

LIST OF COURSES OFFERED

*Inbound
Mobility
Programme
(February 2019)*

LIST OF COURSES OFFERED FOR EXCHANGE STUDENTS PROGRAMME (INBOUND MOBILITY)
FACULTY OF SCIENCE AND NATURAL RESOURCES

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HS03 - CONSERVATION BIOLOGY					
1	SB23203	Systematics	The course shall provide knowledge on the systematics that is essential for Conservation Biology students.	3	2/2
2	SB23403	Ecology	The course will strengthen the basic knowledge of the students in ecology.	3	2/2
3	SB23602	Preservation & Collection Management	To strengthen the basic knowledge of collection management	2	2/2
4	SB24002	Biogeography	Conservation biology relates to the field of biogeography. Understanding the principles and concepts in biogeography are of utmost importance for students undertaking the HS03 Conservation Biology Program. These knowledge are frequently applied when dealing with management and conservation issues of common and endangered species.	2	2/2
5	SB34002	Fieldwork	The course shall present important facts and concepts of biology for science students.	2	3/2
6	SB24202	Nature Tourism Products	The course will provide Conservation Biology Programme undergraduates with knowledge and skills in the application of nature tourism as a contemporary mechanism towards sustainable nature conservation via the understanding of the concepts of nature tourism, and pragmatic product prospecting.	2	2/2
7	SB24602	Introduction to Environmental Assessment	The course will provide Conservation Biology Programme undergraduates with knowledge on environmental assessment which is one of the crucial aspect in assessing biodiversity and supports conservation of the environment at the management level.	2	2/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HS07 - INDUSTRIAL CHEMISTRY					
1	SK12603	Analytical Chemistry I	This course is one of the four main sub-disciplines of Chemistry and therefore it is included in the module of the program.	3	1/2
2	SK12803	Inorganic Chemistry I	This course is one of the four main sub-disciplines of chemistry. The course is important to the students in term of understanding of the fundamental concepts and principles of inorganic chemistry.	3	1/2

3	SK22603	Analytical Chemistry II	Analytical Chemistry is one of the four main sub-disciplines in Chemistry. This course is a continuation of SK12603 Analytical Chemistry I.	3	2/2
4	SK22803	Inorganic Chemistry II	Inorganic chemistry is one of the four main sub-disciplines of Chemistry	3	2/2
5	SK23203	Materials Chemistry	Material chemistry including new emerging nano materials is an important discipline of applied chemistry.	3	2/2
6	SK33203	Natural Products Chemistry an Drugs Discovery	This course is applied organic chemistry (main sub-disciplines of industrial chemistry)	3	3/2
7	SK33403	Residue and Pesticide Analysis	For students who are interested in pursuing careers as an analytical chemist, the course helps them to develop approaches to understanding, correctly using and further developing current chemical tools that are used in the analysis of pesticide residues in various samples.	3	3/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HS08 - MATHEMATICS WITH ECONOMICS					
1	SM13203	Mathematics II	A clear understanding of the concepts of vectors, sequences and series, infinite series, power series, polar coordinates and coordinate geometry provides students with the necessary foundations and basic mathematical ideas to be used in other higher level courses.	3	1/2
2	SM13403	Object Oriented Programming	Object orientation is a new approach to understand the complexities of the real world. In contrast to the earlier approaches like procedural, object orientation helps to formulate the problems in a better way giving high reliability, adaptability, and extensibility to the applications. As a requirement for C++ programming, students must be comfortable with C programming. This course offers object oriented programming in C++. Writing reusable code is a challenging task in C++. C++ is a large language and writing good code in the language can be a daunting task. This course will help student to learn object oriented programming in modern C++. It will also expose student to the use and design of the C++ standard library, whose widespread availability has changed the way C++ code, is written. This course involves programming, understanding and creativity.	3	1/2
3	SJ13203	Microeconomics I	Introduction of basic microeconomics concepts and theories.	3	1/2

4	SM23203	Real Analysis	This course places high emphasis on higher level thinking skills necessary for the study in mathematics. The students will develop specific skills, competencies and thought processes sufficient to support further study or work in this or related fields.	3	2/2
5	SM23403	Statistical Analysis	Introduction of the fundamentals of the experimental design analysis, data analysis and decision modeling are developed. Furthermore, understanding of the techniques of analysis based on experimental design and various types of data are acquired.	3	2/2
6	SM23603	Operational Research	A clear understanding of the concepts and applications of decision analysis and decision making in problems. Operational Research (OR) and the development of optimization theories and concepts have been preliminary introduced.	3	2/2
7	SJ23203	Financial Management I	<ol style="list-style-type: none"> 1. Giving basic understanding in the field of finance 2. Observing the importance of financial working capital management 3. Discussing the methods of evaluating asset's risk and return 4. Introducing the concept of time value of money. It is the basic fundamental concept in finance theory and decision making. 5. Learning techniques for evaluating financial instruments like stocks and bonds 6. Developing understanding towards the evaluation procedures to choose corporate projects 7. Improving student's skills and evaluation on firm's capital cost i.e. the rate of interest for financing a firm's projects. 8. Learning management techniques and financing current assets held by firms. 	3	2/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HS09 - MATHEMATICS WITH COMPUTER GRAPHICS					
1	SW12203	Calculus II	Introduction to the functions of two and more variables is introduced. Developing the ability to use analytically and graphically techniques to solve example and exercises as well as acquiring an understanding of the techniques of problem-solving are emphasized.	3	1/2
2	SC12203	Object Oriented Programming	Object orientation is a new approach to understand the complexities of the real world. In contrast to the earlier approaches like procedural etc, object orientation helps to formulate the problems in a better way giving high reliability, adaptability, and extensibility to the applications. As a requirement for C++ programming, students must be comfortable with C programming. This course offers object-oriented programming in C++.	3	1/2
3	SW22403	Differential Equation	Differential equations are essential for analyzing and solving problems in engineering, natural sciences, economics and even business. Complex problems in those areas especially in the form of partial differential equations will be covered. This course also serves as an introduction for the students to the development of logical structure and deductive reasoning in the process of proving. Moreover, with the emergence of low-cost, high-speed computers, new techniques for solving differential equations, which allows problem solvers to model and solve complex problems based on systems of differential equations.	3	2/2
4	SW22603	Cryptography	Image Processing field is closely related to Computer Graphics and one of the fields that strongly linked with Image Processing is Cryptography. Recent interest in Cryptography is to combine Image Processing technique with Cryptography technique to develop more secure encryption decryption schemes. Therefore, this course is included in Mathematics with Computer Graphics Programme to provide fundamental knowledge and skills in mathematical Cryptography field as well as the Image Processing field.	3	2/2
5	SC22403	Fundamental of Computer Graphics	This course will introduce the fundamental aspects of computer graphics and virtual environment fields. The implementation of computer graphics algorithm and technique will strengthen student knowledge and programming skill in the industry-driven programming language as well as in the standard graphics libraries such as OpenGL and XNA. At the end of the course, the student should be able to understand a computer graphics system and pipeline, and able to develop a 2D and 3D graphics applications.	3	2/2

6	SW32403	Advance Calculus	The main objective is to extend concepts of elementary calculus to functions of several variables. Some of the deeper concepts in calculus are treated in greater depth than in elementary calculus. A sound level of rigor is maintained. Vectors are introduced at the outset and are then used to develop ideas. Some attention is given to applications.	3	3/2
7	SW32603	Mathematical Programming	This course is focused on the application of information technology for informed decision-making and also represents the study of optimal resource allocation. Besides, it also provide rational bases for decision making by seeking to understand and structure complex situations, and to utilize this understanding to predict system behaviour and improve system performance.	3	3/2
8	SC32203	Computer Interface Programming	Computer interface serves as a layer between the end user and the technical functionality of a computer system. A good interface design ensures the ease of use for any computer systems. This course will enable students to participate in the design as well as development of a system. It incorporates the essential concepts of a well-planned system that emphasis on the user interface design. In addition, students also will be exposed to the idea of promoting the system and will be guided to properly plan for business venturing.	3	3/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HS11 - ENVIRONMENTAL SCIENCE					
1	SS32801	Environmental Issues & Society	The course is important to the students in term to introduce the student to the diverse human dimensions surrounding environmental issues, specifically the role of individuals, communities, and political institutions in developing and maintaining long-term environmental quality in the face of increasing human demands on resources and the environment. It would help the student to explore the environmental issues, engage in problem solving and take action to improve the environment.	1	3/2
2	SS32603	Geographical Information System	Geographical Information System is a scientific tool that very important in monitoring, predicting and analysis in various aspects of environmental management particularly Learning this technology can enhance the competitiveness of graduates in environmental science career. This particularly relevant in environmental impact assessment and development planning, this is closely link with the environmental and development decision and policy making.	3	3/2
3	SS11203	Environmental Ecology & Microbiology	The course is important to the students in term to provide knowledge on ecology and environmental microbiology with strong emphasis on aspects	3	1/2

			related to the environment: aquatic ecology, soil and water microbiology.		
4	SS11403	Environmental Soil Science	The course is important to the students in term of understanding the principles of basic soil science and applies this knowledge to solve environmental and agricultural problems.	3	1/2
5	SS11603	Environmental Law	For the purpose of this course, 'environmental law' is defined to mean that area of law concerned with managing the impact of human activities on the environment. Knowledge and understanding of the national and international environmental laws are very important elements, which the students need to acquire in supporting the scientific knowledge in managing the environment.	3	1/2
6	SS32403	Resources & Environmental Management	The course is important to the students in providing valuable knowledge on the functions and importance of natural resources and the environment as well as the related problems. Management strategies and skills will be taught that would enable the students to apply them in dealing with the relevant problems.	3	3/2
7	SS21802	Meteorology & Climate Change	In depth knowledge on the theoretical aspect of meteorological and climate is an important element in understanding the atmospheric physic and chemistry of the Earth. This knowledge could help the student to understand better the link between human activities and climate through changes in greenhouse gas emissions and other biophysical of the Earth's surface.	2	2/2
8	SS21603	Energy Resources	A clear understanding of the concept of energy and its resources will allow students to become more familiar with the Earth's energy supply, demand and impacts on its utilisation. A first course in energy resources also serves as an introduction to the development of logic, deductive reasoning and energy sciences as a tool towards sustainable development.	3	2/2
9	SS21203	Water Quality Analysis	The course is important to the students in term to provide knowledge and to train students with the important protocols practiced in the field of water quality studies.	3	2/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HS22 - PHYSICS WITH ELECTRONICS					
1	SE32603	Noise and Vibration	Noise and vibration are related to wave. This is a specialized course aimed at providing interested student specialized knowledge that complements to the major physics components.	3	3/2
2	SF12603	Mathematical Methods in Physics I	The unambiguous description of physical problem requires the skillful application of a wide range of mathematical concept that used to model the physical world. The introduction of this course will	3	1/2

			provide the student skill of applying the mathematics to physics problems.		
3	SF12403	Physics III	Wave and optics are two major components in Physics. A clear understanding in these two components will further strengthen students' foundation in Physics, and therefore will help students to understand other components better.	3	1/2
4	SE22203	Digital Electronics	A clear understanding of the digital electronics will allow students to become more familiar with the electronics components and their applications.	3	2/2
5	SF22603	Quantum Physics	Quantum Physic is the fundamental theoretical framework of Physics. In this course, will briefly discuss the historical development which led to a crisis in classical physics (Classical Theory), and finally to the quantum revolution. This leads to the understanding of the nature of the physical phenomena which govern the behavior of solids, semiconductor lasers, atoms, nuclei, sub nuclear particles and Lights. This course will strengthen the students' skill to develop the mathematical and conceptual tools to solve simple but important quantum physics problems.	3	2/2
6	SE32203	Semiconductor Physics	Developments in the areas of semiconductor physics have led to major advances in technology from the PC to nanoscience. This module provides the student with an ample knowledge of the fundamentals of semiconductor physics and devices necessary to cope with semiconductor industry environment.	3	3/2
7	SF22201	Physics Practical III	The practical is to allow the student to gain the ability to collect, evaluate and communicate scientific information through laboratory experiments. Besides, student may gain some hands-on experience to conduct experiments.	1	2/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HS27 - AQUACULTURE					
1	SQ12203	Mollusk culture	Aquaculture is an important food production sector. Various aquatic organisms are potentially being cultured in captivity which contributes to the sustainable food production. Demand for bivalve is increasing causing the fishing pressure for bivalve wild population to become high. Hence, culturing bivalve either in captivity or through ranching would enable a sustainable bivalve production in the near future.	3	1/2
2	SQ12403	Water quality management	The course seeks to provide an understanding of water that helps make aquaculture more environment-friendly and productive. Discussion begins with the qualities of water and extends to cover details of its dissolved gases, nutrients and	3	1/2

			<p>other materials. Factors that affect water quality are explained. Water management and disposal methods are given special emphasis. Next half of the course deals with water pollution and its control. Topics of discussion include effects of pollution on aquaculture – problems associated with survival, growth and reproduction, pollution induced diseases and abnormalities in fish and shellfish, and public health problems. Students are also made familiar with the measures required for controlling pollution in aquaculture.</p>		
3	SQ12603	Biology of aquaculture animals II (Invertebrate)	<p>This course will serve as an introduction to the biodiversity and biology of invertebrates as well as to understand the economic importance of some invertebrates in aquaculture. Study on biology of invertebrate aquaculture is important in order to understand the aspect of basic structure, life functions and distribution of these animals which are important in their culture.</p>	3	1/2
4	SQ12802	Swimming and water safety	<p>This course provides students with basic knowledge and techniques on swimming, which is important for Marine Science and Aquaculture Programs. The course enables students to acquire skills and knowledge needed in swimming and water safety.</p>	2	1/2
5	SQ22203	Live feed management	<p>An understanding of the current practices of live-feed production for aquatic organism in aquaculture industry which will allow students to acquire knowledge on the use of different type of beneficial microorganism of different species and location. It also serves as an introduction to the aquaculture live-feed mass cultivation technique.</p>	3	2/2
6	SQ22403	Nutrition and feed development	<p>Knowledge on fish nutrition is critical because feed represents more than half of the production costs of any aquaculture operations. In addition, sound nutrition is importance to support good growth and survival of the cultured fish. This course provides students with the knowledge and skills needed for developing a balanced diet for the cultured fish.</p>	3	2/2
7	SQ22603	Ornamental culture	<p>The ornamental aquaculture is a millions dollars industry that gains popularity worldwide. To produce ornamental organism in captivity, the biology, culture condition and management of the organism must be comprehended. Besides the climate condition in Malaysia that suitable for ornamental culture, the rich biodiversity of ornamental species offers great opportunity for expansion in the future. This course introduces the biology, culture and the management of ornamental species that can contribute to the development and expansion of this industry.</p>	3	2/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HS40 - MARINE SCIENCE					
1	SL10403	Basic Navigation and Seamanship	Students should be trained with very structured fundamental guidelines in compliance with the targeted needs of the students who will soon experience the real career world that might involve them to be at sea and also on board of any vessels. It is important for students to be very familiar with what is happening around on the vessels/ at sea including the safety measures on board, safety equipment, signaling and floatation devices, navigation rules, safe boat operations and many more. This course will enable students to practice and accumulate skills and good practice on board for safe navigation especially through the practical knowledge.	3	1/2
2	SL10803	Biological Oceanography 2: Fauna	This course provides students with fundamental knowledge on several aspects of biology and ecology of marine fauna. Students will be exposed to the important topics such as classification and phylogeny of major group to better understand the current diversity of marine fauna. In addition, the course will explore the important role of various marine ecosystems as a habitat for marine fauna, effect of environmental factors, human interaction and threat to their population in general.	3	1/2
3	SL20603	Coral Reef Ecology	This course deals with a subject highly relevant to Marine Science, especially in the context of Malaysia, being part of the Coral Triangle. Coral reefs support high biodiversity, providing livelihood for coastal communities, as well as creating revenue through tourism and fisheries. Despite of its importance, reef systems are threatened by anthropogenic activities, destructive fishing activities and climate change. Reef health is a global concern and continues to be scrutinised by local, national and international entities, making this a compulsory subject for students in the Marine Science programme.	3	2/2
4	SL21203	Meteorology and Climate Change	This is mainly for understanding the basic principles of meteorology. The knowledge will allow students to become more familiar with the natural atmospheric phenomena especially in forecasting weather, explaining the processes and relating to marine ecosystems and fisheries industry. It also helps students to be more aware of future climate of the world and present Climate Change issues that will one way or another influence the fisheries.	3	2/2
5	SL21403	Fisheries Science and Management	The fishing industry makes a significant contribution to the country's gross domestic product. Efforts are in place by the government to regulate the fishing activities. Armed with knowledge and tools for	3	2/2

			fisheries stock assessment and management options, the students will be able to continue efforts in managing and enhancing the fisheries resources.		
6	SL31003	Coastal Modeling	An understanding of the basic principles and requirements of coastal modelling will allow students to become familiar with the software use to analyse marine environment data. Students will develop skills for modelling of coastal area so that reliable quantitative predictions can be made in the later stages based on environmental factors and human influences.	3	3/2
7	SL31203	Biology of Marine Mammals	Marine mammals are highly intelligent species live in organized societies, families, or as solitary animals, and have become adapted to an environment that is varied and harsh condition. Numerous human activities have become a threat to their survival, which has resulted in a recent upsurge of interest in marine mammal science especially to protect and preserve these animals if they are to survive. Thus, it is important for marine scientists to understand their ecology and the roles that they play in ecosystem	3	3/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HG07 - BIOTECHNOLOGY					
1	SY12202	Genetics	Genetics is one of the key disciplines that play an important and indispensable role in modern biotechnology. As such, the learning of genetics is obligatory to all biotechnology undergraduate. This course presents the scientific basis of heredity. The principles of genetics play an increasingly important role in the modern world; in the breeding of improved crops and livestock, the conservation of endangered species and the genetic engineering of new products for agriculture or medicine.	2	1/2
2	SY12403	Biochemistry	Understanding the basics of biochemical principles pertaining carbohydrates, amino acids, lipids and nucleic acids. These disciplines of science also give insights into the mechanisms of growth, development, metabolism, enzyme activity and operon. Biochemical laboratory principles and practical will be conducted in order to understand the role of biological molecules in cellular metabolism.	3	1/2
3	SY12603	Microbiology	This course is designed to provide basic knowledge in the study of microbiology and practical experience of basic techniques in microbiology.	3	1/2

			Microbial techniques are important in biotechnology fields because microorganisms are the basic model in understanding higher organism. They are the key to the biological revolution and model for genetic manipulation. Microbiology is also considered important in biotechnology fields because microorganisms are important in their effect on the health and wellbeing of all living creatures, including humans, and they are the key to the biological revolution in genetic engineering. In addition, they are vital to environmental science, food production, and the marine environment.		
4	SY22202	Molecular Genetics	Molecular genetics is an important component of biotechnology. The course will facilitate the understanding of principle and processes involved in DNA replication, genome structure and organization in prokaryotes and eukaryotes, RNA transcription and Protein translation. Laboratory modules will engender the development of professional skills required in the modern biotechnology industry. Guided presentation modules ensure the effective reinforcement of knowledge and facilitate the communication of ideas, both of which are pre-requisites to professionalism.	2	2/2
5	SY32802	Agriculture Biotechnology	Agriculture plays an important role in ensuring food security globally, but it is facing many challenges such as shrinking of agricultural land, attack by diseases and pests, and changes in climatic condition. These pressures are hindering the attempt to provide enough food using the conventional techniques. Biotechnology have been used, in conjunction with conventional breeding, effectively in enhancing productivity of agriculture. Therefore it is essential to equip students with biotechnological techniques and knowledge related to agriculture so that they know the significant applications of biotechnology in various aspects of agriculture.	2	3/2
6	SY22803	Instrumentation and Application	Understanding of the design, the basic component and fundamental functional application of spectroscopy and separation instrument, DNA sequencer is very important for students to be able to perform experimental work effectively.	3	2/2
7	SY32203	Industrial Bioprocess	This course complement the knowledge and concepts presented in 32103 (Biochemical Engineering). The module provides an understanding about the fermentation that will be applied in upstream and downstream processing for biotechnology end product commercialization.	3	3/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HG19 - INTERNATIONAL TROPICAL FORESTRY					
1	FX20803	Evaluation and planning of rural development	This course is an elective course that opens to students from all programs. This course encourages students to conduct an assessment, planning as well as to develop critical skills and problem solving, which related to rural communities issues.	3	2/2
2	FS30202	Forest and Wood Product Certification	This course will equip students with the knowledge and the development of forest and timber certification initiatives, as an indication that a forest is managed in a sustainable manner consistent with the principles of Sustainable Forest Management.	2	3/2
3	FS30403	Forest Valuation	Accurate assessment on forest resources can help in making the best decision option against multi-purpose forest management. It can also contribute to policy development and forest management.	3	3/2
4	FS 20203	Forest Fire Management	This course is compulsory for students of International Tropical Forestry Program. Forest fire one of the main issues in the tropical region such as Malaysia. Therefore, it's important to students to know basics of forest fire management such as suppression and prevention technique.	3	2/2
5	FC10403	Forest Ecology	Forest ecology is an essential part of the basic knowledge required by foresters. Understanding the ecological aspects of forest science will build a strong foundation that will enable the students to understand the ecological processes that occur in tropical forests and how forest management decision will potentially impact these processes. This will lead to a better understanding of forest management systems and an increased awareness of sustainable forestry practices.	3	1/2
6	FS20403	Silviculture	Silviculture is a field in forestry, which is important in plantation and natural forest. This course can enhance the compatibility of forestry graduates in this programme for forestry career.	3	2/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HG20 - NATURE PARK AND RECREATION					
1	FP10203	Forest Hydrology	Hydrology is an important discipline in Forestry Science. Understanding and skills in forest hydrology will help students especially in the working environment as a forest manager. Knowledge in assessing the impacts of forest logging activities, for example, will help in planning mitigation measures in reducing the impacts. This course is highly relevant since water catchment areas in Malaysia and most countries are forested areas and managed for source of raw water.	3	1/2

2	FP10403	Nature Park Planning and Management I	As a forestry graduate specializing in Nature Park and Recreation, this course will be able to give students the basic knowledge and understanding of the concept and the importance of National Parks and Protection or Conservation Areas	3	1/2
3	FP20203	Zoology and Wildlife Management	The course is an important element in nature parks and recreation program that provides exposure to wildlife management and assessment to threats of species and protected wildlife.	3	2/2
4	FP20603	Eco-tourism	The course is focused on understanding the concepts of ecotourism, the principles, its practices based on case study, and resource planning involved in conserving natural resources according to sustainability perspectives.	3	2/2
5	FP20803	Remote Sensing	Remote Sensing especially aerial photograph has been used in forestry sector for forest resource mapping. Modern remote sensing based on satellite data plays important roles in mapping or monitoring vegetation changes. Learning this technologies can enhance the competitiveness of the graduates in forestry and environment careers.	3	2/2
6	FP30403	Urban Forestry	An essential course of the program which train students to emphasis on urban vegetation and community trees in an attempt to improve the quality of human life.	3	3/2
7	FP30602	Tourism Economy	Economic knowledge is the fundamentals for strategic planning and project development in any type of business. Application on economic concepts and analytical techniques are able to contribute to effective tourism planning activities in parks or protected area.	2	3/2
No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered

HG23 - FOREST PLANTATION AND AGROFORESTRY

1	FX20203	Introduction to Plant Disease Management		3	2/2
2	FX30203	Human Resource Management		3	3/2
3	FX30403	Land Use and Environment Planning	An essential course of the school, this course will broaden the perspective of graduates to consider the environmental aspects of land use planning practices.	3	3/2
4	FL20203	Agroforestry Systems and Practices	This course exposes students related to the importance of agroforestry systems and practices.	3	2/2
5	FL20403	Forest Plantation Management	This course focuses on designing, planning and implementing activities on establishing, managing and developing forest plantation.	3	2/2
6	FL30203	Tree –crop-soil interaction and nutrient management	This course is essential in this program, to enhance students' knowledge about the interaction of tree-crop-soil in forest plantations and agroforestry.	3	3/2
7	FL30403	Genetics and Plant Breeding	This course is essential to provide an understanding of the principles of genetics and breeding, techniques and methods, and its application in forest plantations and agroforestry.	3	3/2

LIST OF COURSES OFFERED FOR EXCHANGE STUDENTS PROGRAMME (INBOUND MOBILITY)
FACULTY SUSTAINABLE AGRICULTURE

No	Course Code	Course Name	Course Description	Credit Hour	Year/Semester Offered
1	RT10203	Genetics	This course introduces the basic principles of inheritance in plant and animal organisms. Discussion encompasses the concepts of gene and chromosome, mitosis and meiosis, Mendelian laws of inheritance, factors that contribute to modification of Mendelian patterns, molecular genetics (DNA structure, replication, gene expression and gene mutation) and population genetics. The role of genetics in agriculture will be shown in related topics.	3	1/2
2	RT10403	Soil Science	This is a fundamental soil science course which introduces students to the basic physical, chemical, biological and morphological properties of soils and functions in relation to agriculture. Emphasis will be placed in the context of tropical conditions with particular reference to Malaysian soils. Soils will be perceived as a product of various processes acting over time on parent materials. The wide variety of soils resulting from the soil-forming processes and their classification using the standard USDA and local (Malaysian) soil classification systems will be highlighted. The importance of appropriate management and land use practices to ensure conservation and sustainability for agriculture will be discussed.	3	1/2
3	RT20203	Agricultural Microbiology	This course offers the basic knowledge on microbes and their roles in ecosystems. The early parts of the lecture are related to morphology and structures, microbial diversity and growth. Microbial genetics and the manipulation of microbial plasmid in genetic engineering for enhancement of crop and animal production are discussed. Their functions related to the soil fertility and crops productivity is discussed. Roles of microbes in biogeochemical cycles, environments, food production and bioremediation are discussed.	3	2/4
4	RT20402	Biometry	This course focuses on statistical analysis and its application in agriculture. The course will show how statistics are being used to evaluate the results of agricultural research. The course will cover both descriptive statistics, which summarize the data obtained in research, and inferential statistics, which are used to decide whether the results of research confirm the researcher's hypotheses. Specific topics to be covered include sampling and estimation,	2	2/4

			hypothesis testing, t-tests, analysis of variance, correlation, regression analysis, and non-parametric methods of statistical analysis.		
5	RT20603	Introduction To Agricultural Engineering	Students will be acquainted with a wide range of fundamental engineering concepts, principles and applications in agriculture (pre-harvest to post-harvest) with a strong emphasis on problem solving. Aspects of mechanics, hydraulics and electronics will be covered. The principles and applications of pumps and the internal combustion engine will be discussed.	3	2/4
8	RT30103	Agricultural Extension	This course teaches students on the concepts, philosophy and methodology of agricultural extension. They would also be exposed to the scope of agricultural extension. They would also undertake practical extension training/fieldwork in a number of communities and report their personal experiences during those training.	3	3/6

No	Course Code	Course Name	Course Description	Credit Hour	Year/Semester Offered
1	RT30401	Agro-Entrepreneurship Practice 2	This is a farm practical course dealing with the field practices in crop production, horticulture and livestock production. Students will have the opportunity to get hands on experience of the day to day activities and real problems and challenges that are encountered in the farm and field conditions. Student will work in groups to plan and execute an agro-enterprise until marketing.	1	3/6
2	RH10203	Plant Physiology	Plant physiology is an examination of plant function ranging in complexity from individual cells up to the whole plant. As relatively immobile organisms, plants must adapt to the prevailing environment and consequently have unique mechanisms to deal with non-ideal growing conditions. Both normal growth and development as well as how the plant responds and adapts to adverse conditions are major themes in plant physiology research. This course will focus on the major physiological processes occurring in plants grown under ideal conditions as well touch on the physiology of stress-adaptation.	3	1/2
3	RC20203	Weed Science	This course is a study of weeds and their control. Principles including weed plant classification, weed biology and ecology, and plant and herbicide chemistry will be taught. Practices which prevent, control and eliminate	3	2/4

			weeds will be discussed. Herbicide formulations and safe herbicide use will be taught.		
4	RC20403	Crop Pest Management	This course will emphasize various techniques for management of all classes of crop pests. The techniques of pest management involve cultural control, physical, chemical, genetics, host-plant resistance, insect resistance, and others. An application of integrated approaches using least destructive, economically and environmental friendly methods, and protection of non-target organisms will also be taught. Toxicology and classification of pesticides, chemical residue risks to land and aquatic environments, international quarantine system and local rules and regulations of quarantine system for controlling the spread of plant pests and diseases will also be taught. Identification and symptoms of injury of major species of pests such as insects, mammalia, gastropoda and others, which damage major agriculture crops and control measures will be introduced in this course.	3	2/4
5	RC20803	Pasture And Fodder Management	This course covers the botanical and agronomic characteristics of improved tropical pasture grass and legume species and their management in grazing and cut and carry systems for ruminant livestock production.	3	2/4
6	RC30402	Cereal Crops	This course will cover the management practices and infrastructure requirements related to the cultivation of major cereal crops such as rice, maize, sorghum and others. Post-harvest handling, storage and processing of products will be mentioned. Utilisation of crop products for human consumption, snack food industries and industrial applications are taught.		3/6
7	RC30602	Root Crops	This course emphasizes the classification, ecology and methods of propagation and planting of root crops such as tapioca, sweet potatoes, potatoes, taro, yams and others. The management, arvesting, and processing of tubers into starch are discussed. Utilisation of tubers and starch for food, confectionery, snacks and industrial applications are highlighted.	2	3/6
8	RC30302	Farm Irrigation Systems	This course deals with the principles and practices of irrigation science and management for efficient use of water; methods and systems of irrigation application. The course will provide the skills necessary for the design and management of effective and efficient on farm irrigation systems.	2	3/6

			The soil-plant -water relations, crop water requirements and the removal of surplus water from farm fields (Drainage) will also be covered. Emphasis will be placed on automated systems and components.		
9	RC30502	Advance Crop Science	This is an advanced level course which draws on courses done earlier in your program at the plants community scale It requires evaluation, integration and application of principles of crop production to develop understanding of sustainable crop production systems. The application of physiology and agronomy in crop production and the influences of environment on crop growth, and biological and economic yield will be emphasized. The use of crop growth simulation models will be examined.	2	3/5@6
10	RC30702	Soil Fertility Management	This course will cover the factors influencing soil fertility, the principles underlying sustainable soil fertility management for agricultural production and environmental guardianship, and the integrated perspectives related to water, nutrients, and organisms in soil. The processes influencing soil health and management applications are discussed from the perspective of major "problem" soil types in Malaysia. (Peat, acid sulphate, BRIS, coastal, sloping & highly weathered soils). Soil conservation methods with particular reference to soil erosion will be covered. Interpretation of analytical data and practical recommendations relating the maintenance and improvement of soil fertility will be covered.	2	3/5@6
11	RC31002	Soilless Culture	This course will provide students with good background of the principles, practices, techniques, infrastructures and technologies of growing plants without soil. It covers species in several important systems such as water culture, sand culture, gravel culture, aeroponics, tube culture, nutriculture, etc. Management of soilless culture production system will also be discussed include use of organic, inorganic production and vertical farming.	2	3/6
12	RC31102	Herbs And Spices Crops	In this course, graduates will learn the progress of industry, identification and classification, propagation and cultivation, harvesting, and post harvest technique of herbs and spices in Malaysia. They will also learn the techniques on cultivation, production, and marketing of herbs and spices for commercial purposes.	2	3/6

13	RC31202	Legumes And Miscellaneous Crops	The botany of grain legumes (groundnut, soybean, etc) and miscellaneous crops (kenaf, jatropha etc) are outlined. The importance of legumes in nitrogen fixation; the grain for food, and animal feed are emphasized. Discussions include planting practices and crop maintenance, harvesting and storage of the produce. Intercropping of legumes with other food crops and the use of legume plant residue for green manure are included. Utilization of legume grains and other products are stressed.	2	3/6
14	RC31402	Water Resource Management	This course will provide a broad overview on water resources, quality, uses and management in relation to agriculture. The hydrologic cycle, biophysical principles and the effects of changing climate/environment factors on water resources and sustainable practices in water resource use in agriculture will be covered. Current issues regarding water use and agriculture will be discussed.	2	3/5@6
15	RC31502	Plant Systematics	This course introduces students to conventional taxonomy, the description, identification, nomenclature, and classification of plants. They will be guided to understand the reconstruction of phylogeny, or evolutionary history, of plant life. The course is divided into four parts: introduction to systematic, evolution and diversity of plants, systematic evidence and descriptive terminology, and resources in plant systematic. Emphasis is given on the application of systematic approach to identify and select plants, from the pool of genetically related agricultural and horticultural plants, or hybrids, for further trait and quality enhancement.	2	3/5@6
16	RH30802	Plant Tissue Culture	A study of the theory, application, and techniques useful for propagating tissues in the research laboratory. Topics selected for study include sterile techniques, cell nutrition, media preparation, establishment and maintenance of explant, callus and suspension cultures and growth measurement of cell, tissue, and organ culture.	2	3/5
17	RH20603	Turf Management	In this course, graduates will learn the botany, physiology, ecology, pests, diseases, irrigation, nutrition, cultures, and weeds of turfgrasses. They will also learn the principles of managing turfgrass field. Through practical exercise, they will learn the identification, how to study the population biology, and to observe	3	2/4

			physiological stress symptoms of turfgrasses.		
18	RH30602	Floriculture And Ornamentals	This course discusses identification, usage, propagation, and cultural requirements of flowering plants, trees, shrubs, vines, and ground covers used in Malaysian landscapes. It also includes the physiological principles and commercial practices involved in the production of potted and bedded plants, as well as greenhouse production systems.	2	3/6
19	RH30803	Landscape Design	This course provides students with an understanding of design principles and practice of draughtsman ship skills and landscape construction. Theory and practice of landscape design, design themes with special application to commercial and public parks will be emphasized.	3	3/6
20	RH31002	Pomology	This course provides knowledge on aspects of fruit production from planting to harvesting with special emphasis on local fruits. Discussion will include collection and cultivation of potential indigenous fruit species for future propagation and breeding purposes.	2	3/6
21	RH31102	Landscape Construction And Management	This course will introduce the concepts, principles and factors considered in building landscapes for public parks, recreation parks, golf gardens, natural parks and others. Students are exposed to the effective management of landscapes. Issues that will be discussed are emphasized, visitor's safety, environmental-friendly design and enhancement of existing vegetation and economics.	2	3/6
22	RL10404	Animal Anatomy And Physiology	This course covers animal anatomy and physiology. Various systems such as the skeletal, muscular, respiratory, circulatory, nervous, endocrines, urinary and digestive systems will be discussed. The course includes the basic principles of physiology, preservation of tissues/ organs and will use tools such as anatomical models and preserved specimens.	4	1/2
23	RL20403	Animal Behaviour And Welfare	This course covers various aspects of farm animal behaviour, their causes, and implications on management, production, health and welfare. It also discusses mechanisms, functions and evolution of behaviour as well as the importance of animal behaviour in conservation biology programs.	3	2/4
24	RL21203	Poultry	This course covers all aspects of poultry	3	2/4

		Production	husbandry practices including breeding, nutrition, management, housing, equipment, health and welfare. Emphasis will be on broiler and layer production.		
25	RL30403	Beef And Dairy Production	This course includes important aspects of dairy and beef cattle management from birth to adult, various breeds of dairy and beef cattle, selection and judging dairy and beef cattle. It will include breeding, nutrition and management, milking management, dairy herd health, dairy housing & equipment, marketing of milk, beef cattle health management, beef cattle housing and equipment and marketing of beef.	3	3/6
26	RL30603	Animal Diseases And Health Care	This course deals with common diseases (infectious and non-infectious) of livestock, aetiology, symptoms, effect on animal production, treatment and prevention. It will include topics such as proper handling and care of animals, hygiene, sanitation, vaccination schedule, immunization, and health monitoring.	3	3/6
27	RL30602	Livestock Housing Systems	This course will mainly focus on the housing of dairy cattle in modern agriculture. It will cover all aspects of housing such as site selection, housing systems, loose housing, calf pens, housing for young stock and dry cows, maternity pens, bull pens, milking parlor and area for storage of manure. It will also include topics such as feeding area and bedding; heating and ventilation; and construction material. Housing of other livestock such as beef cattle; sheep and goats; poultry and swine will also be covered.	2	3/5@6
28	RL30702	Animal Environmental Physiology	The course aims to study the effects of the environment on the physiology of mammals with emphasis on stress, behaviour, water and electrolyte balance and other adaptations to environmental variations. Attention will be placed on the problems associated with the improvement of livestock production in tropical climates. This course aims to develop an understanding of the environmental needs of animals including climate, social stress and shelter requirements and it should enable students to appreciate the use of animal behaviour as a measure of stress and welfare.	2	3/6

LIST OF COURSES OFFERED FOR EXCHANGE STUDENTS PROGRAMME (INBOUND MOBILITY)
FACULTY OF HUMANITIES, ARTS AND HERITAGE
PROGRAMME : HA02 COMMUNICATION

NO.	COURSE CODE	COURSE NAME	CREDIT HOUR	YEAR	SEMESTER
1	AK20103	INFORMATION TECHNOLOGY (NEW MEDIA IN COMMUNICATION)	3	2	2
2	AK20203	COMMUNICATION LAW & ETHICS	3	1	4
3	AK10303	MEDIA. CULTURE & SOCIETY	3	1	2
4	AK20903	EDITING	3	2	4
5	AK20603	RESEARCH METHODS IN COMMUNICATION	3	2	4
6	AK21203	PUBLIC RELATIONS WRITING	3	2	4
7	AK21503	CAMPAING & PERSUASION	3	2	4
8	AK21603	MEDIA PLANNING	3	2	4
9	AK20803	RADIO PRODUCTION 2	3	2	4
10	AK30803	COMPARATIVE JOURNALISM	3	3	6
11	AK30603	STATION MANAGEMENT (BROADCAST MANAGEMENT)	3	3	6
12	AK31203	CORPORATE PUBLIC RELATIONS	3	3	6
13	AK31403	GOVERNMENT PUBLIC RELATIONS	3	3	6
14	AK30403	TV DIRECTING	3	3	6

PROGRAMME : HA12 INDUSTRIAL RELATIONS

NO.	COURSE CODE	COURSE NAME	CREDIT HOUR	YEAR	SEMESTER
1	AH32003	INNOVATION AN D WORK ENVIRONMENT	3	2,3	2
2	AH32103	ETHICS AT WORKPLACE	3	3	2

PROGRAMME : HA14 SOCIOLOGY & SOCIAL ANTHROPOLOGY

NO.	COURSE CODE	COURSE NAME	CREDIT HOUR	YEAR	SEMESTER
1	AA20803	DEVELOPMENT AND ENVIROMENT	3	2	2
2	AA31003	ETHNOMUSICOLOGY	3	3	2

PROGRAMME : HA15 INTERNATIONAL RELATIONS

NO.	COURSE CODE	COURSE NAME	CREDIT HOUR	YEAR	SEMESTER
1	AS20403	INTERNATIONAL CONFLICT MANAGEMENT	3	2	2
2	AS20803	INTERNATIONAL POLITICS OF THE ASIA PACIFIC	3	2	2
3	AS21003	ARAB-ISRAELI CONFLICT	3	2	2
4	AS21203	INTERNATIONAL POLITICS OF AUSTRALASIA	3	2	2
5	AS30603	ASIA & INTERNATIONAL TRADE	3	3	2
6	AS21403	THE POLITICS OF ALLIANCE	3	2	2
7	AS30803	ETHNIC AND RELIGIOUS	3	3	2

PROGRAMME : HA18 GEOGRAPHY

NO.	COURSE CODE	COURSE NAME	CREDIT HOUR	YEAR	SEMESTER
1	AG21103	ECONOMIC GEOGRAPHY	3	2	2
2	AG30303	CLIMATOLOGY OF SOUTHEAST ASIA	3	3	2
3	AG30403	URBAN SOLID WASTE MANAGEMENT	3	3	2
4	AG21203	ENVIRONMENTAL ECOSYSTEM MANAGEMENT	3	3	2
5	AG30203	ENVIRONMENTAL IMPACT ASSESSMENT	3	3	2

PROGRAMME : HA24 HISTORY

NO.	COURSE CODE	COURSE NAME	CREDIT HOUR	YEAR	SEMESTER
1	AJ10203	HISTORY OF SABAH & SARAWAK (1841-1963)	3	1	2
2	AJ10403	INTRODUCTION TO ARCHAEOLOGY	3	1	2
3	AJ21803	SOCIAL HISTORY OF MALAYA (1850 -1963)	3	2	4
4	AJ30903	HERITAGE MANAGEMENT	3	3	6

PROGRAMME : HA05 MUSIC

NO.	COURSE CODE	COURSE NAME	CREDIT HOUR	YEAR	SEMESTER
1	CM11002	TEXTURAL ANALYSIS WESTERN MUSIC 1	2	1	2
2	CM11601	TRADITIONAL MALAYSIAN MUSIC 1	1	1	2
3	CM10801	AURAL WRITING II	1	1	2
4	CM10202	THEORY & HARMONY II	2	1	2
5	CM22201	INSTRUMENTAL & VOCAL ENSEMBLE IV	1	2	4

PROGRAMME : HA11 CREATIVE ARTS

NO.	COURSE CODE	COURSE NAME	CREDIT HOUR	YEAR	SEMESTER
1	CA10203	INTRODUCTION TO WRITING	3	1	2
2	CA10603	THE FAUNDAMENTALS OF ACTING	2	1	2

PROGRAMME : HA32 VISUAL ARTS TECHONOLOGY

NO.	COURSE CODE	COURSE NAME	CREDIT HOUR	YEAR	SEMESTER
1	CV10202	VISUAL LITERACY II	2	1	2
2	CV21402	BASIC ADVERTISING	2	1	2
3	CV22602	BATIK	2	1	2
4	CV22102	PAINTING	2	2	2
5	CV22002	GRAPHICS ILLUSTRATION	2	2	2

LIST OF COURSES OFFERED FOR EXCHANGE STUDENTS PROGRAMME (INBOUND MOBILITY)

FACULTY OF ENGINEERING

PROGRAM HK01 CIVIL ENGINEERING

No	Course Code	Course Name	Credit Hour	Year	Semester
1	KA10802	CONSTRUCTION TECHNOLOGY	2	1	2
2	KA20403	ENGINEERING SURVEY	3	2	2
3	KA20801	SURVEY CAMP	1	2	2
4	KA21801	CONCRETE AND MATERIAL LAB	1	2	2
5	KA24201	STRUCTURE LAB	1	2	2
6	KA30203	HYDROLOGY	3	3	2
7	KA31403	REINFORCED CONCRETE DESIGN 2	3	3	2
8	KA31603	HIGHWAY ENGINEERING	3	3	2
9	KA31802	GEOTECHNICAL AND HIGHWAY LAB	2	3	2
10	KA43203	TRANSPORTATION ENGINEERING	3	4	2
11	KA43403	ADVANCED ENVIRONMENTAL ENGINEERING	3	4	2
12	KA42203	WATER AND WASTEWATER ENGINEERING	3	4	2

PROGRAM HK02 ELECTRICAL AND ELECTRONIC ENGINEERING

No	Course Code	Course Name	Credit Hour	Year	Semester
1	KE17403	ELECTRIC CIRCUIT ANALYSIS	3	1	2
2	KE18201	ENGINEERING LAB 1 (CIRCUIT & EE SYSTEMS)	1	1	2
3	KE17603	LOGIC DESIGN	3	1	2
4	KE27203	COMPUTER ARCHITECTURE & MICROPROCESSOR	3	2	2
5	KE36203	COMMUNICATIONS SYSTEMS	3	3	2
6	KE36603	POWER SYSTEMS	3	3	2
7	KE44303	INFORMATION THEORY & CODING	3	4	2
8	KE43203	PHOTONICS & OPTICAL INTEGRATED CIRCUIT	3	4	2
9	KE44203	ANTENNA THEORY & APPLICATIONS	3	4	2
10	KE42103	ARTIFICIAL INTELLIGENCE	3	4	2
11	KE48203	ELECTRICAL ENERGY UTILIZATION	3	4	2
12	KE45403	SPECIAL TOPIC IN POWER (SOLAR ENGINEERING)	3	4	2
13	KE41103	ROBOTICS	3	4	2

LIST OF COURSES OFFERED FOR EXCHANGE STUDENTS PROGRAMME (INBOUND MOBILITY)
FACULTY OF BUSINESS, ECONOMICS AND ACCOUNTANCY

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HE02 - Accounting					
1	BP12203	Financial Accounting I	This is an intermediate financial accounting course and is a continuation of Principles of Accounting course. The focus is on company accounting. The course covers the regulatory and conceptual framework underlying the preparation and presentation of financial statements. Topics include accounting for current, non-current and intangible assets as well as impairment, liabilities and contingencies, deferred tax and leases. (<i>Prerequisite: A passing score of 50% in Principles of Accounting or an equivalent course.</i>)	3	1/2
2	BP17103	Financial Management	This course was designed for students to learn about the main principles in the financial management and its importance in solving problems whenever they deal with making a financial decision. To increase the understanding in analysis, case study discussions will also be used so that the students will be exposed to real world situation and enables them to implement whatever they have learnt in class.	3	1/2
3	BP21103	Management Accounting I	This course introduces the basic concepts, terminologies, principles and methods of cost accounting at operational level. This includes the introduction of cost elements, basic cost accumulation techniques and various costing methods, including contemporary approaches in arriving at the cost of products produced or services rendered. (<i>Prerequisite: A passing score of 50% in Principles of Accounting or an equivalent course.</i>)	3	1/2
4	BP35103	Accounting Information Systems I	This course teaches conceptual, analytical and technical skills necessary to work efficiently and productively as an accountant in a computerized business information environment. The focus will be on the effect of information technology on accounting cycles and processes and designing effective internal control systems. Along the way, the students will also be exposed to the use of accounting software packages. (<i>Prerequisite: A passing score of 50% in Principles of Accounting or an equivalent course.</i>)	3	3/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HE04 - Entrepreneurship					
1	BT22003	Entrepreneurship	The course gives knowledge to students about the main principles related to entrepreneur and entrepreneurship concept, which serve as a basic and guidance for future entrepreneurial activities. This course is designed to monitor the new innovative approaches that help to realize the concept of entrepreneurship and the development of business venture. Besides this courses is expected to give exposure and to introduce tools and practices needed in creating successful new business venture and has competitive advantage that in line with the changes in the globalization era and trade liberation.	3	1/2 & 2/1
2	BB20303	Franchise management	The franchising method is one of the external growth strategies in order to expand businesses through entrepreneurial development. Through an understanding on the franchising concept and how it has been applied in various retail businesses, this course can help trigger ideas to future entrepreneurs to create their own businesses or attain business ownership as franchisee.	3	2/2
3	BB31603	New Venture Management	This course is about the actual process of getting a new venture started, growing the venture, successfully harvesting it and starting again. It is designed to enable students to apply the entrepreneurship concept by applying the theories to a real entrepreneurial activity. The readiness of students in terms of their thinking, action and performance in entrepreneurial activities can be increased through the experiential learning. Students will be exposed to many of the vital issues in launching and creating a business venture such as opportunity recognition which consider the element of structure, skills, people and future.	3	3/2
No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HE05 – Planning and Development Economic					
1	BT11703	Macroeconomics I	This course provides introductory materials for macroeconomics. The syllabus is focuses on applications and policy while explaining the formal economic theory. The first three chapters introduce students to the economist's view of the world, the role of assumptions in developing theory or model and the role of economist in making policy. The coverage of the macroeconomics includes how to measure national income, cost of living, and the behaviour of the real economy, money and prices in the long run. The last few chapters present the macroeconomics of open economies, maintaining the long run assumptions of price flexibility and full employment.	3	1/2

2	BT10403	Statistics for Business and Economics	The purpose of this course is to give students, primarily those in the fields of accounting, business and economics, a conceptual introduction to the field of statistics and its many applications. Statistical Analysis develops and applies the basic concepts and methods of statistical inference in the organization and presentation of business data. Students will develop basic applied skills in the areas of elementary probability, measures of central tendency and variation, tests of statistical significance, sampling, simple linear/multiple regression and correlation, and ANOVA. The course stresses the role of statistics in interpreting business and economic data and using the interpreted data in the decision making process.	3	1/2
3	BC30603	Project Planning and Appraisal	This course will focus on various aspects of project planning and project evaluation including project definition, project preparation method, project evaluation from financial perspective, economic and cost-benefit and relevant concepts; project life cycle; project identification, preparation, interpretation, implementation and re-evaluation will be focused. This course will examines the principles and practice underlying cost-benefit analysis (CBA) and cost-effectiveness analysis (CEA). The course will examine the technical details of economically sound cost-benefit analysis (CBA). The concept of willingness to pay, the role of time, the project boundary, shadow pricing for marketed and non-marketed goods, and the use of hedonic price indices and contingent valuation are also discussed.	3	3/2
4	BC30403	Economic Planning	This course focuses on various aspects and issues in development economics, particularly essential principles and concepts of economics that are particularly relevant for understanding development problems that affects economic planning and development. Special reference is given to the core problems faced by many developing and Third World countries in their pursuit for development. The rationality of the inclusion of this course is to give a grasp and understanding of the relationship between economic development and its issues faced by most developing and least developed countries.	3	3/2

5	BC30303	Resource and Agricultural Economics	The scope of discussion in this course is divided into two parts: In the first section, the following topics will be covered: concepts for examining natural resources, natural resource scarcity, open access, private ownership, renewable and non-renewable resources, usage of static and dynamic models to examine natural resource use, as well as issues of sustainability and natural resource scarcity in the past and present. All topics related to agricultural policies and impact of globalization towards agriculture will be discussed in the Malaysian context. The second part will deal specifically on concepts and issues in agricultural economics and agri-business. The second part will focus on concepts and issues in resource economics. Topics of discussion in part one include: basic concept of economics, definition of agricultural economics, production function – single input, two inputs, cost of production, theory of consumer behaviour, consumer equilibrium and market demand, market structure, pricing, agricultural marketing, agricultural reform and policies.	3	3/2
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No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HE06 – Finance and Banking Management					
1	BT12103	Financial Management	It is essential to have the knowledge in financial management for one especially when they actively participated in the business and management fields. Whatever areas they involved in (whether it is accounting, economics, science, technology or management) one cannot escape from the financial management elements since it is highly correlated with our daily lives. A computer programmer for instance, may need to decide how much capital they required to open the studio, as well as to create a proper budgeting plan in order to avoid losses. This subject therefore will provide them the guidance in making personal, corporate, financial and investment decisions, as well as giving them the basic understanding in the field of finance.	3	1/2
2	BD31603	Bank Management	Bank Management is a key component of the global economy. As an economic activity, it is central to the flow of capital around the world through provision of loans, the supply of financial advice and its involvement in securities markets. This course will provide an insight of issues arise from the Bank Management, which has been a growing trend since the 1960s. Therefore, the students will acquire a solid understanding of recent development of Bank Management as well as the future.	3	2/2

3	BD20403	Investment Analysis	The significance of this course lies on its ability to provide students with essential knowledge on investment and equip them with basic skills in share trading. Such knowledge and skills are necessary so the students will be able to understand the dynamic nature of investment and enable them to formulate their investment strategy and decision making appropriately. Hence, the course will help in producing a group of well-informed potential investors and/or future fund managers with expertise in investment who are ready to enter the market.		2/2
4	BD30603	International Financial Management	The course is designed with the assumptions that its participants are equip with adequate financial management, corporate finance, economics, and algebra but lack the exposures of aspects related to multinational finance. In dynamic business environments of today, largely driven by the wave of globalization, financial managers for multinational corporations (MNCs) have to equip themselves with good knowledge pertaining to financial management not just to make daily financial decisions, but also to manage ever increasing volatility as well as to search for and to exploit any business opportunities provided by the markets, both at home as well as abroad. For this, managers should be sensitive to the aspects concerning the development financial industry as well as how the globalization affects the international economy. Such knowledge and sensitivity are crucial as it is the task of financial managers to look after the financial welfare of the companies as well as all its stakeholders and shareholders.	3	3/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HE07 – Financial Economic					
1	BT11703	Macroeconomics I	This course provides introductory materials for macroeconomics. The syllabus is focuses on applications and policy while explaining the formal economic theory. The first three chapters introduce students to the economist's view of the world, the role of assumptions in developing theory or model and the role of economist in making policy. The coverage of the macroeconomics includes how to measure national income, cost of living, and the behaviour of the real economy, money and prices in the long run. The last few chapters present the macroeconomics of open economies, maintaining the long run assumptions of price flexibility and full	3	1/2

			employment.		
2	BT10403	Statistics for Business and Economics	The purpose of this course is to give students, primarily those in the fields of accounting, business and economics, a conceptual introduction to the field of statistics and its many applications. Statistical Analysis develops and applies the basic concepts and methods of statistical inference in the organization and presentation of business data. Students will develop basic applied skills in the areas of elementary probability, measures of central tendency and variation, tests of statistical significance, sampling, simple linear/multiple regression and correlation, and ANOVA. The course stresses the role of statistics in interpreting business and economic data and using the interpreted data in the decision making process.	3	1/2
3	BF30403	International Financial Economics	This course discusses financial markets in international context with the focus on foreign exchange market. More specifically, this courses analyses the determination of foreign exchange, changes of foreign exchange, the relationship of foreign exchange with other financial markets and related policy matters. The topics discussed includes international monetary system, purchasing power parity, interest rate parity, spot exchange rate determination, foreign exchange market efficiency, exchange rate forecasting, bond portfolio, equity portfolio, and regulation and intervention in the competitive marketplace.	3	3/2
4	BF31303	Offshore Financial Economics	This course emphasizes on the issues of offshore financial economics such as, tax-free business transaction, secrecy strict of laws on accounts, and formation of international business firms. This course also discusses about Labuan International Offshore Financial Center (IOFC), tax, offshore trust, the benefits of offshore financial centers, money laundering, Financial Action Task Force (FATF), offshore banking, offshore internet banking, and so forth.	3	3/2
5	BF30703	Islamic Financial Economics	This course is the basic introductory to Islamic economics and financial economics especially in the area of finance and banking. It discusses the concept and application in Islamic finance and gives exposure to the students on how Islamic teaching perceives the systems and its functions. This course also exposes the students on the information regarding the importance and differences of the Islamic financial systems compared to the conventional ones and this will ease the students to make the comparisons and analyze the market from Islamic perspective. Among the discussed concepts and issues in this course are scarcity and resources, surplus and deficit sectors, riba, hibah, Trade, al-bay', BBA (Al-Bay Bithaman Al-ajil), Mudharabah, Musyarakah and also the products available in Islamic banking and finance industry. The course also discusses on the role of Baitul Mal and zakat.	3	3/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HE08 – Hotel Management					
1	BE20303	Introduction to Hospitality Industry	This course serves as an introductory course for students that specialize in Hotel Management programme. It is aim to advance student knowledge about hospitality industry as well as assist them in shaping their expectation towards hospitality industry career.	3	1/2
2	BE33503	Food Preparation	This course is a selective technical subject in the Hotel Management Programme and is occupationally related as it serves as preparation for jobs in the hospitality industry, particularly in the career of Culinary Arts. It is intended to introduce the students on the theory of catering that is essential to support in the basic techniques of cookery and can be used and adopted in all sectors of the foodservice industry. This course enables students to put much of the fundamental of food preparation and cookery into practice by trying out different recipes and different methods of cooking in line with the critical aspects of menu management commonly adopted in the foodservice industry.	3	2/2
3	BE33603	Food and Beverage Services	This course is one of the most important subjects in degree and diploma courses in hotel management and catering technology and a core subject in craftsmanship course in F&B service. The F&B sector requires highly motivated individuals. Working in this sector involves sound understanding of basic concepts of food service, as well as a lot of practical insight into the intricacies of diverse service procedures. Aspiring professionals in this field must be prepared to deal with demanding schedules and short deadlines, and in doing that, extend the best hospitality to their guests.	3	2/2
4	BE33303	Customer Service Management	This course provides an initial overview and exposure for students to acquire knowledge about the hospitality industry. Being a diverse industry, the career opportunity available in the hospitality industry is not only limited to those of Hotel Management background, rather it extends to graduates from other business and economics specialization. Therefore, this course is an ideal platform for them to acquire knowledge about the industry that is hoped makes their chances higher to be employed.	3	3/2

No	Course Code	Course Name	Course Description	Credit Hour	Year / Semester Offered
HE09 – International Business					
1	BT22003	Entrepreneurship	The course gives knowledge to students about the main principles related to entrepreneur and entrepreneurship concept, which serve as a basic and guidance for future entrepreneurial activities. This course is designed to monitor the new innovative approaches that help to realize the concept of entrepreneurship and the development of business venture. Besides this courses is expected to give exposure and to introduce tools and practices needed in creating successful new business venture and has competitive advantage that in line with the changes in the globalization era and trade liberation.	3	1/2
2	BA21203	Cross-Cultural Management	Globalization has brought about an increased interaction between managers from various cultures. As a result, it is important that managers of today understand culture and the implications of culture in the development of individual and group culture as well as management style. This course will emphasize on the differences in management practices as a result of differences in culture. Topics that will be discussed include the interaction between culture and organization, strategy and culture, human resource and culture, leadership and culture, as well as on communication and negotiation.	3	2/2
3	BA32303	International Trade	This course focuses on the basic theories in international trade which determine the factors that cause international trade amongst nations. The course components include classic and contemporary theory of trade liberalization and interantional trade.	3	2/2
4	BA31403	Issues In International Business	Through the use of cases, students are exposed to making decisions confronted by real managers involved in international business using concepts they have learned throughout the course. Topics covered in this course include analysis of the global environment and foreign markets, determining the appropriate mode of entering foreign markets (e.g. exports, licensing/franchising, strategic alliances and foreign direct investments) and formulating feasible strategies to compete in the international arena.	3	3/2

No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HE10 – Marketing					
1	BT12003	Marketing	The students will be introduced to the important elements of marketing the product, price, place and distribution (4Ps). The other aspects of marketing, such as, Marketing Strategy, Promotion, Market Planning, Retailing and Wholesaling, Target Marketing, International Marketing, Market Segmentation, Services Marketing also will be covered. All the topics will help students to be able to develop a foundation of knowledge and skills in marketing. The course aims to provide students with the basic knowledge and skills necessary to design and execute effective marketing plans and programs. Marketing is one of the core course for Faculty of Business, Economics and Accountancy	3	1/1 or 2
4	BG31803	Services Marketing	This course was designed to prepare the student to be a decision maker, with emphasize on the specific dimensions of service or product and customer-focused service organization. This course also required active participation from students both in class (lecture, debates, case discussion and assignments) and outside of the class (observation and critical industry analysis).	3	2/2
6	BG31203	International Marketing Management	This course is designed to discuss marketing theories /concepts at the international market environment as well as the applications and implications of marketing strategies. It focuses on the major dimensions of the global business environment, international market entry methods, strategic planning in cross cultural boundaries, international marketing mix as well as the impact of technology on the international marketing landscape. Specifically, students will be able to identify factors that influence the success of marketing strategies implementations and challenges faced as an international marketer.	3	3/2

No	Course Code	Course Name	Course Description	Credit Hour	Year / Semester Offered
HE11 – Human Resource Economic					
1	BT11703	Macroeconomics I	This course provides introductory materials for macroeconomics. The syllabus is focuses on applications and policy while explaining the formal economic theory. The first three chapters introduce students to the economist's view of the world, the role of assumptions in developing theory or model and the role of economist in making policy. The coverage of the macroeconomics includes how to measure national income, cost of living, and the behaviour of the real economy, money and prices in the long run. The last few chapters present the macroeconomics of open economies, maintaining the long run assumptions of price flexibility and full employment.	3	1/2
2	BT10403	Statistics for Business and Economics	The purpose of this course is to give students, primarily those in the fields of accounting, business and economics, a conceptual introduction to the field of statistics and its many applications. Statistical Analysis develops and applies the basic concepts and methods of statistical inference in the organization and presentation of business data. Students will develop basic applied skills in the areas of elementary probability, measures of central tendency and variation, tests of statistical significance, sampling, simple linear/multiple regression and correlation, and ANOVA. The course stresses the role of statistics in interpreting business and economic data and using the interpreted data in the decision making process.	3	1/2
3	BH31003	Women and Labour Market	The primary focus of this course is on the economic behavior of women and men especially in the labour market. In general, female labour force participation has increased significantly over the last decades. However, the quality of employment has not necessarily improved. Women continue to be over-represented in atypical and informal employment when compared to men's patterns of employment. Women play an important role in the economy as workers and consumers. In many ways their behavior and their problems differ from those of men. Improving women's employment prospects can have positive effects on women's economic empowerment as well as broader economic and social benefits. Yet, gender concerns have not been fully integrated with mainstream policies. The main aim of this course is to understand the continued responsibility of most women for the bulk of non-market work and the large occupational differences between men and women.	3	2/1 or 2/2

4	BH33803	Human Resource Management	The course is designed primarily for the undergraduate course. It is intended for students who are being exposed to HRM for the first time. The course is designed to get students to be in touch with the field through the use of numerous examples and company material and will reinforce the notion that, by definition, all managers are necessarily involved with HR. The course provides helpful insights for those students who aspire to management position.	3	2/1 or 2/2
5	BH33403	Labour Market And Gender	This course provides introductory materials for economics status of women as compared to men in labor market. The syllabus is devoted to applications and policy and less formal economic theory and specifically concerned with the economics status of women. Most chapters include case studies (from the United States of America) illustrating how the gender differences from an economics perspective. The chapters introduce students to the economist's view of the labor force participation of women, the role of labor market discrimination, gender wage gap, non market work (time spent with children), trends in marriage, divorce and overall fertility, affirmative action and findings regarding the effectiveness of antidiscrimination legislation and women's status across broad regions of the world.	3	3/1 or 3/2
6	BH31603	Health Economics	Health economics examines a wide range of issues from the nature and production of health to the market for health and medical care to the microeconomic evaluation of health care interventions and strategies. This course dealt with the basic fundamentals of health care, demand and supply of health care in the health care market as well as the role of government and other non-governmental institutions in the provision of health care. This course will teach the student to use microeconomic (price theory) to understand critical issues in health care and health policy.	3	3/1 or 3/2

7	BH30703	International Human Resources Economics	The cross border movements of people and increasing diversity of societies are inevitable. International migration creates significant financial and social benefits for migrants, for their families, and for the countries of origin and destination. Workers move overseas, away from family and friends, to seek better employment that will produce an improved quality of life for themselves and families that they have left behind. The salaries earned by migrants and the resulting surplus funds sent home – remittances – constitute the second largest flow of capital to developing countries, behind only governmental development aid. At the same time, migration also has negative effects to the society. The aim of this course is to study the causes of migration and the impacts of migration to the society from an economics perspective.	3	3/1 or 3/2
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No	Course Code	Course Name	Course Description	Credit Hour	Year/ Semester Offered
HP08 – Tourism Management					
1	BY30403	Tourism Marketing	The course involves the study of marketing theory as it applies to the tourism industry. It focuses on the strategies adopted by public and private sector tourism practitioners to market tourism destinations and products. The course focuses particularly on the tools of communication strategy, the role of image and branding in tourism marketing, and the changes in tourism marketing that have evolved with developments in electronic technology. The role of key players in the tourism industry will be investigated from a marketing perspective, including destination marketing organizations, tour operators, hoteliers and airlines. The course also looks at how marketing strategies have become more tactical and responsive within the current climate of political and economic instability, using marketing to help the industry recover from crises such as terrorism, natural disasters and wars.	3	2/2
2	BY20103	The Principles Of Tourism	Principles of Tourism are an introductory course which introduces the key concepts that tourism student will need to understand the complexity of tourism. Students will be able to identify the main sub sectors when combine constitute the tourism sector. Besides that the focused is also on insights into the operating characteristics, trends and issues that the dominate tourism and specifically upon attractions, accommodations, intermediaries, transportation, and public sector organisation and destination and the process and application of marketing to the unique characteristic of tourism.	3	2/2

LIST OF COURSES OFFERED FOR EXCHANGE STUDENTS PROGRAMME (INBOUND MOBILITY)
FACULTY OF PSYCHOLOGY AND EDUCATION

No.	Course Code/ Course Name	Credit	Year/Semester
HA13 : Bachelor Of Psychology (Industrial and Organizational Psychology)			
	1. PI10203 Leadership	3	Year 1, Sem 2
	1. PI20403 Work, Physiology and Ergonomics	3	Year 2, Sem 2
	1. PI30603 Introduction to Personnel Assessment 2. PI30803 Issues in Industrial and Organizational Psychology 3. PI31003 Advertising Psychology	3	Year 3, Sem2

No.	Course Code/ Course Name	Credit	Year/Semester
HA16 : Bachelor Of Psychology (Youth and Community Development)			
	1. PB10203 Introduction to Social Deviance	3	Year 1, Sem 2
	2. PB20603 Conflict and Conflict Resolution	3	Year 2, Sem 2
	1. PB30803 Attitudes and Attitude Change 2. PB31003 Intervention and Program Assessment in Society 3. PB31203 Issues in Social Psychology	3	Year 3, Sem2

No.	Course Code/ Course Name	Credit	Year/Semester
HA 10 : Bachelor Of Psychology / Counselling Psychology			
	1. PK10203 Theories of Counselling and Psychotherapy	3	Year 1, Sem 2
	2. PK20403 Group Counselling	3	Year 2, Sem 2
	1. PK30603 Assessment in Counselling 2. PK30803 Ethics in Counselling	3	Year 3, Sem2

No.	Course Code/ Course Name	Credit	Year/Semester
HA 20 : Bachelor Of Psychology (Child and Family Psychology)			
	1. PA10203 Infant and Child Development Psychology	3	Year 1, Sem 2
	1. PA20403 Introduction to Parenting and NonTraditional Family 2. PA20603 Issues in Child and Family Psychology	3	Year 2, Sem 2
	1. PA30803 Physical and Cognitive Evaluation of Children 2. PA31003 Therapeutic Techniques with Children	3	Year 3, Sem2

No.	Course Code/ Course Name	Credit	Year/Semester
HA 52 : Bachelor Of Social Work			
	1. PS10003 Method, Process and Techniques of the Intervention of Social Work 2. PS10203 Philosophy, Ethics and Human Rights in Social Work	3	Year 1, Sem 2
	1. PS20603 Social Workers Practice II: Group 2. PT21403 Social Planning and Policy	3	Year 2, Sem 2
	1. PS31003 Technology and Information Management for Social Workers 2. PS32003 Issues in Social Work 3. PT31903 Social Work Laboratory 4. PS31803 Social Work In Correctional Setting 5. PS31603 Crisis and Disaster Recovery Management 6. PS31403 Gerontology Social Work	3	Year 3, Sem2

HT06 : Bachelor In Education (Education with TESL)			
	1. TE20103 Introduction To Semantics 2. TE10203 Second Language Acquisition 3. TE20403 English Syntax And The Structure Of English	3	Year 1, Sem 2
	1. TE10103 Literature And Language Learning 2. TE10502 Teaching Writing Skills 3. TE30003 Syllabus Design 4. TE20503 Discourse Analysis	3	Year 2, Sem 2
	1. TE20303 Materials Development 2. TE30203 Tesl Methodology I 3. TE40203 Language Awareness	3	Year 3, Sem2

No.	Course Code/ Course Name	Credit	Year/Semester
HT19 : Bachelor of Early Childhood Education			
	1. TD10403 Early Childhood Education Curriculum Studies	3	Year 1, Sem 2
	1. TD10603 Language Learning in Early Childhood Education 2. TD20203 Child Care Management 3. TD20603 Music and Creative Movement in Early Childhood Education 4. TD30903 Early Mathematics for Children	3	Year 2, Sem 2

LIST OF COURSES OFFERED FOR EXCHANGE STUDENTS PROGRAMME (INBOUND MOBILITY)
FACULTY OF MEDICINE AND HEALTH SCIENCES

No.	Course code	Course name	Resources description	Credit hours	Year/Semester offered
Nursing Programme					
1	MN 12104	Nursing Science II	<p>This module emphasis on patient care following nursing process approach and correlates with the implication of pharmacological therapy.</p> <p>It also emphases on structural and functional changes in the cells and tissues of the cardiovascular and respiratory system.</p> <p>The care given is according to specific perioperative treatment and diseases in those systems which will converge together with specific nursing procedures.</p>	4	Year 1 Semester 2 (February)
2	MN 22202	Pediatric Nursing	<p>This module introduces students to pediatric care from neonate to childhood. The focus that will be emphasized are care of the neonate, child and major problems in pediatric medicine and surgery.</p>	2	Year 2 Semester 2 (February)

LIST OF COURSES OFFERED FOR EXCHANGE STUDENTS PROGRAMME (INBOUND MOBILITY)
FACULTY OF COMPUTING AND INFORMATICS
COURSE OFFERED FOR SEM 2: 2018/2019
Bachelor of Science with Honours (Multimedia Technology) (HC12) – FCI Labuan
Bachelor of Information Technology with Honours (Business Computing) (HC13 – FCI Labuan

No	Course Code	Course Name	Course Description	Credit Hours	Year/ Semester Offered
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Both for HC12 & HC 13 (Labuan)

1	IT12203	Basic Mathematics	This course provides students with introduction to basic mathematics in calculus, which of function, Limit & Continuous, Algebra Vectors, Differentiation, Integration and their applications. The purpose is to develop the students' mathematical knowledge and to provide the students analytical techniques as well as problem solving methods needed in computing.	3	1/2
2	IT12403	Internet Technology	This course provides an introduction of fundamental concepts and architecture of internet in addition to the World Wide Web (WWW) and its associated technologies. Course covers topics in Internet and WWW technology such as communication tools, security and privacy, multimedia, e-commerce and information services on the internet. The basic Web page creation with HyperText Markup Language (HTML) and Cascading Style Sheets (CSS) are also introduced.	3	1/2
3	IT12603	Operating System	This course introduces students to the importance of the concept of Operating System (OS) as primarily providing users with interface to manage a complex system. A computer consists of 3processors, memories, timers, disks, mouse, keyboard, network interfaces,	3	1/2

			and wide variety of other devices. In short, OS is to provide for an orderly and controlled allocation of the processors, memories and input / output devices		
4	IT22403	Database Management System	The course introduces the field of database management and its advantages as compared to file based system as the precursor to database system. It examines the database environment and the three level ANSI SPARC architecture. The course covers relational model and languages, namely relational algebra, SQL and a brief introduction to Data Definition Language (DDL). The course discusses the main techniques for database analysis and design such as ER Diagram and Normalization. The course also considers on the issue of DBMS security. The course finally concentrates on three functions that should be provided by the Database Management System, namely transaction management, concurrency control and recovery.	3	2/2
5	IT22603	Data Structure	This course will introduce to student on the concept of Data Structure which enclose Foundational Data Structure and Object Oriented Design (OOD), Pointer and Array-Based List, Linear structure; Linked Lists, Queues and Stack, Dynamic Structure: Binary Trees and B-Tree. Algorithmic; Searching and Hashing Algorithms, and Sorting Algorithms, Recursion and Standard Template Library.	3	2/2
6	IT22103	Object Oriented Programming	Object-Oriented Programming with Java takes a full-immersion approach to object-oriented programming. Proper object-oriented design practices are emphasized throughout the course. Students learn how to use the standard classes first, then learn to design their own classes. In this course will introduce and uses a gentler approach to teaching students on how to design their own classes, separating the coverage into two	3	2/2

			sections. GUI coverage is also located independently in the middle of semester will be covered as desired by industry. This course provides a language-independent presentation of object-oriented principles, such as objects, methods, inheritance (including multiple inheritance) and polymorphism.		
7	IT22303	Statistic	This course provides students with statistic theories in probability theory, discrete probability distributions, continuous probability distributions, estimation methods, and hypothesis tests.	3	2/2
8	IT31203	Management Information Systems	This course teaches students how organisations use ICT and Information Systems to achieve their objectives. In the early part of this course, the discussions focus on how organisations use Information Systems to achieve their objectives. It is then followed by a discussion on how to secure information system. The latter parts discuss how IS can help managers to enhance decision making processes	3	3/2
9	IT41103	Ethics & Professionalism in IT	This course addresses the legal, ethical and social issues relevant to Information Technology, and the roles and responsibilities of computer professionals. Students are exposed to a wide variety of issues related to information technology that covers intellectual property, privacy, computer and network security and professional ethics. In addition, the quality of issues, workplaces and ICT literacy are also covered in this course	3	3/2
10	IP00803	Cyber Law	Before 1990, few people had heard of the Internet. By the mid-1990s it was hard to drive down the street without seeing a billboard advertising a Web site. In only a few years the Internet significantly changed the way we live and work. It also presented people with tough and interesting legal questions. This course is designed to introduce you to the new and challenging problems of Internet law.	3	3/2

			We will look at relatively simple questions, such as whether clicking on an “I Agree” button is the same as signing a document, as well as more complicated questions, such as where in the world you are (legally speaking) when you are on the Internet. Issues pertaining intellectual properties (copyright, patent, trademark and etc.) are also discussed. This course also debate issues pertaining to privacy, personal data and internet crime and their association with e-business and national security		
11	IP01103	Research Methodology	This course prepares students to conduct research in Computing Research field. This includes the issues, concepts, methods and techniques associated with computing research field in general. It also introduces students to professional practice and research ethics, the principles of research design, literature review, research methods and techniques of data collection and analysis appropriate to Computing. It covers oral and written communication skills	3	2/2

For HC 12 (Multimedia Technology) (Labuan)

12	IM12203	Multimedia Design	This course exposes students with multimedia design processes, particularly interactive multimedia. It focuses on the design aspects of digital media as well as on the theory and practice of the tools and techniques required for creating interactive multimedia application through the development of design and technology knowledge, understanding and skills	3	1/2
13	IM22203	Animation	This course covers the history, concepts, principles and techniques of animation. The students will be exposed to three dimensional (3D) digital creative content development processes such as storyboarding, modelling, rendering, animating, visual effects and compositing. Upon completion of the course, students are able to produce one digital creative 3D animation project	3	2/2
14	IM22403	Technopreneuership	This course provides exposure to entrepreneurial areas applying and using technology expertise in the	3	2/2

			<p>production of products, services, business management and decision-making regarding business profits. This course is divided into entrepreneur development phase starting from 'Idea Generation' and 'Proof Of Idea' (POI) through competency, generic, entrepreneurial and academic development approaches. Next, the Phase of Strategic Technological Improvement (PPTS) will start with "Proof Of Concept" (POC) and R & D through enhancement and enhancement of existing products / services. To be relevant to the existing industry, this course will provide exposure to the preparation of business plans using the MDeC format.</p>		
15	IM31503	Advance Multimedia	<p>The course is designed to give students a detailed grounding in issues related to multimedia technology such as concepts and representation of sound, pictures, video, data compression and transmission. It will also cover aspects of multimedia communication networks including broadband ATM, wireless and mobile networks. The students will also learn on how to develop a two dimensional (2D) animation for broadcasting during tutorial sessions.</p>	3	3/2
16	IM21403	Web Programming	<p>This course will provide students with a fundamental understanding as to how an HTML-compliant web site was developed, implemented, and maintained by using the Internet programming language. Students also learn two types of web programming language; client-side scripting (HTML5, CSS3, Canvas and JavaScript) and server- side scripting (PHP) with a simple connection to the SQL database (MySQL) using Apache Web Server.</p>	3	3/2
For HC 13 (Business Computing)(Labuan)					
17	IE12103	E-Commerce	<p>This module focuses on marketing & promotion plans, strategic planning,</p>	3	1/2

			<p>consumer habits, legal and trade-related issues on the Internet or more commonly known as Electronic Commerce. It covers the sale and purchase of digital network products and services. The module also provides a framework and technical analysis to understand electronic commerce. It is divided into three main domains:</p>		
18	IE22203	E-Commerce Business Model	<p>This course will discuss about the process of establishing an online business model through E-Commerce commercial applications and Internet technology. This course focuses more on applying the E-Commerce concept in the supply chain by looking at retail, manufacturing and distribution services. Some business development methodologies such as the Business Model Canvas will be used. This course will also discuss online economies that are closely related to the Internet as well as analyzing business management paradoxes from a social economic perspective and audit issues.</p>	3	2/2
19	IE22403	Web Programming	<p>This course will provide students with a fundamental understanding as to how an HTML-compliant web site was developed, implemented, and maintained by using the Internet programming language. Students also learn two types of web programming language; client-side scripting (HTML5, CSS3, Canvas and JavaScript) and server-side scripting (PHP) with a simple connection to the SQL database (MySQL) using Apache Web Server.</p>	3	2/2
20	IE21403	Financial Management	<p>This course provides an overview of understanding finance. Financial management is very important for both individuals and organizations because it deals with managing the funds. It guides a company and individual to make optimum use of money to achieve</p>	3	3/2

			maximum returns.		
21	IE31603	Distributed Database System	This course aims to introduce the principles of distributed database system. Earlier chapters provide an overview of relational database technology and computer network. Architectural model for distributed DBMS are then presented. Next distributed database design is discussed covering fundamental fragmentation strategies; horizontal, vertical and hybrid. Query processing and optimization are covered followed by transaction management and distributed concurrency control.	3	3/2
22	IP01203	System Engineering	System engineering has to do with the application of engineering principles in the development of systems that include computers – hardware and software and system's interaction with users and its environment. To this, system definition, specification, system design, system development and implementation, validating, deploying and maintaining socio-technical systems will be discussed further.		

Bachelor of Computer Science with Honours (Software Engineering) (HC00) – FCI Kota Kinabalu

Bachelor of Computer Science with Honours (Network Engineering) (HC05) – FCI Kota Kinabalu

No	Course Code	Course Name	Course Description	Credit Hours	Year/ Semester Offered
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Both for HC00 & HC05 (Kota Kinabalu)

1	KT42013	Computer Architecture & Organization	This course will provide the students an in-depth knowledge about the architecture of computer systems and the technology behind the computer system design. This is done through	3	1/2
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			the learning of computer Evolution and Performance, System Buses, Internal and External memory, Input/Output, Memory Management, Computer Arithmetic, Instruction Sets, CPU Structure, RISCs Technology and Superscalar Processors and Parallel Processing		
2	KT14403	Discrete Structure	This course introduces discrete mathematics principles including sets, functions, and sequences, relations, induction and recursion, counting, and probability	3	1/2
3	KT24203	Probability & Statistic	This course is designed to develop a basic understanding of descriptive and inferential statistics. This course provides the quantitative tools for decision-making and develops the ability to interpret statistical results.	3	2/2
4	KT24403	Operating System	The operating system provides a well-known, convenient, and efficient interface between user programs and the bare hardware of the computer on which they run. The operating system is responsible for allowing resources to be shared, providing common services needed by many different programs. Particular emphasis will be given to three major OS subsystems: process management (processes, threads, CPU scheduling, synchronization, and deadlock), memory management (segmentation, paging, swapping), file systems, and operating system support for distributed systems.	3	2/2

For HC00 (Software Engineering) Kota Kinabalu

5	KK14203	Object Oriented Programming	This course is an introduction to object-oriented programming using Java. Students will learn how to develop object-oriented programs by exposing them to the concept of class, class libraries, how to define their own classes, inheritance and polymorphism. The foundations of effective object-oriented design are also covered. Apart from that, the some important features of Java will be discussed. These include control	3	1/2
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			structures, data structures, event-driven programming and file I/O.		
6	KK24203	Object Oriented Modelling & Design	This course is designed for students to analyze and design a problem domain in terms of objects by introducing and clarifying the fundamental ideas and basic concepts associated with object orientation. Object Oriented Analysis and Design (OOAD) method creates a set of models of a software system using UML to implement the identified requirements. This course strongly focus on helping the learner master OOAD through case studies that demonstrate key OO principles and patterns, while also applying the UML	3	2/2
7	KK24603	Web Engineering	Students will understand how the internet functions in tandem with the various latest World Wide Web technologies. This course will expose students to the numerous and diverse collection of current web site design and application development technologies. Students will learn the basic principles, protocols & current practices that power the internet and World Wide Web, how to design and implement a basic web site, how to program scripts that serve the client's browser, how to program scripts that access information from the web server and how to integrate databases into the design of dynamic, data-driven web sites	3	2/2
8	KK34403	Human Computer Interaction	This course provides an introduction and overview of the field of human computer interaction (HCI). HCI is an interdisciplinary field that integrates theories and methodologies from computer science, cognitive psychology, design, and many other areas. Issues include: command languages, menus, forms, and direct manipulation, graphical user interfaces, computer supported cooperative work, information search and visualization, World Wide Web design, input/output devices, and display design. Students will learn the fundamental concepts of human-computer interaction and	3	3/2

			user- centered design thinking. Students will work on both individual and team projects to design, implement and evaluate computer interfaces		
9	KK34403	Computer Security	This course covers aspects of computer and network security. It looks at aspects in computer and network security from the perspective of plan-protect-respond cycle of security. The plan element deals with planning and policy to anticipate security threats, the protect element introduces technologies and measures to enforce security, and the respond element deals with the aftermath of security breaches.	3	3/2
10	KK34803	Parallel Programming & Distributed System	This course will show students how to exploit different parallel architectures to improve your code's performance, scalability, and resilience. Students will learn about seven concurrency models: threads and locks, functional programming, separating identity and state, actors, sequential processes, data parallelism, and the lambda architecture	3	3/2
11	KK44404	Software Quality Management	This course will provide students with a basic understanding of the elements of a complete software quality system, which is the foundation. It covers the building blocks of a complete software quality system that includes standards, reviews, testing, defect analysis, configuration management and software documentation. It then fills in gaps, much like mortar, by covering associated quality concerns. Each of these "building blocks" and the "mortar" are thoroughly discussed	3	4/2
12	KK44603	Software Verification & Validation	The objective of this course is to train future software engineers the fundamental concepts on which state-of-the-art software testing techniques are based. In addition, other important aspects related to software quality are addressed, though in a more superficial manner: quality assurance, safety, fault tolerance, reliability assessment. An in-depth study of verification and	3	4/2

			validation strategies and techniques as they apply to the development of quality software. Topics include test planning and management, testing tools, technical reviews, formal methods and the economics of software testing. The relationship of testing to other quality assurance activities as well as the integration of verification and validation into the overall software development process are also discussed.		
13	KK04803	Information Retrieval	This course introduces the process and main techniques in data mining, including association rule learning; classification approaches such as inductive inference of decision trees and neural network learning, clustering techniques, and association rules	3	3&4/2
14	KK04303	Artificial Immune Systems	This course introduces students to basic immunology, immune processes, different immunological models, as well as computational algorithms inspired by those models and processes for problem solving. Topics include an overview of basic immunology, immune models and theories, computational immune-inspired algorithms, and real-world applications of these algorithms	3	3&4/2
15	KK05303	Special Topics in Computer Science	This course introduces special topics and latest issues in the computer science cognitive. It's to expose the students for latest/current trend of researches and info regarding computer science. The content and syllabus of the course is not fix every year. Hence, other info are not available at all.	3	3&4/2

For HC05 (Network Engineering) Kota Kinabalu

16	KP14603	Object Oriented Programming Concept	This course is an introduction to object-oriented programming using Java. Students will learn how to develop object-oriented programs by exposing them to the concept of class, class libraries, how to define their own classes, inheritance and polymorphism. The foundations of effective object-oriented design are also covered. Apart from that, the	3	1/2
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			some important features of Java will be discussed. These include control structures, data structures, event-driven programming and file I/O.		
17	KP24403	Web Technology	Students begin this course by understanding how the internet functions in tandem with the various latest World Wide Web technologies. This course then embarks on its main objective of exposing students to the numerous and diverse collection of current web site design and application development technologies. Students will learn the basic principles, protocols & current practices that power the internet and World Wide Web, how to design and implement a basic web site, how to program scripts that serve the client's browser, how to program scripts that access information from the web server and how to integrate databases into the design of dynamic, data-driven web sites	3	2/2
18	KP24203	Routing Protocols & Concepts	This course describes the architecture, components and operations of routers and switches in a computer network. Students will learn how to configure the basic functions of a router and a switch. At the end of this course students will be able to configure and troubleshoot issues regarding routing protocols such as RIPv1, RIPv2, <i>single-area</i> and <i>multi-area</i> OSPF, <i>virtual LANs</i> , and <i>inter-VLAN routing</i> in IPv4 and IPv6 networks	3	2/2
19	KP34403	Parallel Programming & Distributed System	This course will show students how to exploit different parallel architectures to improve your code's performance, scalability, and resilience. Students will learn about seven concurrency models: threads and locks, functional programming, separating identity and state, actors, sequential processes, data parallelism, and the lambda architecture	3	3/2
20	KP34603	Enterprise Networks	The focus of this course is on the architecture, components, and operations of routers and switches in a larger and more complex network. Students will learn how to configure routers and switches for advanced functionality	3	3/2

21	KP34803	Network Security	This course covers aspects in information and computer security. It looks at aspects in information and computer security by from the perspective of plan-protect-respond cycle of security. The plan element deals with planning and policy to anticipate security threats, the protect element introduces technologies and measures to enforce security, and the respond element deals with the aftermath of security breaches	3	3/2
22	KP44403	WAN Technology	The focus of this course is on the WAN technologies and network services required by converged applications in a complex network. In this course, students will learn the selection criteria of network devices and WAN technologies to meet network requirements.	3	4/2
23	KP44603	Network Management & Monitoring	This course discusses the concepts of network management. It includes the planning, testing and performance measurement techniques. The operational aspect, utilization of diagnostic tools and the network management system are also discussed. The current standards in relation to network management also be examined	3	4/2
24	KP00803	Special Topics in Network	This course introduces principles and practices of computer forensic, which is most often associated with the investigation of a wide variety of computer crimes. Emphasis is given on the fundamental knowledge as well as hands on practice on computer forensic. Examples from real case studies also will be discussed to assist student learning. Topics covered include types of crimes and evidence, basic steps in computer investigation, network forensic toolkit, legal and ethical issues. Features of computer systems and networks are also reviewed from a point of view of computer forensics.	3	3&4/2
25	KP00103	Ad Hock & Sensor Networks	This is a basic course in networking protocols for multi hop wireless ad hoc	3	2,3&4/2

			networks. The objectives of the course are to introduce and study established and emerging areas of wireless networking. Physical layer properties will be briefly discussed. The focus will be on network protocols above the physical layer, such as the media access control and the network layer		
26	KP00603	Mobile Application Development	This course provides useful guidelines, standards, techniques, and best practices for building mobile product from start to finish. This course covers basic design and development principles that govern all mobile devices and platforms. Students will be explored with the more advanced capabilities of the mobile web, including markup, advanced styling techniques, and mobile Ajax.	3	2,3&4/2

LIST OF COURSES OFFERED FOR EXCHANGE STUDENTS PROGRAMME (INBOUND MOBILITY)
FACULTY OF FOOS SCIENCE AND NUTITION

No.	Course code	Course name	Resources description	Credit hours	Year/Semester offered
Programme :					
1	NT10102	Fundamentals of Food Science and Nutrition	The course will provide students with introductory knowledge of the components of food (macro and micronutrients), functionality of food components as ingredients in food, food microbiology (including food safety), food processing and preservation as well as nutrition.	2	1/2
2	NT10502	General Microbiology	Microbiology is an integral part of many different scientific studies. This course provides an introduction to a diversity of microbial cell, its structure and function. The microbial nutrition, growth and control will also be covered. Besides, how microorganisms function in disease, the natural ecology of microorganisms and the human use of microorganisms are also being highlighted. A series of laboratory exercises are designed to provide student with the opportunity to develop basic microbiological skills in aseptic technique, media preparation, staining and microscopy.	2	1/2
3	NT10902	Organic Chemistry	This course will discuss the principles of organic chemistry and the chemical reactions found in many applications including food systems. This course includes the naming, classification, structure, use and reactions of each class/group of natural and synthetic organic compounds. The mechanisms of reactions will be given attention.	2	1/2
4	NT10302	General Physics	A clear understanding of the basics of physics, i.e. the study of physical quantities, theories and calculations in translational and rotational	2	2/2

			<p>motions, types and concepts in energy. This course will expose some background on the behavior of fluids. It will also include sections in thermal physics as well as vibration and wave.</p>		
5	NT11202	Calculus	<p>This course contains basic concepts of calculus as introduction to the mathematical functions which must be understood by students before taking more advance subjects such as Advance Calculus. This course also covers topics such as: limits, continuity, differentiation, integration and the applications of differentiation and integration.</p>	2	2/2
6	NT10802	Biochemistry	<p>The course discusses the biomolecules and their chemistries in reactions that facilitate the processes in living/biological systems. The syllabus includes amino acids, proteins, enzymes, and carbohydrates. The structures, mechanisms, kinetics, and control of these components are discussed. The energy consumption/generation and electron transfer in metabolisms such as the glycolytic pathway, the citric acid cycle, and the oxidative phosphorylation are also discussed.</p>	2	2/2
7	NT10402	Analytical Chemistry	<p>This course will discuss the basic techniques involved in chemical analyses. This includes their working principles, advantages and limitations. The basic statistical methods used in data handling will also be discussed.</p>	2	2/2
8	NT20703	Food Analysis & Instrumentation	<p>This course introduces students to the importance of food analysis as chemical compositions of foods are used to determine the nutritive value, functional characteristics & acceptability of the food products. Students will be taught on preparation of chemicals & instruments to conduct the analyses. Analytical errors including those arising from impurity of chemicals, instruments & methods used will also be discussed. Students will learn how to report their laboratory results, findings & calculations. Proximate analyses, as well as the theory & suitable methods to determine moisture,</p>	3	1/2

			ash, protein, lipid, carbohydrate, mineral and vitamin contents will also be explained. Students will also be exposed to specific instruments including AAS, GC, HPLC, etc., to analyse specific or basic components that make up our major food components.		
9	NT20903	Food Chemistry & Biochemistry	This course covers introduction to the major food components such as water, carbohydrate, lipid, protein and other minor components, namely vitamins and mineral. Students will be exposed to the chemistry aspect, classification, characteristics and functional properties of each of the components. Fundamental knowledge of enzyme and food pigments will be taught. Basic biochemistry reactions and metabolisms relate to the major food components will also be discussed.	3	1/2
10	NT21103	Statistic	This course discusses basic statistical concepts including parametric and non-parametric tests. The practical component includes demonstrations and tutorials on statistical analyses using software. The software used is SPSS, which is one of the common statistical software used in academic research and industries. Students will be exposed to the use of syntax in statistical analyses.	3	1/2
11	NT21303	Physical Properties of Food	A course discuss on those properties of foods that lend themselves to description and quantification by physical means. It is an introduction course exposing students to various physical properties of food, including the thermal, surface, optical, mechanical (rheological), electrical and geometrical properties. The definitions, theory and principles, methods of determination, as well as effects on food products are also discussed under relevant topics. This course also provides fundamental knowledge required in understanding advance courses offered in 2nd and 3rd year, such as Unit Operation in Food Processing and Food Engineering.	3	1/2

12	NT20803	Post-Harvest Handling Technology	The course teaches subjects related to the causes, principles and practices that result in food losses and appropriate methods to reduce postharvest losses in both the developed and developing countries in terms of technological usage. The structure, composition and biophysical and biochemical changes in fruits and vegetables will be discussed. Factors that influence the quality of fruit and vegetable during storage will also be discussed. This course will also provide exposure to students on the technology of postharvest handling of cereals, koko, legumes, dairy products, meat, chicken and fish.	3	2/2
13	NT20203	Food Microbiology	The course discusses the basic principles of food microbiology, which include scope of study, classification of microorganisms, existing of microflora in various foods and their source of contamination. Characteristic and factors affecting the growth of microorganism that lead to either food spoilage or food poisoning are also discussed. An understanding to these factors is helpful in designing methods to control or stimulate their growth. Students have the opportunity to learn a wide variety of microbiological methods normally used in quality control and safety evaluation of foods. The control of microorganisms especially foodborne pathogens by various food preservation techniques and processing are also being highlighted. Apart from its detrimentally effects to food and human health, many of these microorganisms are used in the production of food and food ingredients. A series of laboratory exercises are designed to provide student with the opportunity to develop skills in the isolation, identification and enumeration of the major groups of microorganisms associated with food and food products	3	2/2
14	NT30903	Food Processing & Preservation	This course will explore and expose the students to the basic and applied methods of food processing	3	1/2

			<p>and preservation. It describes the physical, chemical, and microbiological basis for each method of preservation. Particular emphasis is placed on the application of three of the most universally used commercial processes: thermal processing, freezing, and dehydration. Also discussed is the characterization of the heating behaviour of foods and the equipment used for thermal processing. Low temperature preservation is also demonstrated with a focus on freezing. The fundamentals of the freezing process, and the techniques and equipment used in commercial freezing operations are also explained.</p>		
15	NT30503	Research Methodology & Scientific Writing	<p>This course discusses various experimental designs, and various stages in research studies from proposing a study to presenting its findings. Health and safety, study information, volunteer consent and ethics would also be discussed. This course should preferably be taken after NT10003 (Statistics).</p>	3	1/2
16	NT30703	Food Safety & Quality	<p>This course emphasizes on the importance of food safety and quality assurance for the food industry. Among the food safety programs discussed include Hazard Analysis Critical Control Point (HACCP), Good Manufacturing Practice (GMP), ISO 22000 and Food Hygiene. In addition, students will be introduced with various aspects of quality assurance and its roles in food industry particularly on certain high-risk foods such as poultry and meat products, dairy products and vegetables/fruits. The basic tools of statistical quality control on sampling, inspection, and data organization are made palatable by using examples from the food industry to provide students with case study and promote critical thinking on quality issues. A variety of quality attributes and analytical techniques on objective evaluation based on instrumental measurement are also discussed.</p>	3	1/2

17	NT31103	Food Sensory Evaluation	Sensory evaluation of foods is widely used in the field of food science and technology for food quality control, assurance and product development. It is the measuring of food attributes through a complex sensation that results from the interaction of our senses such as taste, smell, touch and hearing when food is eaten. In addition, the concepts, principles and protocol of widely used sensory evaluation techniques will be explained. These include discriminative tests, descriptive tests, affective tests and scaling methods. Data collection and statistical analysis will be discussed in order to obtain accurate and valid test results.	3	1/2
18	NT40103	Food Legislation and Standards	The course emphasis on food legislative systems and standards that are adopted by the food industry to ensure their products are safe and achieving minimum standard. The content covers food regulations in the country (Food Act 1983 and Food Regulation 1985) as well as a few other international standards or guidelines set by international expert committees or organizations such as Codex Alimentarius Commission (CAC), World Health Organization (WHO), Food & Drug Administration (FDA) and Food Agriculture Organization (FAO) for global trade in foods. Students are exposed to food safety and quality certification schemes (ISO 22000, Halal, etc) and guidelines on import requirements of some countries. Issues associated to intellectual properties from R&D works with an emphasis on its management in the food science and technology fields will be discussed. Graduate competency on legislative issues and standards of foods is important to ensure food produced follow strictly to the specification and standards, either for domestic uses or export markets	3	2/2
19	NP20303	Human Nutrition	This course discusses the importance, function and requirements of nutrients such as carbohydrate, protein, fats, minerals, vitamin and water and	3	1/2

			<p>their relationship to health. Students will be exposed to the digestive system and the digestion of each nutrient as related to the intake of a well-balanced diet. The structure, function, sources of food and the danger of deficiency or over consumption of various nutrients to the body will be taught to the students. Anthropometric measurement, dietary assessments and nutritional status of individuals will be discussed in lectures and laboratory sessions.</p>		
	NP20002	Food Habits	<p>This is an introductory course to food habits. This course aims to provide current, evidenced based knowledge on food habits in consideration of ethnicity, race, religion, age group and economic, social and psychological circumstances which are central in understanding the impact of food habits on nutrition and well-being. This course not only emphasizes on the culture, religion and food habits of various races and ethnicities in Malaysia but also considers food habits from different parts of the world considering local and global cross-cultural influence on food habits and nutrition. This course also includes nutrition-related traditional health beliefs and practices as well as the food habits of individuals from different life stages and how these influence nutrition and health.</p>	2	1/2
	NP20003	Nutrition Through Life Cycle	<p>This course discusses the changing physiology and nutritional requirements as well as related health and nutritional concerns occurring in the different stages of the life cycle such as in pregnancy and lactation, infancy, childhood, adolescence, adulthood and during the late years of life. Methods of nutritional assessment specific for each age group will also be covered.</p>	3	2/2
	NP20403	Food Production Ecosystem	<p>This course will provide technical knowledge on the interlinked and intensifying problems of climate change, ecosystem services degradation, and the need to double food production to sustain a growing global population. It describes the dominant influence of</p>		

			<p>food production on ecosystems and the associated risk of ecosystems reaching tipping points beyond which they lose the ability to provide people with food and other vital services. It then offers two approaches to help conserve ecosystem services in a changing climate - a tool for integrating climate change and ecosystem service risks into decision making and a framework for reconciling food production and conservation goals. The course focus on how to meet food security and conservation goals for us to move from managing ecosystems for food at the expense of other ecosystem services to managing ecosystems for food plus other nature-based services.</p>		
	NP20603	Functional Food	<p>Functional foods are foods that deliver specific non-nutritive physiological benefits that may enhance health. The growing consumer interest in functional foods is transforming the food industry, and redefining the relationship between food, nutrition, and health. Nutritionists and other health professionals need to be better educated in this area in order to counsel and provide guidance to the public on the efficacy and/or risks associated with these functional food products. The course will cover the impact of functional foods on health and disease prevention.</p>	3	2/2
	NP30203	Nutrition Assessments	<p>This course is designed to allow students to be able to assess the nutritional status of individuals, households, and at the country level using the A,B,C,D of nutritional assessment, i.e., anthropometry, biochemistry, clinical and dietary intake.</p>	3	1/2
	NP30302	Food Security	<p>This course will review the effects of social, economic, political policies and climate change on the availability, accessibility, affordability, appropriateness, and sustainability of food production to allow for attainment of optimum nutritional status. An ability to critically read various literatures and</p>	2	1/2

			a basic understanding of Malthusian theory is expected of students. Students are also expected to write very analytical assignments based on those readings.		
NP31003	Food Toxicology	This course aims to give students an overview of principles in food toxicology including the application of these principles to qualitative and quantitative toxicological testing of food products. The occurrence of various natural toxicants in food either from the plants or animal origin will be discussed. Other topics cover in the course includes pesticide residues, food additives and contaminants, by product originating from food processing (or packaging materials) as well as implication of industrial waste on human health and environment. In its modern context, food toxicology draws heavily on knowledge in chemical and biological field and seeks a detailed understanding of toxic effects. Therefore, it is importance that students from food science and nutrition are familiar with the basic chemical and biological aspects of the deleterious substances present in foods especially dealing with their properties, mode of action and methods of analysis.	3	2/2	
NP30803	Food Innovation	This course emphasizes the importance of creativity and innovation in the food industry in respond to the needs of the consumers. It gives students industry relevant practical experience whilst exploring the local and global trends in food processing and food innovations. It also addresses the key drivers of food industry innovation - affordability, sustainability, and tightening government regulations. Innovation in developing new food products, processes and business models is recognized as a key requirement for achieving the future vision of food graduates for the fast growing R&D demands within the food and beverage industry. The course involves real problem solving projects, with strong practical links	3	2/2	

			with industry. This provides a good grounding in the creative and practical aspects of food product development, gained through teamwork using local resources.		
NP30403	Enzyme in Food Processing	The historical uses of enzymes to make beer, wine, cheese and bread are fine examples of the industrial exploitation on its catalytic function and selectivity. This course covers the basic and applied aspects of the enzymology important to food systems. The basic aspects of the course include the basic enzyme properties, factors that affect enzyme activity and methods of measuring enzymatic activities. In the other hand, the applied aspects focusing on the enzymes used by the food industry and methods or controlling endogenous enzyme activities.	3	2/2	
NP40503	Food Ingredients	This course is intended to give insight about the chemistry, sources and the commercial value of the various food ingredients. It will discuss both the natural and synthetic food ingredients. Issues related to the development of new food ingredient their applications in food industries including food processing and preservation technologies. Concern and risk associated with the use of various food ingredients as related to the diet and nutrition and health.	3	1/2	
NB20502	Food Enzymology	The historical uses of enzymes to make beer, wine, cheese and bread are fine examples of the industrial exploitation on its catalytic function and selectivity. This course covers the basic and applied aspects of the enzymology important to food systems. The basic aspects of the course include the basic enzyme properties, factors that affect enzyme activity and methods of measuring enzymatic activities. In the other hand, the applied aspects focusing on the enzymes used by the food industry and methods or controlling endogenous enzyme activities.	2	1/2	
NB20703	Human Nutrition	This course discusses the importance, function and requirements of nutrients such as	3	1/2	

			<p>carbohydrate, protein, fats, minerals, vitamin and water and their relationship to health. Students will be exposed to the digestive system and the digestion of each nutrient as related to the intake of a well-balanced diet. The structure, function, sources of food and the danger of deficiency or over consumption of various nutrients to the body will be taught to the students. Anthropometric measurement, dietary assessments and nutritional status of individuals will be discussed in lectures and laboratory sessions.</p>		
NB20403	Bioprocessing Technology	<p>Bioprocess Technology, a sub-discipline within biotechnology that combines living matter, in the form of organisms or enzymes, with nutrients under specific optimal conditions to make a desired product. It is responsible for translating discoveries of life sciences into practical and industrial products, processes and techniques that can serve the needs of society.</p>	3	2/2	
NB20603	Food Packaging	<p>Fundamental principles in food packaging will be discussed in this course. Among the topics discussed are the functions of packaging, consumer trend, type of common raw materials used in food packaging, chemical and mechanical properties of packaging and general terminology in description of packaging characteristics and so on. Students will also be exposed to the innovations evolved in food packaging process/system to suit the market demand. The most up-to-date developments, trends and current issues in food packaging will be highlighted.</p>	3	2/2	
NB20003	Unit Operations in Food Processing	<p>This course introduces basic units in food industry, which involves various food processing operations. This course is intended to introduce engineering concepts and to illustrate their use. Students will be exposed to important unit operations in food processing such as fluid flow, heat transfer, drying, evaporation, mechanical separations, size reduction processes, and mixing. This course</p>	3	2/2	

			will be a basis for food engineering process where selection of reasonable raw material can be carried out; plant can be conducted efficiently, safe and cost effective as well as able to meet requirements by consumers.		
	NB30703	Food Fermentation	The course covers a wide range of food fermentation processes applied worldwide either for product development or as a preservation method. Topics to be discussed in the course include importance and characteristics of microorganisms used in various fermented foods, their health benefits and microbial or enzymatic processing of food and food ingredients to achieve desirable shelf life and favour. In addition, the microbiological consideration in the production of fermented foods, their natural antimicrobial by-products, application of genetic and recombinant DNA for starter improvement as well as their impact on functional properties of foods will be discussed. Equally important is the safety issues related to fermented foods and food ingredients developed from fermentation. Students will have the opportunity to run fermentation process in laboratory and study the basic requirements of food fermentation.	3	1/2
	NB30502	Food Ingredient	This course is intended to give insight about the chemistry, sources and the commercial value of the various food ingredients. It will discuss both the natural and synthetic food ingredients. Issues related to the development of new food ingredient their applications in food industries including food processing and preservation technologies. Concern and risk associated with the use of various food ingredients as related to the diet and nutrition and health.	2	1/2
	NB30903	Food Engineering	The course attempts to discuss basic principles of engineering and momentum transfer for applications in food processing operations. Discussion will be focused on general concept on fluid flow,	3	1/2

			Newton and non-Newton fluid, thermodynamics and equilibriums in momentum and energy.		
NB30804	Food Product Development	The importance of development of industrial food products from the aspect of consumer and manufacturer needs to be learnt. This course encompasses the study of basic strategies in food products development, starting from idea generation, experiment, product tests in experiment, prototype production, product specification, manufacturing and marketing.	4	2/2	
NB31003	Novel Food Processing	This course will discuss an overview on several non-thermal processes such as Pulsed Electric Field (PEF), High Hydrostatic Pressure (HPP), ionizing irradiation, UV light and etc. Their respective principles, potential applications, advantages and disadvantages of each technique will be discussed.	3	2/2	
NB40703	Bioseparation	This course covers the essential and importance of downstream processing as part of bioprocess in food technology industry. A variety of bioseparation approaches, from conventional to sophisticated high resolution techniques will be described and discussed. The topics herein deal with isolation and extraction of desired products from a complex mixture of starting material, reaction products and by-products, and how to concentrate, recover and purify the desired products.	3	1/2	
NF20102	Food Service Entrepreneurship	This course give student the exposure of basic principal of entrepreneurship as well as emphasis on food service entrepreneurship. Students are to prepared business plan.	2	1/2	
NF20103	Basic Food Service	This course will expose students to foodservice segmentations such as foodservice in commercial areas, noncommercial, and institutional foodservice. Students will also gain knowledge in operational and administration of foodservice operation. This includes procurement, production, and service, menu planning as well as other related aspects of foodservice management.	3	1/2	

NF20002	Molecular Gastronomy	This course explains the basic structural properties of food with the effects of methods and manipulation and types of ingredients. It explains phenomena that occur during food preparation in which the effects of physical and chemical influence on food can be identified. Students will be able to understand the science and principles behind food preparation and maintenance, including the preparation of raw materials, cooking methods and the type of food commodities.	2	2/2
NF20003	Eastern and Western Food	This course provides an opportunity for students to recognize and learn cooking recipes from different countries, including eastern and western cuisine. Students will also have the exposure in terms of theory and practice in the kitchen laboratory such as production area, basic cutting and cookery, baking and cleaning/hygiene.	3	2/2
NF30103	Menu Development	A study of the principles of menu planning and design with application that discuss basic nutrition, organization, plans, and record keeping techniques. This course will include information on design aspects of the facility. This course taught the students in planning, preparing and develop the menu according to foodservice organizations. Students are introduced to type of menu, standard recipe, the calculation of standard recipe and costing of menu item. This course also explain to the student the principal in designing the menu.	3	1/2
NF30303	Arrangement, Design and Equipment for Food Service	This course is designed to provide students with the introduction of the kitchen premises and its functions. They will be trained to plan and develop kitchen layout that suitable for food service institutions. This course is designed for students understand the importance of building safety, equipment, systems of energy use, building water systems and water systems (hot & cold), the students also learn about safety practices and HACCP.	3	1/2

NF40102	International Business	International business introduces students to the concept and diversification component in international business. The topic of globalization, its impact and how it related to the local economy. Students will also be disclosed in the interests of international organizations and international financial policies. Students will be exposed to factors outside of control that affect the international environment and examine the changes that have occurred against the international business arena. This course also helps students to learn social and cultural factors that affect the business carried on around the world.	2	1/2
NF40103	Commercial Food Preparation	This course is to give exposure to the student to variety of foodservice establishment. Student are taught how to entertain their customer for type of foodservice available and dining service available. Practical training will be conducted at training restaurant “ mock restaurant”. Student will also learn how to plan and design the layout of foodservice establishment.	3	1/2
NF40303	Food Service System and Operation	This course provides an introduction about the system and operation of food service organizations. Students will be able to differentiate the type of food service operations, the model/design and its components. In addition, students will gain insight on the management function of food service operations such as marketing and leadership aspects. Theory is applied through group assignment whereby students identify and look into the system of a particular foodservice organization.	3	1/2
NF40002	Quantity Purchasing	This course provides exposure on principles and theory of quantity purchasing, whereby aspects such as specifications required in the selection of meat, fish, vegetables, fruits and others. In addition on making a purchase, the students will be exposed to the method of acceptance, receiving, selection and operational costing. The exposure	2	2/2

			would be given in the use of computers when doing the purchasing.		
	NF40003	Special Topics	This course will discuss current issues/scenario facing the food industry, new technologies of food processing, preservation research and recent changes trend in the food service industry. The development of the technological aspects in food service, type of services and commerciality (eg, such as hotels, fast food franchises are popular). Advantages and disadvantages of food service offered at long term or short term periods. Topics to be discussed in detail to understand what is food service.	3	2/2
	NF40203	Quantity Food Preparation	This course exposes the student to prepare the food in large scale food production This is the combination all food courses student learnt before. This course is to teach the student standard for planning production, carry out culinary technique, and justification of procedures and techniques involved in large-scale food preparation. It also gives the student the taste of real practices in enhancing their culinary skills and knowledge.	3	2/2

HE19 KEWANGAN ANTARABANGSA		
	Semester 2	Semester 4
Faculty Courses	GT00803 Marketing Princip GT01003 Makroekonomi GT01203 Financial Management (9 credit)	GT00403 Organisationa Bahaviourl GT00603 Introduction to International Business GT01103 Business Law (9 credit)
Program Courses		GA20203 Financial Accounting GA20403 Financial Statement Analysis (6 credit)