• 084-873 302 (PKB Mukah)
• 084-799 264 (PKB Kapit)
• 086-315 235 (PKB Bintulu)
• 085-410 722 (PKB Miri)
• 085-211 726 (PKB Limbang)
#fightCOVID19


COVID-19
PRECAUTIONS
SARAWAK STATE DISASTER MANAGEMENT COMMITTEE
TAKE THESE PRECAUTIONS
SERIOUSLY!
CLEAN HANDS
Frequently clean hands by using alcohol-based hand rub or soap & water.
FEELING ILL?
If you have fever, cough and difficulty breathing seek medical care immediately & share travel history or call COVID-19 hotline below.
COUGHING / SNEEZING
When coughing / sneezing, cover mouth & nose with flexed elbow or tissue - throw tissue away immediately & wash hands thoroughly.
SOCIAL DISTANCING
Maintain a minimum distance of 2 metres / 6 feet from others.
2 Meters / 6 Feet
CONTACT WITH
Avoid close contact with anyone affected with fever & cough.
RAW & UNCOOKED FOOD
Avoid consumption of raw & undercooked animal products, of which careful handling is needed to prevent cross-contamination with unoocked food.
COVID-19 Hotlines
• 082-443 248
(Crisis Preparedness & Response Centre, Sarawak)
Regional Health Offices
• 082-248 864 (PKB Kuching)
• 082-672 101 (PKB Samarahan)
• 082-872 331 (PKB Serian)
• 083-320 230 (PKB Sri Aman)
• 083-472 388 (PKB Betong)
• 084-652 815 (PKB Sarikei)
• 084-345 862 (PKB Sibu)
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