



**TAYLOR'S UNIVERSITY**

Wisdom • Integrity • Excellence

## **ACADEMIC MODULE GUIDE 2026 (SEPTEMBER 2026 INTAKE)**

<b>No</b>	<b>Content</b>	<b>Page</b>
1	Guidelines	1
2	Faculty of Innovation & Technology	2
3	Faculty of Business & Law	51
4	Faculty of Health & Medical Sciences	81
5	Faculty of Social Sciences & Leisure Management	98

## GUIDELINES

**Please read the guidelines before selecting your modules.**

1. The minimum number of credits that can be taken is 16 credits and the maximum is 20 credits.
2. 1 credit is equivalent to 1.5 ECTS.
3. **Modules can be selected from the same programme/ specialisation only.**
4. **Students need to fulfil pre-requisites to take certain modules.** For example, Principles of Marketing is the pre-requisite for Services Marketing. This means you must fulfill the pre-requisite to take Services Marketing. **Both modules cannot be taken together and if you do not fulfill the pre-requisite, then you should not select the module.**
5. All modules are subject to availability of the beginning of semester. Any subsequent changes to the selection of modules are subject to the approval of the faculty and timetable availability.
6. If you are joining the exchange programme for 2 semesters, please fill in one Module Registration Form for each semester.

# FACULTY OF INNOVATION & TECHNOLOGY

## THE DESIGN SCHOOL

### BACHELOR OF DESIGN (HONOURS) IN CREATIVE MEDIA

#### COMMON CORE

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	GCD62704	Typography	4	-
2	GCD62604	Illustration and Visual Narrative	4	-
3	GCD63104	Digital Photography and Imaging	4	-
4	GCD63004	Interactive Design	4	-
5	DIS60404	Design Research Methodology	4	-
6	DIS60404	UX Design	4	-
7	GCD64604	Design Exploration	4	-

#### Choose **ONE (1)** Specialisation

##### UIUX Specialisation

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	GCD63704	Games Studies	4	-
2	MMD61604	Experiential Design	4	-
3	DST65504	Application Design I	4	-

##### Digital Animation Specialisation

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	MMD62004	3D Modeling	4	GCD61204
2	GCD63804	Animation Fundamentals	4	COM61304

##### Entertainment Design Specialisation

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	GCD64104	Vehicle and Props Design	4	-
2	GCD64004	Character Design	4	-

##### Graphic Design Specialisation

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	GCD63404	Packaging and Merchandising Design	4	-
2	COM63304	Digital and Social Media Communication	4	-

<b>Module Name</b>	<b>Module Synopsis</b>
Typography	This Module is designed to introduce the students to the language, tradition and craft of typography through; The practice of typographic layout, typesetting and printing; the aesthetic and contextual use of typography as a form of written communication; the historical and contemporary influences that surround and influence typographic practice; and the project briefs cover a broad base of typographic problems designed to present intellectual and practical challenges which requires research, conceptual thinking, experimentation and development of ideas.
Illustration and Visual Narrative	This module aims to introduce the students to the process of creating visual concepts from ideas and its pictorial communication to an audience in the form of illustrations. Through studio assignments and demonstrations, students will understand the history of visual communication, the essential skill of telling stories via images and the work processes of professional illustration. A variety of relevant media, materials and techniques are explored. Lectures on the working methods of successful illustrators will support the practical aspects.
Digital Photography and Imaging	Students will develop their knowledge of and skills in digital imaging and drawing through a series of lectures, demonstrations and hands-on exercises in the photo studio and lab. They will undergo practical assessments in the form of projects and exercises throughout the semester. Students will then render and submit a culminated final project and/or a body of work (portfolio) to demonstrate their ability to solve communication problems using the appropriate software and hardware as a form of final assessment.
Design Principles	This module provides fundamental principles of visual design for students to effectively organize and present information utilizing interfaces. This module will provide students an in-depth look into principles of perception and cognition that inform effective design. The module will utilize technologies that support and help build human-centric designs proficiencies.
Interactive Design	Students will be introduced to Web specific coding and technical skill to design and develop non-linear interactive pieces. The conceptual and design aspects will be considered. This module will be delivered through a structure of lecturers, demonstrations and practical.
Design Research Methodology	This module prepares the groundwork for the Design Research Dissertation. It will introduce students to the various research methodologies relevant to design. This will entail choosing a topic, formulating a research question, conducting a thorough literature search, and other appropriate research sources, designing a research methodology, compiling a critical bibliography and presenting it as a proposal for further development.
Games Studies	This module exposes the students to various types of games not restricted to digital games. They will play analog and traditional games as well, which they later analyze and share with their classmates. The experience will allow them to identify common pattern in game design and will channel them to the right direction in thinking and creating a game of their own.
Experiential Design	This module introduces the student to the concept of 'experiential' design where user interaction takes place in a physical but computer controlled environment, for example, using pressure pads, microphones, webcams or other external devices to control the user experience and interaction. Learning outcomes focus on the student's ability to design and create experimental physical user experiences for abstract or 'real-world' applications or uses e.g. a fine art installation or an informative interactive museum exhibition piece.
Application Design I	This module aims to broaden the students' understanding of 'usability' by applying its theories and standards to design for mobile applications. In the process the students' knowledge and practical skills in designing for mobile platforms will be increased.

3D Modeling	This module introduces understanding of 3D modeling tools to provide a visual look at various concepts that goes into the production of games, animations and interactive media. Students will be given an in-depth look at what 3D application can do. Students will learn which tools will help to achieve their goals and why these tools work the way they do.
Animation Fundamentals	This module introduces basic fundamentals of animation techniques through 2D and 3D platforms and reinforces students to implement animation principles in production methodology. The module seeks to explore the fundamental utilization of animation to convey visual narration, elements for use in creative media in multiple animation disciplines.
Vehicle and Props Design	The module will introduce students to analyse and design functional and aesthetically pleasing props and vehicles for storytelling and entertainment purposes, with a strong focus on the relationship between form and function. Students will learn all the tricks of using drawing, photography and 3D to realize designs in a compelling way combining the knowledge of making an image in 2D with high level details informed by fundamentals in automotive, aircraft, product and industrial design in order to envision non-existing props, gadgets, equipment, weapon and vehicles that are convincing and believable to the audience. A project-based learning method will be adopted with a balance of foundational education and software-based technical training that emphasizes on extensive and in-depth skill development relevant to the demands of the industry.
Character Design	The Character Design module is meant to prepare students for the creation of original artworks for the cinematic and games industries. Students will learn to tackle the creative process of designing characters from humans, creatures and monsters combining traditional drawing and painting techniques, software and digital sculpting techniques and acting skills. A project-based learning method will be adopted with a balance of foundational education and software-based technical training that emphasizes on extensive and in-depth skill development relevant to the demands of the industry.
Packaging and Merchandising Design	The module is a multi-disciplinary field which considers functional aspects such as holding and protecting its contents from damage; transportation, manufacture; distribution and graphic design elements on the surface of the package that result in compelling communication. Students are introduced to the basic elements and principles of packaging Design. The emphasis is on understanding aspects of form and structure; the fundamental design considerations of graphic design elements on the surface of the package. The learning and teaching approach for the module will be blended learning, with students engaging with contents during lecture and assigned designated topics in flip classrooms. Communication aspects with respect to answering user needs are emphasized. The module is supported by a combination of online lectures and blended learning sessions
Digital and Social Media Communication	This module trains students to analyse data from an analytics standpoint towards becoming a strategic designer. Students are being equipped to interpret analytics data, developing personas and communicate it through a design development that includes (but not limited to) design application and pitch deck. This module will expose students to the emerging role of the Digital Content Creator/Developer or Strategic Designer. The learning and teaching approach for the module will be blended learning, with students engaging with contents during lecture and assigned designated topics in flip classrooms. There are also tutorial and practical sessions where studio-based learning are implemented with engagements of technical demonstrations, design development and ideas presentation to facilitators.
UX Design	This module introduces the study of human behavior, human interaction, design practices, and various technology to create and design unique user

	<p>experience. UX Design focuses on analysis, design prototyping and evaluation of multimedia, multi-modal and multi-platform user interfaces that are easy to use and support great experience. The learning and teaching approach for the module will be blended learning, with students engaging with contents during lecture and assigned designated topics in flipped classrooms. Communication aspects with respect to answering user needs are emphasized. The module is supported by a combination of online lectures and blended learning sessions. Students will be introduced to human-centred specific design and technical skills to create and develop non-linear interactive works. The conceptual and user-experience aspects will be considered in every stage of the creative process.. This module will be delivered through lectures, demonstrations and practical demonstrations and consultations. The assessment approach involves Continuous Assessment which includes Exercises and Projects that are prescribed throughout the semester while the Final Assessment is a Final Project and Portfolio submission which takes place at the end of the semester.</p>
<p>Design Exploration</p>	<p>This module enables students to explore and widen their individual technology and design competencies for their chosen area of specialization. Students will be able to investigate and aim to broaden their design exploration to meet current and future forecasted technology or creative media design directions. This module allows students to self-generate a brief on a chosen area of technological specialisation or creative design innovation. The students will research and prototype cutting edge technology or design innovations in an area to be agreed with the lecturers and from its findings generate concepts which could potentially enhance the existing technology or design practice and extend the boundaries of currently available technology and the design industry. Assessment will be by presentation and mock-up of the prototype.</p>

## SCHOOL OF COMPUTER SCIENCE

### BACHELOR OF INFORMATION TECHNOLOGY (HONOURS)

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	ITS613004	Data Structures and Algorithms	4	-
2	ITS69604	Database Systems	4	-
3	ITS69504	Computer Architecture and Organisation	4	-
4	ITS69704	Object Oriented Programming	4	-
5	ITS69804	Discrete Structures	4	-
6	ITS611304	Mobile Applications Development	4	ITS69704
7	ITS611804	System Integration and Architecture	4	-
8	ITS611904	Introduction to Cloud Computing	4	-
9	ITS612304	Wireless Networks and Security	4	-
10	ITS612404	Internet of Things	4	-
13	CSC62204	Systems Analysis and Design	4	-
14	CSC62304	Operating Systems	4	-
15	CSC62404	Computer Networks	4	-
16	CSC63004	System Paradigms	4	-
17	CSC63104	Web and Mobile Systems	4	-

Module Name	Module Synopsis
Data Structures and Algorithms	In this module, the students learn the basics of algorithms i.e. understanding, analyzing and writing algorithms. Students will also understand and analyse data structures to apply algorithms on the data structures for performing various operations. This module covers the fundamental concepts of data structures and algorithms. It mainly focuses on the operations – insertion, deletion, searching, traversing, deleting and sorting elements using various data structures such as Array, Linked list, Queue, Stack, Trees and Graphs. The learning and teaching approach for the module will involve weekly through face-to-face, independent and self-directed learning and online learning thru TIMES. The learning is facilitated mostly through guided learning and problem-based learning. The Guided Learning allows the facilitator to play a proactive role in terms of teaching and motivate and guiding the students to their basic concepts of data structures. When the basic skill of programming is learnt, then Problem-Based Learning pedagogy will engage the students in problem-solving activities. Delivery of these two pedagogies will be via the practical computer laboratory sessions, take home problem sets, and minimal face-to-face lectures where necessary to increase independence learning. The learning is facilitated mostly through lecture, practical computer laboratory and blended learning. The module involves students periodic work in progress to ensure that subject objectives and requirements are met. The learning is facilitated mostly through tutorials, blended learning, and reflection.
Database Systems	Students are introduced to understand the fundamental approaches and concepts. The learning and teaching approach for the module will include understanding the basics of database technologies, engaging with practical tasks during the designing database and creating tables. They also present their ideas and thoughts within the group. The module is supported by a

	<p>combination of dwelling explores the ideas and thoughts. The module is supported by a combination of online lectures and fieldwork sessions. This module is an introduction to database systems. This module covers the fundamental issues of the relational model, relational languages, database design, and query processing. It starts with a structured overview of database systems, their history, and their applications. The relational model is then covered in detail. Relational languages such as relational algebra and calculus are discussed before introducing the SQL language. Then we cover the Entity-Relationship model and discuss how ER diagrams are translated into the relational model. Topics on database design principles in this module further include functional dependencies and normalization. Students will gain a good understanding of database design theory and principles and be able to develop database systems and application programs on a DBMS. This module uses three methods of assessment including an individual's knowledge base, problem-based, and use case-based.</p>
Computer Architecture and Organization	<p>This module introduces computer architecture and organization, covering the fundamental principles that govern the design, structure, and operation of computers. It encompasses the study of hardware components, such as the central processing unit (CPU), memory, operating system, input/output devices, and their interconnections. The course aims to enhance communication skills through presentations and leadership, as well as promote autonomy through group assignments. Students' numeracy skills are measured through the final exam, which will cover the relationships between hardware components and the subsystems used in computer systems.</p>
Object Oriented Programming	<p>Programming Principles includes programming logics and design, programming process, program control structures, debugging and fundamentals of Object-Oriented Concepts. Programming logics and design covers the pseudo-code, algorithm and flowcharting. Programming process encoding the program logics and design into a notation, a programming language so that it can be executed by a computer. Program control structures include selection statements (such as if-else, nested if, switch), iteration for repetitive control (such as for, while and do..while loops) structure. Fundamentals of Object-Oriented concepts includes variables, data types, Object, Class, methods, Arrays, inheritance and polymorphism. Software packages that may be used to develop the program includes debugging and compilation of the program codes.</p> <p>This module applies two different teaching and learning pedagogies, (1) Guided Learning and (2) Problem-Based Learning. The Guided Learning allows the facilitator to play a proactive role in terms of teaching and motivate and guiding the students to their basic concepts of programming. When the basic skill of programming is learnt, then Problem-Based Learning pedagogy will engage the students in problem-solving activities. Delivery of these two pedagogies will be via the practical computer laboratory sessions, take home problem sets, and minimal face-to-face lectures where necessary to increase independence learning. The learning is facilitated mostly through lecture, practical computer laboratory and blended learning.</p>
Discrete Structures	<p>This module introduces students to the principles of Discrete Structures, encompassing topics such as logic, sets, relations, functions, counting principles, graph theory, and probability. Students will explore intricate structures that govern computational systems, laying the groundwork for problem-solving and algorithmic thinking in diverse real-world as well as computational science applications. The module adopts a student-centered learning paradigm, prioritizing active engagement and inquiry-driven</p>

	exploration. Through active learning, students will participate in problem-solving sessions, and peer discussions.
Mobile Applications Development	This module covers the core concepts of mobile applications development. It mainly focuses on understanding, analysis, and development of diverse mobile applications using the Android studio. The module starts by introducing the Android Platform details and moves on to the implementation of various Graphical User Interface components known as Views. Furthermore, students are taught about the development of Android applications using advanced techniques such as SQLite Database, WiFi, Email, SMS, Multimedia and Location-based programming APIs. The module is based on student-centric teaching pedagogies such as Inquiry Learning, where students are provided with problems to solve and direction on how to arrive at solutions, and cooperative learning, where students are encouraged and required to work in groups in to create mobile applications. The module is taught via a dual-delivery approach that starts from covering the theoretical and technical concepts in the lecture sessions, then students analyze and apply approaches to create mobile applications, and finally, students develop and experiment new Android applications during the practical sessions. Most sessions of the module are delivered face-to-face and online learning, and some practical sessions are delivered with a blended learning approach. In this module, students' learning is assessed in 4 main aspects of summative assessment those include (Assignment 1 of conducting research to come up with the idea of unique mobile application, Assignment 2 of practical App development and to evaluate the market value of their developed App in order to seek start-up opportunities, Class test and Final exam to mainly examine the practical and analysis skills of the students). This module also incorporate formative assessment methods using Kahoot.
System Integration and Architecture	The module emphasizes the evaluation of various enterprise hardware and software including operating systems available in the market. Students taken this module will also be exposed to project management skill, user requirement study and architecture design. By taking this module, the students are expected to assume the role of providing a complete system based on a client's requirement. They are responsible in selecting hardware, software (including OS) and services then integrate them to form the solution that end user wants. The learning and teaching approach for the module will be conducted by combining face-to-face lecture class, workshop, invited teaching guess and case study based.
Introduction to Cloud Computing	This module introduces students to the underlying concepts, theory, and principles of Cloud Computing. Cloud computing is the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer. Topics covered in this module include Cloud Computing Models, Cloud Service Models, Cloud Service Models, Cloud Security, Operating the Cloud, and the 4 D's Migration Methodology. This module will help students to analyse issues or aspects related to an organization in terms of their ICT infrastructure and recommend appropriate cloud computing solution. This module is taught using guided and problem-based learning through a combination of tutorials, take home exercises, and face-to-face lectures. This module is taught using guided, and problem-based learning through a combination of tutorials, take home exercises, and face-to-face lectures.
Wireless Networks and Security	Mobile devices continue to evolve and penetrate our everyday lives, leading to increased importance of mobile security - a topic living in the intersection of wireless communication, mobile computing, and computer security. This course focuses on aspects of information and network security that arise in this challenging and ever-evolving space of mobile communication systems,

	<p>primarily focusing on smartphones and mobile telecommunication systems. One of the main goals of the course is to improve knowledge and awareness of security issues faced by mobile application and system developers. Material will cover standards and research challenges in both deployed and future systems. Possible topics of study include (but are not limited to) telecom vulnerabilities; smartphone security; mobile Internet security; and mobile location privacy. Mobile and wireless devices today have outnumbered computers worldwide. Since mobile devices, such as smart phones provide convenient anytime anywhere access to the Internet and the ability to make phone calls, run apps centered on our lives, they have become enticing targets for cyber criminals. This course is designed to address this growing threat to mobile and wireless devices, networks and services delivered over the mobile infrastructure. The learning is facilitated mostly through tutorials, practical labs besides of theory classes.</p>
Internet of Things	<p>The explosive growth of the Internet is changing the world rapidly where devices are getting connected to the Internet and each other creating a new paradigm of products and solutions. The purpose of this module is for students to understand and learn how physical objects interact with people, information systems, other objects, and the environment. Also, to learn the importance of IoT in society, devices and trends for the near future. Students will learn what Internet of Things (IoT) is, how it works, concepts and underlying principles, technologies, architecture, communication protocols, security, privacy and governance in IoT, and IoT applications in the modern world. The focus will be more towards the possibilities offered by different technologies, creative thinking and problem solving by developing simple application in real-life scenarios using IoT devices. Students will be using Raspberry Pi, Arduino devices and IoT kits to design and create solutions for simple real-life applications. The applications would be exploratory depending on the creative thinking and problem solving skills and entrepreneurial mindset of the students. This module is taught using guided, and problem-based learning through a combination of mainly hands-on tutorials, take home problem sets, and minimal face-to-face lectures where necessary/possible. The learning is facilitated mostly through tutorials, blended learning, and reflection.</p>
Systems Analysis and Design	<p>In this module, students will be introduced to the fundamental practical concepts, principles, theories, and different contributions relating to various systems analysis and design lifecycle (SDLC) models used in computing applications development today. In addition, the students will also learn how to analyse a scenario to choose appropriate SDLC model by performing feasibility studies, process and data flow documentation and deliverable presentation.</p>
Operating Systems	<p>The aim of this module is to introduce the fundamental concepts of modern day operating systems where it capable managing resources and providing a platform for parallel computing and built on strong systems fundamentals. These operating systems are built on strong systems fundamentals, including computer system structures, process management, scheduling process, deadlock, main memory management, secondary storage management, file systems, and networking, which are essential for supporting computing. They provide a foundation for developing and running parallel applications efficiently across distributed computing environments. It focuses on the different computing paradigms or technology, underlying hardware and software infrastructure, technologies used to enhance reliability, scalability, resource utilization, performance that includes mechanisms or methods used to improve performance, and the underlying principles of operating systems that influence performance.</p>

Computer Networks	This module introduces the architecture of Internet communication, covering the TCP/IP model, supporting protocols, transmission media, multiplexing techniques, error detection and correction, flow and error control techniques, switching technology, routing, IP addressing, network mobility, and internetworking components. It provides a robust understanding of networking systems, their architecture, functions, operations, and how these fundamentals are reflected in current technologies. Students will learn the principles underlying all networks and their application to current protocols and systems, including Ethernet, WiFi, VLANs, TCP/IP, wireless communication, routing, congestion management, network management, and security. The module includes a basic introduction to physical media, protocol functions like error detection and flow control, and their use in current protocols.
System Paradigms	This module discusses multiple architectures of information technology systems including cloud computing, middleware technologies and procurement of hardware and software systems. Students will explore how information technology systems within an organization can represent stakeholders using different architectures and the ways these architectures relate to a system lifecycle. In this module, students are to evaluate integration choices for middleware platform, introduced with the concepts of cloud computing, cloud service categories, and development of cloud applications. Students will go through lectures and practical classes for each of the topics. Hence, they will have a hands-on approach to analyze the performance, scalability, and availability of the underlying cloud technologies and software, as well as to identify security and privacy issues in cloud computing. In addition, students are exposed with procurement process for software and hardware acquisition and evaluate integration choices for middleware platforms and demonstrate how these choices affect testing and evaluation within the development of an information technology system.
Web and Mobile Systems	The 'Web and Mobile Systems' module offers a comprehensive exploration of designing, developing, and securing applications for web and mobile platforms. Through a blend of theoretical foundations and hands-on experiences, students delve into the latest technologies and strategies vital for building resilient and secure digital systems. Emphasizing a student-centred learning approach, the module fosters creativity, collaboration, and problem-solving skills through studio-based learning methods. Delivered via a blended learning model, the module combines face-to-face sessions for interactive discussions and practical workshops with online resources available on the MyTImeS website, a Moodle platform. This approach ensures flexibility, accommodating diverse learning styles while promoting self-directed learning and engagement. Assessment strategies are thoughtfully designed to support learning outcomes effectively. Project-based assignments and presentations evaluate students' understanding and application of concepts, with feedback mechanisms facilitating continuous improvement and reflection.

## BACHELOR OF COMPUTER SCIENCE (HONOURS)

### Common Core

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	ITS60504	Data Structures and Algorithms	4	-
2	ITS62704	Computer Architecture and Organisation	4	-
3	ITS62904	Database Systems	4	-
4	ITS63304	Object Oriented Programming	4	-
5	ITS64604	Principles of Software Engineering	4	-
6	ITS66204	Discrete Structures	4	-
7	CSC61504	Operating Systems	4	-
8	CSC61404	System Analysis & Design	4	-
9	CSC61604	Computer Networks	4	-
10	ITS63504	Human Computer Interaction	4	-

### Choose **ONE (1)** Specialisation

#### Data Science Specialisation

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	BUS64704	Ideating Start-up	4	-
2	ITS611204	Data Mining	4	-
3	ITS611704	Data Science Principles	4	-
4	ITS610304	Advanced Programming	4	ITS69704
5	ITS613204	Statistical Inference and Modeling	4	-
6	ITS612204	Big Data Technologies	4	-
7	ITS610504	Professional Practices and Information Security	4	-
8	CSC63204	Machine Learning and Intelligent Systems	4	-

#### Mobile Computing Specialisation

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	BUS64704	Ideating Start-up	4	-
2	ITS611304	Mobile Applications Development	4	ITS69704
3	ITS612004	Introduction to Mobile Computing	4	-
4	ITS610304	Advanced Programming	4	ITS69704
5	ITS610504	Professional Practices and Information Security	4	-
6	ITS612304	Wireless Networks and Security	4	-
7	ITS612404	Internet of Things	4	-
8	CSC63204	Machine Learning and Intelligent Systems	4	-

## Cyber Security Specialisation

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	BUS64704	Ideating Start-up	4	-
2	ITS611104	Computer Crime and Digital Evidence	4	-
3	ITS611404	Computer Intrusion Detection	4	-
4	ITS611504	Computer and Network Security	4	-
5	ITS610304	Advanced Programming	4	ITS69704
6	ITS610504	Professional Practices and Information Security	4	-
7	ITS612304	Wireless Networks and Security	4	-
8	CSC63204	Machine Learning and Intelligent Systems	4	-

## Artificial Intelligence Specialisation

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	BUS64704	Ideating Start-up	4	-
2	ITS610304	Advanced Programming	4	ITS69704
3	ITS612204	Big Data Technologies	4	-
4	ITS610504	Professional Practices and Information Security	4	-
5	ITS612604	Computer Vision and Natural Language Processing	4	-
6	ITS613104	Cognitive computing and applications	4	-
7	CSC63204	Machine Learning and Intelligent Systems	4	-

Module Name	Module Synopsis
Data Structures and Algorithms	In this module, the students learn the basics of algorithms i.e. understanding, analyzing and writing algorithms. Students will also understand and analyse data structures to apply algorithms on the data structures for performing various operations. This module covers the fundamental concepts of data structures and algorithms. It mainly focuses on the operations – insertion, deletion, searching, traversing, deleting and sorting elements using various data structures such as Array, Linked list, Queue, Stack, Trees and Graphs. The learning and teaching approach for the module will involve weekly through face-to-face, independent and self-directed learning and online learning thru TIMES. The learning is facilitated mostly through guided learning and problem-based learning. The Guided Learning allows the facilitator to play a proactive role in terms of teaching and motivate and guiding the students to their basic concepts of data structures. When the basic skill of programming is learnt, then Problem-Based Learning pedagogy will engage the students in problem-solving activities. Delivery of these two pedagogies will be via the practical computer laboratory sessions, take home problem sets, and minimal face-to-face lectures where necessary to increase independence learning. The learning is facilitated mostly through lecture, practical computer laboratory and blended learning.
Computer Architecture and Organisation	This course introduces about the computer systems & organization which includes number systems, conversion techniques, Boolean algebra, the basic operation of logic gates, simplification of boolean algebra, K- map, RISC and CISC, Instruction sets, Combinational Circuit, Memory Hierarchy, memory addressing, Counters and Registers. The learning and teaching approach for

	<p>the module will be students engaging with practical tasks during the practical lessons, presenting their working digital circuit within the group. There is a lot of discussion on classwork given and student engagement during tutorial. The module is supported by face to face or online engagement used for lecture, practical classes, tutorial.</p>
Database Systems	<p>Students are introduced to understand the fundamental approaches and concepts. The learning and teaching approach for the module will include understanding the basics of database technologies, engaging with practical tasks during the designing database and creating tables. They also present their ideas and thoughts within the group. The module is supported by a combination of dwelling explores the ideas and thoughts. The module is supported by a combination of online lectures and fieldwork sessions. This module is an introduction to database systems. This module covers the fundamental issues of the relational model, relational languages, database design, and query processing. It starts with a structured overview of database systems, their history, and their applications. The relational model is then covered in detail. Relational languages such as relational algebra and calculus are discussed before introducing the SQL language. Then we cover the Entity-Relationship model and discuss how ER diagrams are translated into the relational model. Topics on database design principles in this module further include functional dependencies and normalization. Students will gain a good understanding of database design theory and principles and be able to develop database systems and application programs on a DBMS. This module uses three methods of assessment including an individual's knowledge base, problem-based, and case-based.</p>
Object Oriented Programming	<p>Programming Principles includes programming logics and design, programming process, program control structures, debugging and fundamentals of Object-Oriented Concepts. Programming logics and design covers the pseudo-code, algorithm and flowcharting. Programming process encoding the program logics and design into a notation, a programming language so that it can be executed by a computer. Program control structures include selection statements (such as if-else, nested if, switch), iteration for repetitive control (such as for, while and do. while loops) structure. Fundamentals of Object-Oriented concepts includes variables, data types, Object, Class, methods, Arrays, inheritance and polymorphism. Software packages that may be used to develop the program includes debugging and compilation of the program codes.</p> <p>This module applies two different teaching and learning pedagogies, (1) Guided Learning and (2) Problem-Based Learning. The Guided Learning allows the facilitator to play a proactive role in terms of teaching, and motivate and guiding the students to their basic concepts of programming. When the basic skill of programming is learnt, then Problem-Based Learning pedagogy will engage the students in problem-solving activities. Delivery of these two pedagogies will be via the practical computer laboratory sessions, take home problem sets, and minimal face-to-face lectures where necessary to increase independence learning. The learning is facilitated mostly through lecture, practical computer laboratory and blended learning.</p>
Principles of Software Engineering	<p>This course is about understanding what we need to know before the software is built, how to obtain that information, how to analyze and understand and subsequently design it. It gives a broad overview of the software lifecycle and the development process including the specification, design, implementation, and testing of software systems that meet specification, performance, maintenance and quality requirements. It also looks at the process and management you should incorporate to discover and create this information. This course aims to guide students in both the theoretical and practical</p>

	<p>aspects of developing computer solutions for real-world problems, to expose students to various tools and techniques used in the analysis and design of software systems, and apply those tools within a recognized software development methodology and within the context of a case study. This module is taught using challenge-based learning through a combination of mainly practical, take-home problem sets, and minimal face-to-face lectures where necessary. The robotic Automation Process will be part of the practical component where students will learn how to automate the software to end repetitive tasks and make digital transformation a reality. The learning is facilitated mostly through tutorials, blended learning, and case study. With the motive “assessment for learning”, the assessments are spread as 50% in-course assessment, 10% test, and 40% final examination.</p>
Discrete Structures	<p>This module will introduce the students to logic, proof techniques, counting principles set theory, number theory, graph theory and probability. The learning and teaching approach for the module will be lecture, tutorial, group discussion, presentation and blended learning. The blended learning is conducted via the you tube video presentation regarding the problems related to concept learnt.</p>
Operating Systems	<p>The aim of this module is to introduce the fundamental concepts of modern day operating systems where it capable managing resources and providing a platform for parallel computing and built on strong systems fundamentals. These operating systems are built on strong systems fundamentals, including computer system structures, process management, scheduling process, deadlock, main memory management, secondary storage management, file systems, and networking, which are essential for supporting computing. They provide a foundation for developing and running parallel applications efficiently across distributed computing environments. It focuses on the different computing paradigms or technology, underlying hardware and software infrastructure, technologies used to enhance reliability, scalability, resource utilization, performance that includes mechanisms or methods used to improve performance, and the underlying principles of operating systems that influence performance.</p>
Systems Analysis and Design	<p>In this module, students will be introduced to the fundamental practical concepts, principles, theories, and different contributions relating to various systems analysis and design lifecycle (SDLC) models used in computing applications development today. In addition, the students will also learn how to analyse a scenario to choose appropriate SDLC model by performing feasibility studies, process and data flow documentation and deliverable presentation. The learning and teaching approach for the module will be weekly face-to-face lectures and tutorials, independent and self-directed learning. When the basic knowledge of various SDLC models learnt, then Problem-Based Learning pedagogy will engage the students in problem-solving activities.</p>
Computer Networks	<p>This module introduces the architecture of Internet communication, covering the TCP/IP model, supporting protocols, transmission media, multiplexing techniques, error detection and correction, flow and error control techniques, switching technology, routing, IP addressing, network mobility, and internetworking components. It provides a robust understanding of networking systems, their architecture, functions, operations, and how these fundamentals are reflected in current technologies. Students will learn the principles underlying all networks and their application to current protocols and systems, including Ethernet, WiFi, VLANs, TCP/IP, wireless communication, routing, congestion management, network management, and security. The module includes a basic introduction to physical media, protocol functions like error detection and flow control, and their use in current protocols.</p>

Human Computer Interaction	This module introduces the theories and practical of building and evaluate interface. Topic covered including various interface models and principles, design and prototyping, graphics and visualization, and evaluations. Human-Computer Interaction (HCI) is a field of study focused on the design, evaluation, and implementation of interactive computing systems for human use. It involves the study of how people interact with computers and to what extent computers are or are not developed for successful interaction with human beings. HCI covers a wide range of topics including usability, user experience, accessibility, and user interface design. It aims to create technology that makes the interaction between humans and computers efficient, effective, and satisfying. The learning and teaching approach for the module is that students will be taught on principles of Human Computer Interaction (HCI) through guided learning, and then students engaging with practical tasks during the tutorial sessions and presenting their ideas and thoughts within the group. Project-based learning is being introduced in group project where learning occurs through participation in a challenging and motivating project.
Ideating Start-up	This module will ideally take a multidisciplinary team through the process of generating an idea based on market needs and validating that idea. Ideating Startup is a creative process of generating, developing, and communicating new ideas, where an idea is understood as a basic element of thought that can be either visual, concrete, or abstract. This module also uses design thinking approach in idea generation. Basic assumption of the design thinking is that innovation occurs at the intersection of the three equal factors: human, technology and economy. Design Thinking states that all three factors must be considered for Innovation to occur. The design thinking approach is “human-centered”, and it’s a process that starts with the people you’re designing for and ends with new solutions that are tailor made to suit their needs. The structured approach of this module will test and refine the ideas and maximizes the chances of success at solving any assigned challenges, before the idea is scaled for increased impact.
Data Mining	The purpose of this module is for the students to learn extracting meaningful patterns or information from a data set. Our ability to generate and collect data has been increasing rapidly. The widespread use of information technology in our lives has flooded us with a tremendous amount of data. This explosive growth of stored and transient data has generated an urgent need for new techniques and automated tools that can assist in transforming this data into useful information and knowledge. Students will learn Data mining, as Data mining has emerged as a multidisciplinary field that addresses this need. Furthermore, This module discusses techniques for pre-processing data before mining and presents the concepts related to data warehousing, online analytical processing (OLAP), and data generalization. It presents methods for mining frequent patterns, associations, and correlations. It also presents methods for data classification and prediction, data-clustering approaches, and outlier analysis.
Data Science Principles	This module is designed to expose students with a range of topics related to data science. It covers various facets of data science practice, including data collection, to processing, analysis and visualisation and effective communication. Focus in these topics will be on breadth, rather than depth, and emphasis will be placed on integration and synthesis of concepts and its applications used to solve problems. The module delivery will include lecture sessions, tutorials, hands -on exercises and invited talks from expert data science practitioners.
Advanced Programming	This module emphasises on implementing advanced object-oriented principles using Java. This module comprises of five major advanced topics

	<p>including exception handling, file programming, event handling, graphical user interface programming, collections framework and generics. Students are first introduced to the concept of error trapping, the need and consequences of not implementing error trapping in development. Next, students will learn the types of exception handling in object-oriented programming and its implementation in Java. Students are then exposed to, the concept of file programming and methods of reading and writing to files and external resources using the appropriate streams. Event handling and GUI programming constitutes the major portion of this subject and is heavily assessed in the group assignment. These two significant topics will give students a detailed hands-on experience on how to develop a GUI based application and implement event handling using Java. Moving on students will then be introduced to the Collections framework where they are exposed to the implementation of data structures in Java using the Collections library. Students are taught how to use commonly used structures such as List, Set and Maps and the merits and demerits of each data structures. Generics is the final topic in this module to teach students on how to create template programs which promote reusability concept in programming.</p>
Statistical Inference and Modeling	<p>This module will introduce the students to descriptive statistics, probability, discrete random variable and distribution, continuous random variable and distribution, sampling distribution, confidence interval, hypothesis testing, linear regression, multiple regression and logistic regression. The learning and teaching approach for the module will be lecture, tutorial, practical, group discussion, presentation and blended learning. The blended learning is conducted via the you tube video presentation regarding the problems related to concept learnt.</p>
Big Data Technologies	<p>This module gives students an introduction to big data technologies, starting with MapReduce, as a computational model and an execution framework. Students will work with big data tools like Pig, HIVE, Hbase, and Spark to realize how the different tools in Hadoop stack fit the overall picture of big data analytics.</p>
Professional Practices and Information Security	<p>This module introduces Professional Computing Practices. This module covers the ethical and legal perspective of what is required in a computing professional as well as how they affect the software development of systems used in organizations. This would include various coverage on issues such as ethical philosophies, information privacy, computer crime, computer misuse and considerations on the international and local legal framework available to protect software systems development which would cover aspects of contracts, non-disclosure agreements, intellectual property law (copyright, patent, licensing, royalties, trade-secrets, trademarks and warranty disclaimers).</p> <p>Students will also be made aware on the fundamental concepts in information security, threats and attacks on information assets, network security, principles of secure software design and implementation.</p>
Mobile Applications Development	<p>This module covers the core concepts of mobile applications development. It mainly focuses on understanding, analysis, and development of diverse mobile applications using the Android studio. The module starts by introducing the Android Platform details and moves on to the implementation of various Graphical User Interface components known as Views. Furthermore, students are taught about the development of Android applications using advanced techniques such as SQLite Database, WiFi, Email, SMS, Multimedia and Location-based programming APIs. The module is based on student-centric teaching pedagogies such as Inquiry Learning, where students are provided with problems to solve and direction on how to arrive at solutions, and cooperative learning, where students are encouraged and required to work in groups in to create mobile applications. The module is taught via a dual-</p>

	<p>delivery approach that starts from covering the theoretical and technical concepts in the lecture sessions, then students analyze and apply approaches to create mobile applications, and finally, students develop and experiment new Android applications during the practical sessions. Most sessions of the module are delivered face-to-face and online learning, and some practical sessions are delivered with a blended learning approach.</p>
Introduction to Mobile Computing	<p>The main purpose of this course is that students will be able to learn about Mobile computing technologies, software architecture in a mobile computing environment, understand system support for dealing with disconnected operations, GSM operations and weak connectivity. Furthermore, students will learn broadcast, Handoff, mobility, and information representation. In addition, this module students will learn various concepts of mobile technologies, understanding the fundamental approaches of mobile applications design, development, and testing. The learning and teaching approach for the module covers the basics of mobile technologies such as 2G, 3G, 4G, LTE, and LTE-advanced. Students will also understand various mobile operating systems such as Android, BlackBerry, and IOS Students will be engaging with hands-on experience while designing mobile applications and presenting their ideas, and thoughts within the groups. The module is supported by a combination of online lectures and fieldwork sessions.</p>
Wireless Networks and Security	<p>Mobile devices continue to evolve and penetrate our everyday lives, leading to increased importance of mobile security - a topic living in the intersection of wireless communication, mobile computing, and computer security. This course focuses on aspects of information and network security that arise in this challenging and ever-evolving space of mobile communication systems, primarily focusing on smartphones and mobile telecommunication systems. One of the main goals of the course is to improve knowledge and awareness of security issues faced by mobile application and system developers. Material will cover standards and research challenges in both deployed and future systems. Possible topics of study include (but are not limited to) telecom vulnerabilities; smartphone security; mobile Internet security; and mobile location privacy. Mobile and wireless devices today have outnumbered computers worldwide. Since mobile devices, such as smart phones provide convenient anytime anywhere access to the Internet and the ability to make phone calls, run apps centered on our lives, they have become enticing targets for cyber criminals. This course is designed to address this growing threat to mobile and wireless devices, networks and services delivered over the mobile infrastructure. The learning is facilitated mostly through tutorials, practical labs besides of theory classes.</p>
Internet of Things	<p>The explosive growth of the Internet is changing the world rapidly where devices are getting connected to the Internet and each other creating a new paradigm of products and solutions. The purpose of this module is for students to understand and learn how physical objects interact with people, information systems, other objects, and the environment. Also, to learn the importance of IoT in society, devices and trends for the near future. Students will learn what Internet of Things (IoT) is, how it works, concepts and underlying principles, technologies, architecture, communication protocols, security, privacy and governance in IoT, and IoT applications in the modern world. The focus will be more towards the possibilities offered by different technologies, creative thinking and problem solving by developing simple application in real-life scenarios using IoT devices. Students will be using Raspberry Pi, Arduino devices and IoT kits to design and create solutions for simple real-life applications. The applications would be exploratory depending on the creative thinking and problem solving skills and entrepreneurial mindset of the students. This module is taught using guided, and problem-based learning</p>

	<p>through a combination of mainly hands-on tutorials, take home problem sets, and minimal face-to-face lectures where necessary/possible. The learning is facilitated mostly through tutorials, blended learning, and reflection.</p>
Machine Learning and Intelligent Systems	<p>The module emphasizes to provide a broad introduction to machine learning and intelligent systems.</p> <p>Machine Learning and Intelligent Systems are two closely related fields within the broader domain of artificial intelligence (AI). Machine learning and intelligent system are so pervasive today and are the best way to make progress towards human-level AI. In this module, student will learn about the most effective.</p> <p>machine learning techniques and how it encompassed into Intelligent Systems. Student will focus on developing algorithms and techniques that allow computers to learn from data and improve their performance on a task without being explicitly programmed. The task is to have an intelligent system that exhibit intelligence, which may include reasoning, learning, problem-solving, perception, and adaptation.</p>
Computer Crime and Digital Evidence	<p>This course introduces students to law relating to evidence in Malaysia specifically, and selected countries of the world generally; and the challenges in applying existing legislation to forensic computing. Students will understand the responsibilities of a Forensic Computing practitioner: securing evidence; ensuring continuity of evidence; use of auditable procedures when investigating evidence; admissibility of evidence; the need for impartiality; regulation and licensing. This course also explores computer crime investigation and incident response, and forms of digital evidence: emails, documents, images, residual information and also the investigative strategies for digital evidence and computer crime scenes.</p>
Computer Intrusion Detection	<p>The subject looks into computer intrusion detection areas such as: identifying and exposing security weaknesses in an organization and selecting the proper countermeasures, understand how hacking tools can be used to test and improve security, protect against and prevent intrusions. In addition the subject will also have components for Firewall configuration/ access control list/ penetration testing hands-on for small organization/system.</p>
Computer and Network Security	<p>This module covers the core concepts of computer and network security. It mainly focuses on topics such as confidentiality, integrity, availability, threats and protection mechanisms, active and passive attacks, security policy, cryptography, SSL, PGP, IPsec, Firewall, and intrusion detection systems. Not only technology, in this module, we also cover security concepts such as Security Policy guidelines. This modules also covers the advanced security topics such as symmetric and asymmetric cryptography algorithms where students are introduced with encryption and decryption methods using AES, DES, RSA, and DSA. Students are also taught about the message integrity and digital signatures. A network cannot be considered secure if the information transmitted via the network is revealed to man-in-the-middle attacks. In this module, we cover how SSL, IPSEC, and PGP could be used to provide security for the data when it is transferred. The module ends by introducing the concepts of intrusion detection systems. The module is based on student-centric teaching pedagogies such as Inquiry Learning, where students are provided with problems to solve and direction on how to arrive at solutions, and cooperative learning, where students are encouraged and required to work in groups in to analyze computer security scenarios for identification of threats, vulnerabilities and proposing security mechanisms.</p>

Computer Vision and Natural Language Processing	The module emphasizes the study on processing the three kinds of data in machine: speech, text and image. Students taken this module will be exposed to different algorithms, frameworks and tools that can be used to process speech, text and image. Student will be exposed to different cases study and example of its applications as well as research problems. The learning and teaching approach for the module will be conducted by combining face-to-face lecture class, practical work and seminar. Student will be exposed to group work activities including in class discussion and group work project on a given case study.
Machine Learning and Intelligent Systems	The module emphasizes to provide a broad introduction to machine learning and intelligent systems. Machine Learning and Intelligent Systems are two closely related fields within the broader domain of artificial intelligence (AI). Machine learning and intelligent system are so pervasive today and are the best way to make progress towards human-level AI. In this module, student will learn about the most effective machine learning techniques and how it encompassed into Intelligent Systems. Student will focus on developing algorithms and techniques that allow computers to learn from data and improve their performance on a task without being explicitly programmed. The task is to have an intelligent system that exhibit intelligence, which may include reasoning, learning, problem-solving, perception, and adaptation. This module is taught using problem-based learning through a combination of tutorials, practical, and face-to-face lectures. The learning is facilitated mostly through tutorials, practical, blended learning, and reflection. With the motive assessment for learning, the assessments are with a heavy concentration on problem solving in machine learning algorithm in intelligent systems.

## BACHELOR OF SOFTWARE ENGINEERING (HONOURS)

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	ITS69504	Computer Architecture and Organisation	4	-
2	ITS69604	Database Systems	4	-
3	ITS69704	Object Oriented Programming	4	-
4	ITS610804	Software Design	4	ITS610204
5	ITS610204	Principles of Software Engineering	4	-
6	ITS69804	Discrete Structures	4	-
7	ITS610304	Advanced Programming	4	ITS69704
8	CSC62204	Systems Analysis and Design	4	-
9	CSC62304	Operating Systems	4	-

Module Name	Module Synopsis
Computer Architecture and Organisation	This course introduces about the computer systems & organization which includes number systems, conversion techniques, Boolean algebra, the basic operation of logic gates, simplification of boolean algebra, K- map, RISC and CISC, Instruction sets, Combinational Circuit, Memory Hierarchy, memory addressing, Counters and Registers. The learning and teaching approach for the module will be students engaging with practical tasks during the practical lessons, presenting their working digital circuit within the group. There is a lot of discussion on classwork given and student engagement during tutorial. The module is supported by face to face or online engagement used for lecture, practical classes, tutorial.

<p>Database Systems</p>	<p>Students are introduced to understand the fundamental approaches and concepts. The learning and teaching approach for the module will include understanding the basics of database technologies, engaging with practical tasks during the designing database and creating tables. They also present their ideas and thoughts within the group. The module is supported by a combination of dwelling explores the ideas and thoughts. The module is supported by a combination of online lectures and fieldwork sessions. This module is an introduction to database systems. This module covers the fundamental issues of the relational model, relational languages, database design, and query processing. It starts with a structured overview of database systems, their history, and their applications. The relational model is then covered in detail. Relational languages such as relational algebra and calculus are discussed before introducing the SQL language. Then we cover the</p> <p>Entity-Relationship model and discuss how ER diagrams are translated into the relational model. Topics on database design principles in this module further include functional dependencies and normalization. Students will gain a good understanding of database design theory and principles and be able to develop database systems and application programs on a DBMS.</p>
<p>Object Oriented Programming</p>	<p>Programming Principles includes programming logics and design, programming process, program control structures, debugging and fundamentals of Object-Oriented Concepts. Programming logics and design covers the pseudo-code, algorithm and flowcharting. Programming process encoding the program logics and design into a notation, a programming language so that it can be executed by a computer. Program control structures include selection statements (such as if-else, nested if, switch), iteration for repetitive control (such as for, while and do..while loops) structure. Fundamentals of Object-Oriented concepts includes variables, data types, Object, Class, methods, Arrays, inheritance and polymorphism. Software packages that may be used to develop the program includes debugging and compilation of the program codes.</p>
<p>Software Design</p>	<p>In this module, learners are tasked to design a technical solution on agile concepts, tools and techniques. In addition to that learners shall also apply the Attribute-Driven-Design (ADD) to effective design systems that are architecturally significant. Learners will also be able to identify the intricacies involved in designing applications for the cloud, mobile and big data environment. The learning and teaching approach for the module will involve lectures, tutorial and lab sessions on salient topics coupled with occasional consultative sessions coupled with independent and self-directed learning. For decades, 'software design' has been about the internal structure of the code. Recently though, with the growing interest in design thinking, practitioners and researchers have started focusing more on the design of the behaviour of the software. Software Design in most IT organizations is a collaborative effort, involving software engineers, managers, and other stakeholders in a project. We will simulate that with several sessions devoted to architectural and iterative approaches. The major task involves an assignment that will apply an agile design methodology. This subject's contribution to the learners' profile is related to problem solving skills and system, component and application of architectural design using a systemic approach called Attribute-Driven-Design (ADD) whilst addressing the design challenges faced in cloud, mobile and big data environments. The assessment task involves a group assignment, an individual test and final examination which will among other assess four learning outcomes.</p>

Discrete Structures	This module will introduce the students to logic, proof techniques, counting principles set theory, number theory, graph theory and probability. The learning and teaching approach for the module will be lecture, tutorial, group discussion, presentation and blended learning. The blended learning is conducted via the you tube video presentation regarding the problems related to concept learnt.
Advanced Programming	This module emphasises on implementing advanced object-oriented principles using Java. This module comprises of five major advanced topics including exception handling, file programming, event handling, graphical user interface programming, collections framework and generics. Students are first introduced to the concept of error trapping, the need and consequences of not implementing error trapping in development. Next, students will learn the types of exception handling in object-oriented programming and its implementation in Java. Students are then exposed to, the concept of file programming and methods of reading and writing to files and external resources using the appropriate streams. Event handling and GUI programming constitutes the major portion of this subject and is heavily assessed in the group assignment. These two significant topics will give students a detailed hands-on experience on how to develop a GUI based application and implement event handling using Java. Moving on students will then be introduced to the Collections framework where they are exposed to the implementation of data structures in Java using the Collections library. Students are taught how to use commonly used structures such as List, Set and Maps and the merits and demerits of each data structures. Generics is the final topic in this module to teach students on how to create template programs which promote reusability concept in programming.
Professional Practices and Information Security	This module introduces Professional Computing Practices. This module covers the ethical and legal perspective of what is required in a computing professional as well as how they affect the software development of systems used in organizations. This would include various coverage on issues such as ethical philosophies, information privacy, computer crime, computer misuse and considerations on the international and local legal framework available to protect software systems development which would cover aspects of contracts, non-disclosure agreements, intellectual property law (copyright, patent, licensing, royalties, trade-secrets, trademarks and warranty disclaimers). Students will also be made aware on the fundamental concepts in information security, threats and attacks on information assets, network security, principles of secure software design and implementation.
Systems Analysis and Design	In this module, students will be introduced to the fundamental practical concepts, principles, theories, and different contributions relating to various systems analysis and design lifecycle (SDLC) models used in computing applications development today. In addition, the students will also learn how to analyse a scenario to choose appropriate SDLC model by performing feasibility studies, process and data flow documentation and deliverable presentation. The learning and teaching approach for the module will be weekly face-to-face lectures and tutorials, independent and self-directed learning. When the basic knowledge of various SDLC models learnt, then Problem-Based Learning pedagogy will engage the students in problem-solving activities.
Systems Analysis and Design	In this module, students will be introduced to the fundamental practical concepts, principles, theories, and different contributions relating to various systems analysis and design lifecycle (SDLC) models used in computing applications development today. In addition, the students will also learn how to analyse a scenario to choose appropriate SDLC model by performing feasibility studies, process and data flow documentation and deliverable

	<p>presentation. The learning and teaching approach for the module will be weekly face-to-face lectures and tutorials, independent and self-directed learning. When the basic knowledge of various SDLC models learnt, then Problem-Based Learning pedagogy will engage the students in problem-solving activities. Delivery of these two pedagogies will be via case study demonstration, take home problem sets, with minimal face-to-face lectures where necessary to increase independence learning. The module involves students periodic work in progress to ensure that subject objectives and requirements are met.</p>
<p>Operating Systems</p>	<p>The aim of this module is to introduce the fundamental concepts of modern day operating systems where it capable managing resources and providing a platform for parallel computing and built on strong systems fundamentals. These operating systems are built on strong systems fundamentals, including computer system structures, process management, scheduling process, deadlock, main memory management, secondary storage management, file systems, and networking, which are essential for supporting computing. They provide a foundation for developing and running parallel applications efficiently across distributed computing environments. It focuses on the different computing paradigms or technology, underlying hardware and software infrastructure, technologies used to enhance reliability, scalability, resource utilization, performance that includes mechanisms or methods used to improve performance, and the underlying principles of operating systems that influence performance.</p>

## SCHOOL OF ENGINEERING

### BACHELOR OF ELECTRICAL & ELECTRONIC ENGINEERING WITH HONOURS

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	EEE60104	Programming Techniques	4	-
2	EEE60304	Microprocessors and Computer Architecture	4	EEE60404
3	EEE63304	Digital and Analogue Electronics	4	-
4	EEE60504	Integrated Electronics	4	EEE60804, EEE60404
5	EEE60604	Electrical Power and Machines	4	EEE60804, EEE60904
6	EEE60704	Power Electronics and Industrial Drives	4	EEE60604
7	EEE60804	Circuits and Devices	4	-
8	EEE60904	Electromagnetic Fields and Waves	4	MTH61204
9	EEE61004	High Voltage Engineering	4	EEE60604, EEE61204
10	EEE61104	Signals and Systems	4	MTH61204, EEE61204
11	EEE61204	Power System Analysis and Protection	4	EEE60604
12	EEE61304	Electrical Energy Generation and Utilization	4	EEE60604
13	EEE61404	Communication Systems	4	EEE61104
14	ENG60204	Professional Engineers and Society	4	-
15	ENG60704	Engineering Design and Project Management	4	PRJ62404
16	ENG60804	Automatic Control and Instrumentation	4	MTH61304, MTH61204
17	ENG61104	Numerical Methods and Data Analysis	4	-
18	MTH61204	Engineering Mathematics I	4	-
19	MTH61304	Engineering Mathematics II		MTH61204

Module Name	Module Synopsis
Programming Techniques	In this module, students are required to develop programs using the C programming language in order to solve simple to challenging problems. This module covers the following: C program control, functions, arrays, characters, strings, formatted input/output, structures and file processing. The contents in this module will help introduce students to the basics of programming, thus supporting the achievement of SDG9. The teaching and learning approach for the module will be through problem-based learning and self-directed learning pedagogies composed of interactive lecture sessions, supervised tutorial sessions and supervised practical activities to complement the theoretical principles.
Microprocessors and Computer Architecture	This unit covers three basic aspects of embedded systems namely microcontroller hardware, programming and hardware interfacing. A study of the microcontroller system includes the understanding of architecture, memory and interface aspects. The programming aspect includes both Assembly and C program design and program development environment for the microcontroller system. The hardware interface involves the study of the interfacing circuits to the external modules. The contents of this module equip the students with the knowledge of microprocessor programming which is one of the key components in enhanced research and

	<p>upgraded technologies, supporting the achievement of SDG9. The learning and teaching approach for the module will be through problem-based learning and self-directed learning pedagogies composed of interactive lecture sessions, supervised tutorial sessions and supervised practical activities to complement the theoretical principles.</p>
<p>Digital and Analogue Electronics</p>	<p>This module covers digital logic circuits and semiconductor-based analogue circuits. The theory and practice of digital logic, digital information representation, and digital circuit design will be introduced in digital logic circuit. The design and analysis of semiconductor diode rectifier and filter circuits will be demonstrated in semiconductor analogue circuits. It also covers the design and analysis of circuits such as Bipolar Junction Transistor (BJT), Field Effect Transistor (FET) and Operational Amplifier. The contents of this module provide students with knowledge of digital and analogue components, which are key components in electronic industrial and innovation in terms of circuit development, thereby supporting SDG9. Lectures, tutorials, and practicals will be delivered using a blended learning approach that incorporates face-to-face learning, online synchronous face-to-face learning, online asynchronous non-face-to-face learning, and online asynchronous activities.</p>
<p>Integrated Electronics</p>	<p>This module deals with op-amp based circuits and their applications. It also introduces the concept of IC design. The contents in this module will help introduce students to the basics of integrated circuits, thus supporting the achievement of SDG9. The teaching and learning approach for the module will be through problem-based learning and self-directed learning pedagogies composed of interactive lecture sessions, supervised tutorial sessions and supervised practical activities to complement the theoretical principles.</p>
<p>Electrical Power and Machines</p>	<p>This module deals with two main topics - AC power distribution concepts and electrical machines. For electrical machines, it covers DC motors and generators, synchronous motors and generators, asynchronous motors and generators, and transformers. As for AC power, it covers active, reactive, and apparent powers, power factor corrections in both single-phase and 3-phase systems. The contents of this module equip the students with the knowledge of motor efficiency which is one of the key components in sustainable energy and industrialization thus, supporting the achievement of SDG7 and SDG9. It also covers the knowledge of Industrial Revolution 4.0 related to electric machines. The learning and teaching approach for the module will be through problem-based learning and self-directed learning pedagogies composed of interactive lecture sessions, supervised tutorial sessions, case study assignments, and supervised practical activities to complement the theoretical principles.</p>
<p>Power Electronics and Industrial Drives</p>	<p>This module deals with characteristics of power switching devices and their operation in converters, inverters and chopper circuits which are widely applied in residential, commercial, and industrial sectors particularly in variable speed drives applications for rotating machines. The contents of this module equip the students with important knowledge of power electronics and industrial drives which is one of the key components in sustainable industrialization thus, supporting the achievement of SDG9. The teaching and learning approaches adopted for this module are guided learning, self-directed learning and problem-based learning. Lectures, tutorials and practical will be delivered through blended learning approach, including face-to-</p>

	face learning, online synchronous face-to-face learning, online asynchronous non-face-to-face learning and online asynchronous activities.
Circuits and Devices	This module deals with two main topics, circuit theory and semiconductor devices. In circuit theory, Kirchhoff's laws and network theorems are applied for the analysis of DC and AC circuits. Also, the transient response of RL and RC circuits is investigated. In semiconductor devices, the physics of conduction in solids and semiconductor electronic components are introduced. The contents in this module will help introduce students to the basics of circuit analysis and common electronics components found in electronic circuits, thus supporting the achievement of SDG9. The teaching and learning approach for the module will be through problem-based learning and self-directed learning pedagogies composed of interactive lecture sessions, supervised tutorial sessions and supervised practical activities to complement the theoretical principles.
Electromagnetic Fields and Waves	This subject deals with vector analysis, electrostatic fields and magnetic fields which is one of the key components in sustainable industrialization thus, supporting the achievement of SDG9. The behaviour of time varying signals along transmission lines is investigated by considering appropriate applications. The learning and teaching approach for the module will be through problem-based learning and self-directed learning pedagogies composed of interactive lecture sessions, supervised tutorial sessions and supervised practical activities to complement the theoretical principles.
High Voltage Engineering	This module aims to expose students to the concept of dielectrics breakdown, generation of impulse voltages and currents, high DC and AC voltages, and high voltage measurement and testing techniques. Students will be introduced to the phenomena of dielectrics breakdown in gases, liquids, and solid dielectrics, partial discharge, and overvoltage. Students will also be introduced to the generation of DC, AC, impulse voltages and earthing, and lightning protection. Various types of insulation materials, cable insulation, application of insulating materials, and techniques of condition-based monitoring are exposed to students in this course. The contents of this module equip the students with the fundamental knowledge of high voltage engineering to promote sustainable industrialization thus, supporting the achievement of SDG9. It also covers the knowledge of Industrial Revolution 4.0 related to high voltage engineering. The learning and teaching approach for the module will be through problem-based learning and self-directed learning pedagogies composed of interactive lecture sessions, supervised tutorial sessions, and supervised practical activities to complement the theoretical principles.
Signals and Systems	This module deals with signal analysis and the signal transmission through systems. It provides Laplace transform, Z-transform and probability mathematical background for signals and system analysis. The contents of this module equip the students with the knowledge of signals and systems which is one of the key components in enhanced research and upgraded technologies, supporting the achievement of SDG9. The learning and teaching approach for the module will be through problem-based learning and self-directed learning pedagogies composed of

	interactive lecture sessions, supervised tutorial sessions, and supervised practical activities to complement the theoretical principles.
Power System Analysis and Protection	This module deals with the distribution, transmission, network analysis, and protection of power system networks. It emphasizes on simulation, analysis, and design of system protection of a power system network operating under normal and abnormal conditions. The contents of this module equip the students with the fundamental knowledge of the electrical power system analysis and protection knowledge to promote sustainable industrialization thus, supporting the achievement of SDG9. It also covers the knowledge of Industrial Revolution 4.0 related to electrical power system analysis and protection. The learning and teaching approach for the module will be through problem-based learning and self-directed learning pedagogies composed of interactive lecture sessions, supervised tutorial sessions, and supervised practical activities to complement the theoretical principles.
Electrical Energy Generation and Utilization	This module deals with the electrical power generation and its utilization for different applications such as electric traction, heating, welding and illumination. The contents of this module equip the students with the knowledge of electrical energy generation and utilisation which is one of the key components in sustainable industrialization thus, supporting the achievement of SDG12. The learning and teaching approach for the module will be through problem-based learning and self-directed learning pedagogies composed of online synchronous face-to-face learning, online asynchronous non-face-to-face learning and online asynchronous activities, supervised tutorial sessions, and practical activities to complement the theoretical principles.
Communication Systems	This module deals with the main features of communication systems including different analogue and digital modulation and demodulation and fundamentals knowledge in this field such as sampling theorem, bandwidth, signal-to-noise-ratio, bit-error-rate, error control and etc. The contents of this module equip the students with the knowledge of communication systems which is one of the key components in sustainable industrialization thus, supporting the achievement of SDG9. The learning and teaching approach for the module will be through problem-based learning and self-directed learning pedagogies composed of interactive lecture sessions, supervised tutorial sessions, supervised practical activities to complement the theoretical principles, online synchronous face-to-face learning, online asynchronous non-face-to-face learning, and online asynchronous activities.
Professional Engineers and Society	This module discusses and studies the code of ethics and professional conduct a Professional Engineer should strive to achieve and maintain. It also provides the necessary skills to ensure that undergraduate students are aware of the various learned and regulatory bodies that are responsible for the ethics of the profession, safety and health, quality management and project management financing control. The present module also emphasizes on Industrial Revolution 4.0 (IR4.0) and Sustainable Development Goals (SDG) to give exposure towards current trends of the world. There are five types of assessment: Final Examination, Test 1, Assignment, Quiz and e-Portfolio which assess cognitive and soft skills of the students. In general, the module helps to develop global perspective, personal competencies, and life-long learning. These skills are implic

	teaching-learning and assessment strategies covered lecture and blended learning.
Engineering Design and Project Management	<p>This module equips engineering students with innovation techniques such as design thinking, sharpening their innovation skills. This will empower them to develop financially and economically sustainable solutions and enable them to play a key technical and economical role in activities ranging from creating jobs to addressing the Grand Challenges of the 21st Century. Aside from that, students are also required to consider coming up with projects that are in line with the 17 Sustainable Development Goals of the United Nations to ensure value in their work towards tackling real and current issues.</p> <p>This is a Guided Learning module that also requires the students to proactively practice self-directed learning in the process of achieving the learning outcomes for the module. There will also be aspects of Authentic Learning wherein the students must develop a solution with real-life application potentials in mind. With these teaching approaches in mind, lessons of the module consists of one lecture and one weekly consultation/discussion sessions. The weekly consultation session consists of regular reviews and updates from the students to the module coordinator who provides feedback and critiques to ensure that the students' projects are aligned with the learning outcomes of the module.</p> <p>The mode of delivery for the module applied blended learning wherein the students have face-to-face time with the module coordinator and are also provided with online learning material through the MOOC platform OpenLearning.</p>
Automatic Control and Instrumentation	<p>This module provides an introduction and overview of the field of control systems. Among some of topics covered include fundamentals of block diagrams and its reduction techniques, transfer functions, system stability analysis via Routh-Hurwitz criterion, root locus analysis, instrumentation, Programmable Logic Controller (PLC) systems and system's time response. Delivery of the module will be done in the form of blended learning with tutorial session being conducted in the face-to-face mode while lecture sessions are on a non-face-to-face guided online basis. Guided learning approach is used in order to enhance the students' theoretical knowledge in control system through both lecture and tutorial. In addition, problem-based learning approach is also applied with opportunities to design or develop control systems via block diagrams and ladder diagram based on a given constraints and scenario from various applications based on the theoretical knowledge.</p>
Numerical Methods and Data Analysis	<p>This course introduces programming with MATLAB and provides skills that promote the use of numerical methods in engineering applications. This course will also provide the students with knowledge on the background of engineering applications using statistical analysis and the use of machine learning. The learning and teaching approach for the module will be through problem-based learning and self-directed learning pedagogies composed of interactive lecture session and supervised tutorial sessions to complement the theoretical principles. The assessment approach for the module will be test, assignment, and final examination.</p>
Engineering Mathematics I	<p>Engineering mathematics I provides students with basic knowledge on applied engineering mathematics which is used in most of the</p>

	<p>engineering design applications. This module covers some of the most common used mathematics techniques, inclusive of software for solving engineering problems, and this support one of the important pillars (simulation) of IR4.0. Topics covered in this module include hyperbolic functions, complex numbers, matrix, partial differentiation, mathematical model development, and integration techniques. The teaching and learning approaches adopted for this module are guided learning, self-directed learning and problem-based learning. Lectures and tutorials will be delivered through blended learning approach, including face-to-face learning, online synchronous face-to-face learning, online asynchronous non-face-to-face learning and online asynchronous activities.</p>
Engineering Mathematics II	<p>Engineering mathematics II provides students with basic knowledge on applied engineering mathematics including numerical function and operators which is used in most of the engineering design applications. This module covers the mathematical modelling of engineering problems using differential equations and introduces various techniques for solving the challenges. It covers the statistics, probability and the use of software to solve engineering problems, and this support one of the important pillars (simulation) of IR4.0. It also covers the transformation of system representation between time and complex frequency domains and its analysis and solution. The teaching and learning approaches adopted for this module are guided learning, self-directed learning and problem-based learning. Lectures and tutorials will be delivered through blended learning approach, including face-to-face learning, online synchronous face-to-face learning, online asynchronous non face-to-face learning and online asynchronous activities.</p>

## BACHELOR MECHANICAL ENGINEERING WITH HONOURS

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	CHE61404	Thermodynamics and Heat Transfer	4	-
2	CHE61504	Engineering Fluid Mechanics	4	-
3	CHE61604	Advanced Thermofluid Engineering	4	CHE61504 CHE61404
4	PRJ65204	Engineering Design and Project Management	4	PRJ65104
5	ENG60804	Automatic Control and Instrumentation	4	MTH61204 MTH61304
6	ENG61704	Introduction to Electronics and Electrical Power and Machines	4	-
7	ENG61004	Electronics and Microprocessors	4	MTH61304, ENG60904, ENG61704
8	MEC60104	Engineering Statics	4	-
9	MEC60204	Engineering Solid Mechanics	4	MTH61204
10	MEC60304	Computer Aided Engineering & Geometric Modeling	4	-

11	MEC60404	Numerical Analysis for Engineers with Applications using ANSYS	4	-
12	MEC60504	Manufacturing Engineering	4	MTH61204
13	MEC60604	Engineering Dynamics	4	-
14	MEC60704	Mechanical Vibration	4	-
15	MTH61604	Engineering Mathematics and Modelling I	4	-
16	MTH61704	Engineering Mathematics and Modelling II	4	MTH61604
17	PRJ65104	Engineering Design and Analysis	4	-

Module Name	Module Synopsis
Thermodynamics and Heat Transfer	This module combines the knowledge related to both energy transfer (as heat) and thermodynamics to expose the students to a wide variety of topics that will be instrumental in their academic and career advancement like the applications of the first and second laws of thermodynamics and the mechanisms of heat transfer in heat engines, heat pumps, refrigeration system, and heat exchangers. This module covers topics such as introduction and basic concepts of thermodynamics, thermodynamic property tables, 1 <sup>st</sup> law of thermodynamics, 2 <sup>nd</sup> law of thermodynamics, power cycles, refrigeration cycles, conduction, convection, radiation, and heat exchangers. The learning and teaching approaches for this module are based on guided learning, self-directed learning, and problem-based learning. Lectures, tutorials, and practicals will be delivered through a blended learning approach through a combination of face-to-face and online lectures, face-to-face tutorial and practical sessions, and online asynchronous activities.
Engineering Fluid Mechanics	This module deals with three fundamental topics: first, hydrostatics in which the pressure and its relevant hydrostatic forces are studied. Second, hydrodynamics in which basic laws of conservation of mass, energy, and momentum in relation to the fluid flow and its engineering applications for ideal and viscous fluid systems are studied. Third, dimensional analysis, similarities, and $\Pi$ -theorem are studied. The contents of this module equipped the student with important knowledge pertaining fluid static and fluid flows which support the achievement of SDG 6, Clean Water and Sanitation. In general, the module helps to develop time management, communication, research and analytics. These skills are implicitly assessed. The teaching-learning and assessment strategies covered lecture, tutorial, practical and blended learning. The learning and teaching approaches for the module will be guided-learning and self-directed learning.
Advanced Thermofluid Engineering	This module introduces to the students the concept of gas power cycles, gas vapour mixtures, and air-conditioning, mass transfer, the operation of turbomachines, and finally, external flows and airfoils where the students will learn about the boundary layer concept, lift and drag, flow separation and compressible flow. The teaching and learning in this module will be classroom-based lectures with real-life examples (authentic learning and teaching) to help students understand the concepts and the applications. This module supports SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all by helping improving energy efficiency. The knowledge acquired in the classroom will be demonstrated, theoretically in the form of tutorial classes, and practically in the form of lab experiments. These labs are unguided

	(self-directed learning) which help the students to think independently using the knowledge gained in the classroom.
Engineering Design and Project Management	<p>This module equips engineering students with innovation techniques such as design thinking, sharpening their innovation skills. This will empower them to develop financially and economically sustainable solutions and enable them to play a key technical and economical role in activities ranging from creating jobs to addressing the Grand Challenges of the 21st Century. Aside from that, students are also required to consider coming up with projects that are in line with the 17 Sustainable Development Goals of the United Nations to ensure value in their work towards tackling real and current issues.</p> <p>This is a Guided Learning module that also requires the students to proactively practice self-directed learning in the process of achieving the learning outcomes for the module. There will also be aspects of Authentic Learning wherein the students must develop a solution with real-life application potentials in mind. With these teaching approaches in mind, lessons of the module consists of one lecture and one weekly consultation/discussion sessions. The weekly consultation session consists of regular reviews and updates from the students to the module coordinator who provides feedback and critiques to ensure that the students' projects are aligned with the learning outcomes of the module.</p> <p>The mode of delivery for the module applied blended learning wherein the students have face-to-face time with the module coordinator and are also provided with online learning material through the MOOC platform OpenLearning.</p>
Automatic Control and Instrumentation	<p>This module provides an introduction and overview of the field of control systems. Among some of topics covered include fundamentals of block diagrams and its reduction techniques, transfer functions, system stability analysis via Routh-Hurwitz criterion, root locus analysis, instrumentation, Programmable Logic Controller (PLC) systems and system's time response. Delivery of the module will be done in the form of blended learning with tutorial session being conducted in the face-to-face mode while lecture sessions are on a non-face-to-face guided online basis. Guided learning approach is used in order to enhance the students' theoretical knowledge in control system through both lecture and tutorial. In addition, problem-based learning approach is also applied with opportunities to design or develop control systems via block diagrams and ladder diagram based on a given constraints and scenario from various applications based on the theoretical knowledge.</p>
Introduction to Electronics and Electrical Power and Machines	<p>This module deal with basic electrical and electronics elements which consist of digital logics and binary systems; DC and AC circuit concept, RLC elements in AC system, active, reactive, and apparent power; a basic introduction on 3-phase power systems and electrical power generation and transmission; different types of DC and AC machines as well as transformer. The contents of this module equip the students with essential knowledge of electrical, electronics and machines which are the key components in sustainable industrialization thus, supporting the achievement of SDG9. The teaching and learning approaches adopted for this module are guided learning, self-directed learning and problem-based learning. Lectures and tutorials will be delivered through blended learning approach, which includes face-to-face learning, online synchronous face-to-face learning, online</p>

	asynchronous non-face-to-face learning and online asynchronous activities.
Electronics and Microprocessors	The module emphasizes the microprocessor or microcontroller programming application that interfacing with different electronic components and sensors. Students are introduced to a basic concept of microprocessor/microcontroller as well as recognize the role of electronics and microprocessors / microcontroller and their impact in a wide range of engineering applications. The learning and teaching approach for the module will be self-directed learning and problem-based learning composed of interactive lecture sessions, supervised practical tutorial sessions and project-based assignment to complement the theoretical principles.
Engineering Statics	Static equilibrium and internal/external forces are introduced in this module. The analysis of pin-jointed trusses and the estimation of bending moments and shear forces in loaded beams are then carried out using these concepts. The elasticity principle is discussed and then used to the calculation of the stresses inside and deflections of a statically determinate beam. Finally, we explore plastic collapse mechanisms and apply them to the study of beams. The following are the module's objectives: 1) To equip learners with statics principles, free body diagrams, equilibrium, and forces in two- and three-dimensional spaces; and 2) To provide students with the abilities necessary to compute and analyze bending moment and shear diagrams. This program will employ guided learning, self-directed learning, and problem-based learning. Lectures, tutorials, and hands-on sessions are all integrated into a blended learning environment.
Engineering Solid Mechanics	The module emphasizes on the analysis and design of structural members subjected to tension, compression, torsion and bending. Students are taught to predict failure of structures, loading in pressure vessels and deflection of beams. The learning and teaching approach for the module will be guided learning in the tutorials and problem-based learning in the practical session. The mode of delivery of this module consists of 160 hours of student learning time. The module is supported by a combination of face-to-face learning, problem-based learning and blended learning such as online lectures.
Computer Aided Engineering & Geometric Modeling	This module presents the processes of solid modelling computer-aided design (CAD) and computer-aided engineering (CAE) using SOLIDWORKS software. The design process from the conceptual design stage to the manufacturing stage via hands-on and virtual experience of component shape design. This module enables students to create and design 3D models, that can then feed into Simulation and used for 3D printing, which are the pillars in Industrial Revolution 4.0 (IR4.0). The learning and teaching approach for the module will be a combination of guided and self-direct learning. Students attend lecture classes and engage with practical tasks during the practical sessions. In preliminary modelling, students engage with sketching and part modelling using different SOLIDWORKS sketching tools (i.e. basic and advance) and shape features (i.e. extrude, cut, revolve, fillet, chamfer, and others features). Students also engage with creating 2D drawings of a model include detailing (dimensions, bill of materials, notes, and other annotations). In addition, students are also involved in building assemblies consisting of many components. For assembly components, students engage with adding components to an assembly and create a link between the assembly and the component using mate features (e.g. basic, advance and mechanical mates).

	Furthermore, students also engage with analysing the models using kinematic analysis and motion study.
Numerical Analysis for Engineers with Applications using ANSYS	Students will learn the fundamental theory of finite element method (FEM) and its application in solving various structural analysis problems. A commercial FEM software, ANSYS, will be introduced. Students will practice operation of the software and use it to analyse and solve a series of engineering problems. This module supports the Simulation pillar of Industrial Revolution 4.0 (IR4.0) where one can test and optimise their design even before prototyping or production. The learning and teaching approach for the module will be combination of guided and self-direct learning. The teaching and learning approach for the module consists of lectures, tutorials, and problem-based learning. Students will solve engineering related problems using ANSYS software in the computer lab and use it to complete their assignments.
Manufacturing Engineering	This subject introduces the range of different manufacturing processes used for various products based on the type of engineering materials along with some basic selection criteria for determining the appropriate processes for a given product. The subject also introduces fundamental knowledge for the conventional and advance manufacturing processes (involving the machine, tools, and standards), Industrial Revolution 4.0 and the sustainable manufacturing which in line with the Sustainable Development Goals designed by United Nation. The learning and teaching approach involve both classroom and online-based learning (authentic learning & guided learning). Authentic learning allows the integration of fundamental knowledge with real-life problems. Guided learning was applied to facilitate learning for student needs. The module is delivered via lectures and tutorials apart from practical sessions at the workshop.
Engineering Dynamics	This module introduces the students to the scope of kinematics and kinetics which students will be introduced and exposed to deal with problems related to motions for example vehicle, machineries and daily motions. The three-dimensional nature of motion is considered and explored using simple vector concepts and basic calculus. The basic methods of force/acceleration, Newton's second law, impulse/momentum and work/energy are developed and applied. The power transmission and speed characteristics of gear trains are examined as well as the basic of vibration is introduced. This module is a combination of Guided Learning with face-to-face tutorial and online lecture, and Problem-based Learning for practical and assignment.
Mechanical Vibration	The module emphasizes the basic principle of mechanical vibration which consist of basic free and forced vibration under undamped and damped condition. The discussion of harmonic response is very important in order to understand the basic response of an ideal vibration system. The module also discusses the principle of degree of freedom in vibration system and vibration suppression case such as vibration transmission and isolation. The approach of teaching and learning will include the guided-learning and case-based learning which consist of lecture, tutorial and lab session for practical experience.
Engineering Mathematics and Modelling I	Engineering mathematics I provides students with basic knowledge on applied engineering mathematics which is used in most of the engineering design applications. This module covers some of the most common used mathematics techniques, inclusive of software for solving engineering problems, and this support one of the important

	pillars (simulation) of IR4.0. Topics covered in this module include hyperbolic functions, complex numbers, matrix, partial differentiation, mathematical model development, and integration techniques. The teaching and learning approaches adopted for this module are guided learning, self-directed learning and problem-based learning. Lectures and tutorials will be delivered through blended learning approach, including face-to-face learning, online synchronous face-to-face learning, online asynchronous non-face-to-face learning and online asynchronous activities.
Engineering Mathematics and Modelling II	Engineering mathematics II provides students with basic knowledge on applied engineering mathematics including numerical function and operators which is used in most of the engineering design applications. This module covers the mathematical modelling of engineering problems using differential equations and introduces various techniques for solving the challenges. It covers the statistics, probability and the use of software to solve engineering problems, and this support one of the important pillars (simulation) of IR4.0. It also covers the transformation of system representation between time and complex frequency domains and analysis and solution. The teaching and learning approaches adopted for this module are guided learning, self-directed learning and problem-based learning. Lectures and tutorials will be delivered through blended learning approach, including face-to-face learning, online synchronous face-to-face learning, online asynchronous non-face-to-face learning and online asynchronous activities.
Engineering Design and Analysis	This module lays the grounds for a project based learning journey that the students will go through. It prepares them for a successful and rewarding programme of study in their chosen engineering discipline through cultivating successful engineering habits of thinking, doing, collaborating, and communicating effectively. The module also introduces the wider context for engineering practice including the Grand Challenges for engineering in the 21st Century. The teaching and learning approaches for this module are Guided Learning, Authentic Learning, Self-directed Learning, and Project-based Learning.

## BACHELOR OF CHEMICAL ENGINEERING WITH HONOURS

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	CHE61104	Chemical Engineering Thermodynamics and Simulation	4	CHE61404
2	CHE61204	Mass Transfer	4	-
3	CHE60904	Biochemical Process	4	-
4	CHE62004	Process Control and Instrumentation	4	ENG60304
5	CHE62104	Chemical Reaction Engineering	4	-
6	CHE62304	Process Plant Design and Economics	4	ENG60304
7	ENG60204	Professional Engineers and Society	4	-
8	CHE60704	Introduction to Chemical Process Engineering	4	-
9	ENG61304	Sustainable Development in Engineering	4	-
10	ENG60704	Engineering Design and Project Management	4	PRJ62404
11	MTH62204	Engineering Mathematics and Modelling I	4	-

12	PRJ65104	Engineering Design and Analysis	4	-
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Module Name	Module Synopsis
Chemical Engineering Thermodynamics and Simulation	The module covers important aspects of thermodynamics in chemical engineering. This module contains an essential topic: the basic laws of thermodynamics, Maxwell relationships, equations of state, predictions of thermodynamics properties, phase equilibria, and chemical reaction equilibria. Computational chemical process simulator is introduced to students, intended to develop fundamental skills using computer-aided tool to perform process synthesis, simulation, analysis, and optimization. Practical problems are used as examples. The teaching and learning approach focuses on student-centered learning in the form of lecture, tutorial, laboratory experiment and computational simulation.
Mass Transfer	<p>This module covers the basic principle of mass transfer and its application in chemical engineering system. Mass transfer takes place in a single phase or across the phase boundaries in gas, liquid, solid-phase materials, and multiphase systems. The module includes 1-dimensional and 2-dimensional steady and unsteady state mass transfer in chemical engineering processes, involving transport in multicomponent system. Chemical engineering processes such as membrane separations, adsorption, absorption, crystallisation, and filtration will be introduced.</p> <p>The teaching and learning approach will focus on guided learning, self-directed learning, and problem-based learning.</p> <p>Guided learning will be adopted for the lecture and tutorial classes whereby learning activities will be conducted and guided by the lecturer with peer involvement to achieve the learning outcomes. The module is also supported with problem-based learning through the open-ended practical lab experiment and assignments.</p>
Biochemical Process	This module introduces some fundamental aspects of biochemical processes, bioreactor design and purification-separation technologies related to bioprocess engineering. The structures and functions of
	microorganisms and biomolecules are introduced. Enzymes kinetics, enzymes application and the factors that affect enzymes activity are covered. Cell metabolic pathway and cell growth kinetics are also studied. Students will be exposed to the aspects of the bioreactor design such as reactor configuration, operating conditions and mode of operation. Downstream bioprocesses including recovery of product, product isolation, purification and polishing are emphasised. The module is supported by a combination of face-to-face and online lectures, tutorials, practical and assignment. The teaching and learning approach applied in the module include guided learning, self-directed learning and problem-based learning.

<p>Process Control and Instrumentation</p>	<p>This module covers the mathematics and dynamic modelling techniques, basic principles of analysis and design of process with the appropriate mathematical tools and introduction to instrumentation. Students are taught on how to construct and analyse advanced dynamic models of chemical engineering systems. Several mathematical techniques with applications in chemical engineering are covered. It also covers the mathematical tools required to analyse and solve linear and non-linear chemical engineering-based models, with examples and introduction to instrumentation will be also taught. This module will also cover topics such as transfer functions, ideal dynamic systems, classical PID controllers, feedback control block diagram analysis, stability concept and analysis, structure and components of modern control loops and practical aspects of industrial process control. The learning and teaching approaches focus on the guided learning, self-directed learning and problem-based learning. Students will take an active role in the learning process and the lecturer facilitates students during the lectures, tutorial, practical sessions and assignment for the topics the mathematical modelling and analysis of the dynamic models of chemical engineering systems, application of MATLAB dynamic simulation software, structure, components and instrumentation for control loops and design and stability analysis of feedback controllers. The mode of delivery includes face-to-face learning, online synchronous face-to-face learning, online asynchronous nonface-to-face learning and online asynchronous activities.</p>
<p>Chemical Reaction Engineering</p>	<p>This module introduces the concepts on designing reactor involving homogenous and heterogenous reactions. The fundamental on designing ideal reactors such as continuous stirred tank reactor (CSTR), plug flow reactor (PFR) and batch reactor will first</p>
	<p>be introduced. The effect of operating condition such as temperature on conversion and reactor design is analysed. Besides single reaction, students will also be working on optimizing multiple reaction systems based on conversion, yield and selectivity. Subsequently, the mechanism for catalytic reactions that include bulk diffusion, adsorption, surface reaction and internal diffusion will be discussed. Besides, students will be exposed to designing multiphase reactor which include mass transfer and reaction kinetic principles. The module further covers topic on non-ideal reactors, analysing how non-ideal behaviour affects the performance of reactor operation. The module is supported by a combination of face-to-face and online lectures, tutorials, practical and assignment. Teaching and learning approach applied in the module include guided learning, self-directed learning and problem-based learning. Case studies and quizzes are some of the materials to be incorporated into lectures and tutorials.</p>

<p>Process Plant Design and Economics</p>	<p>This module is a prerequisite to Chemical Engineering Group Project 1 and 2. It covers the knowledge and practice required for a detailed design of chemical equipment and processes in a chemical engineering plant. The main areas include mechanical design, equipment selection, process operability (including piping and instrumentation), safety and sustainability.</p> <p>This module focuses on the guided learning in the form of lecture, tutorial and computational simulation. Class activities such as group discussion and presentation are conducted with lecturer's guidance and peer involvement. In addition to that, this module also focuses on project based learning, in which students will be assigned to complete a given project/ task in group assignment.</p> <p>This module is mainly focuses on blended learning that involves proportion of face-to-face lectures, guided and self-learning tutorial.</p>
<p>Professional Engineers and Society</p>	<p>This module discusses and studies the code of ethics and professional conduct a Professional Engineer should strive to achieve and maintain. It also provides the necessary skills to ensure that undergraduate students are aware of the various learned and regulatory bodies that are responsible for the ethics of the profession, safety and health, quality management and project management financing control. The</p>
	<p>present module also emphasizes on Industrial Revolution 4.0 (IR4.0) and Sustainable Development Goals (SDG) to give exposure towards current trends of the world.</p>
<p>Introduction to Chemical Process Engineering</p>	<p>This module introduces the i.) major group of materials used in engineering applications and ii.) the methods to assess the mass and energy balance of chemical processes. The fundamentals of materials as well as the fundamental selection methods for choosing the most suited materials for a given engineering application are covered in this module. On the other hand, the evaluation of mass and energy balance for a given chemical process in open, closed, reacting and non-reacting single and multiple-unit system is also covered in this module. The teaching and learning approaches adopted for this module are guided learning, self-directed learning and problem-based learning. Lectures, tutorials and practical will be delivered through blended learning approach, which including face-to-face learning, online synchronous face-to-face learning, online asynchronous non face-to-face learning and online asynchronous activities. Moodle (MyTiMeS) is the main platform for all the online asynchronous learning and activities. Student learning outcomes will be assessed through Test, Assignments, Practical and Final Examination in this module. Test, Assignments and Final Examination are adopted to assess the knowledge, understanding and cognitive abilities of students in solving the problems by using the knowledge introduced in this module. Practical is used to assess the cognitive abilities and functional work skills of students to carry out the experiments to analyse the material properties as well as to evaluate the mass and energy balance of chemical process.</p>

Sustainable Development in Engineering	<p>Sustainable development in engineering is a practice that all chemical engineers need to implement. All possible pollutants (eg, air, water, soil) are discussed in this module and case studies are applied to implement standards on existing pollution problems. The scope cover topics of current environmental challenge, sustainable development principles, legislations for sustainable process design, sustainable chemical process system to prevent air, water and soil pollution. In practical lab sessions, students are required to conduct investigation to study wastewater treatment efficiency through experimental configuration.</p> <p>The teaching and learning approach for the module will be guided learning, self-directed and problem-based learning, with students engaging with practical tasks during the laboratory sessions and collaborating in group for solving case studies in lecture and tutorial classes.</p>
Engineering Design and Project Management	<p>This module equips engineering students with innovation techniques such as design thinking, sharpening their innovation skills. This will empower them to develop financially and economically sustainable solutions and enable them to play a key technical and economical role in activities ranging from creating jobs to addressing the Grand Challenges of the 21st Century. Aside from that, students are also required to consider coming up with projects that are in line with the 17 Sustainable Development Goals of the United Nations to ensure value in their work towards tackling real and current issues.</p>
	<p>This is a Guided Learning module that also requires the students to proactively practice self-directed learning in the process of achieving the learning outcomes for the module. There will also be aspects of Authentic Learning wherein the students must develop a solution with real-life application potentials in mind.</p>
Engineering Mathematics and Modelling I	<p>The Engineering Mathematics and Modelling I provides students with knowledge on applied engineering mathematics which is used in most of engineering design applications, including the solver program (e.g., MATLAB). Topics covered in this module include hyperbolic functions, complex numbers, matrices, numerical methods, partial differentiation, mathematical model development, and integration techniques. The learning and teaching approach for the module will be through guided learning, self-directed learning and problem-based learning, pedagogies composed of interactive lecture sessions and supervised tutorial sessions to complement the theoretical principles.</p>
Engineering Design and Analysis	<p>This module lays the grounds for a project-based learning journey that the students will go through. It prepares them for a successful and rewarding programme of study in their chosen engineering discipline through cultivating successful engineering habits of thinking, doing, collaborating, and communicating effectively. The module also introduces the wider context for engineering practice including the Grand Challenges for engineering in the 21st Century and United Nation Sustainable Development Goal (UNSDG). The teaching and learning approaches for this module are Guided Learning, Authentic Learning, Self-directed Learning, and Project-based Learning.</p>

## SCHOOL OF ARCHITECTURE, BUILDING & DESIGN

### BACHELOR OF SCIENCE (HONOURS) IN ARCHITECTURE

#### Common Core

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	ARC64604	Advanced Architectural Construction	4	-
2	ARC62708	Architectural Design I	8	-
3	ARC62808	Architectural Design II	8	ARC62708
4	ARC63408	Architectural Design III	8	ARC62808
5	ARC63508	Architectural Design IV	8	ARC63408
6	ARC63304	Computer Applications	4	-
7	ARC63608	Architectural Design V	8	ARC63508
8	ARC63004	Asian Architecture	4	-
9	ARC62904	Architecture History and Theory	4	-
10	ARC63104	Design Communication	4	-
11	BLD63404	Building Construction and Materials	4	-
12	BLD63504	Building Services	4	-

#### CHOOSE ONE (1) EXTENSION OR FREE ELECTIVE

##### Heritage and Conservation

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	ARC63804	Principles of Sustainable Design	4	-
2	ARC64104	Architectural Conservation and Tourism	4	-
3	ARC64204	Introduction to Heritage Conservation	4	-
4	ARC63904	Green Strategies for Building Design	4	-

##### Sustainable Design

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	ARC63804	Principles of Sustainable Design	4	-
2	ARC64304	Sustainable Living	4	-
3	ARC63904	Green Strategies for Building Design	4	-
4	ARC64404	Energy and Architecture	4	-
5	ARC64504	Digital Application for Sustainable Design	4	ARC63304

##### Free Elective (Architecture Related)

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	ARC63804	Principles of Sustainable Design	4	-
2	ARC64304	Sustainable Living	4	-
3	ARC63904	Green Strategies for Building Design	4	-
4	ARC64404	Energy and Architecture	4	-

5	ARC64504	Digital Application for Sustainable Design	4	ARC63304
6	ARC64104	Architectural Conservation and Tourism	4	-
7	ARC64204	Introduction to Heritage Conservation	4	-

Module Name	Module Synopsis
Advanced Architectural Construction	This module introduces the principles and practices of construction technology for long-span and tall buildings. It focuses on the construction systems of basement, building façade and envelope systems as well as steel construction. It also covers the new and recent construction technologies and systems including modular construction (MC) and Industrialised Building System (IBS).
Architectural Design I	Architectural Design 1 is structured as an introduction to architectural design. This preliminary design module aims to present and explain design through the expression of the perception of 'self' and the body. Students will undertake a series of studio-based exercises and assignments that introduces the fundamental methods, principles and approaches in design thinking and basic spatial design.
Architectural Design II	This module introduces the principles and methods of analysis, abstraction, and synthesis in design thinking that are common to many design fields, including building and architecture. The key emphasis of the studio is "User and Context", which investigates the relationship between user and natural environment. In this studio, students will undertake a series of studio-based exercises; firstly, an investigation of the architectural spaces through prototype studies of Asian Houses; and secondly, an exploration of form and space through architectural conceptualisation. Finally, students will design a small freestanding building that meets user requirements and engages with the site context.
Architectural Design III	The module emphasizes on 'experiencing space and place' in architecture. In the subject, students are introduced to, firstly, an exploration of spatial typologies and poetics in architecture; and secondly, the concept of neighbourhood and community. In their preliminary design work, students engage with studies and design of different spatial typologies (i.e. linear, spiral, spine, centric, etc.) for a simple dwelling space which explores the idea of architectural tectonics and experiences. Subsequently, the major project involves the design of a small scale community building (e.g. gallery, small library) in the open landscape/suburban condition which engages with the spirit of place inherent within the site, the site topography, history and socio-cultural events. The design work explores the plansection integration to achieve architectural form that is tectonically expressive, functional and responsive to its site.
Architecture and Environment	This module introduces the components of the ecosystem and ecological principles concerning the environment as well as numerous environmental issues. It focuses on human intervention affecting the environment both positively and negatively and the relationship of buildings with the natural system. The module introduces the basic elements of climate and their influences on architecture, which aims to facilitate students to create acceptable environmentally conscious and comfortable building designs.
Architectural Design IV	The studio explores design by harnessing environmental qualities and conditions for human and environment sustainability through a project with a specific community of users within a given context. The projects involve studies of precedence on design projects that are responsive to the environmental conditions and sustainable issues. Using the precedent studies, students explore the environment poetics of the building enclosure that respond to the basic natural context such as the sun, wind, heat, cold, energy issue and existing building context (which has clustered built forms for example community center, nature appreciative center, research center). Considerations should be given

	to the complexity of the program, site topography and vegetation, socio-cultural events, and variety of passive strategies for sustainable design. The design work should contribute to and merge harmoniously with environment and the site, and provide the best of experiences for the community of users. Students are required to demonstrate applications of knowledge gained from Environmentally Sustainable Design and Building Science 1 modules from prior semesters and integrate research from Asian Architecture module.
Computer Applications	The module introduces essential skills of communicating design through the aid of relevant computer software. Students are taught in utilizing the computer as visualization, modelling and rendering tool in the production of drawings needed in the design process. They are also encouraged to carry out self-research in regards to the other capabilities and more complicated features of the software. Students will also be taught on the potential of “cross breeding” different software, in order to garner the necessary desired results for their visualization work.
Architectural Design V	The module is a design studio which emphasizes on the idea of ‘place making for the urban communities’. Students will undertake a studio-based exercise which deals with urban infill within a dense urban environment. The two major parts of the studio are a) urban contextual study and b) architectural design development. The final outcome is an architectural design that is responsive to its urban character. In their preliminary design work, students engage with urban studies and strategy/concept development to develop an appropriate programme and massing studies responding to the urban conditions. Subsequently, the major project involves the development of a design scheme which engages with the spirit of urban place and the everyday life of the urban community. The design work explores the plan-section-elevation relationship to achieve an architecture that acts as a vibrant infill exploring the maximum potential of the urban space.
Asian Architecture	Guided by the themes of tradition, modernity & globalization, this module allows students to explore architectural development in Asia to understand how history, culture and society affect architectural design and building construction technology. Students will engage themselves in authentic learning where they connect the knowledge acquired in the classroom with the real-world application, enabling them to appreciate important traditional values and critically evaluate contemporary issues involving urbanism and cultural sustainability. The module will apply a blended learning approach with a mixture of face-to-face learning as well as utilizing online guided lessons resources via TImeS. There will be three assessment components involved to achieve the learning outcomes. The first summative assessment involves production of a sketch journal and written summary of observations of the tangible and intangible contexts of traditional streets. The second summative assessment is a test to appraise students’ understanding of the concepts discussed in the lectures. The final summative assessment involves critical interpretations on the salient issues of globalization in the Asian architectural scene through facilitated group discussions.
Architecture History and Theory	A chronological survey of the developments of Western architecture from the beginning of time to the modern movement, with consideration of the intellectual, aesthetic, technological, political and economic factors which have influenced the design of buildings. These issues are explored with reference to major contemporary examples and the work and philosophy of significant exponents.

Design Communication	The subject introduces fundamental skills for the appropriate communication of architectural design. It engages different means of visualization and expression of space and spatial ideas through architectural drawings to prepare students with the skills required in design projects. These skills are taught through a series of freehand and constructed drawing held both outdoors and in the studio.
Building Construction and Materials	In this module, students will learn the basic building construction and materials used in the construction of small to medium scale buildings. It focuses on the building elements which include the sub-structure and super structure and main construction materials such as concrete, timber, metal and glass.
Building Services	Students are introduced to the basic services systems commonly provided in buildings, primarily cold and hot water supply, sanitary and sewerage system, rainwater management, electrical supply, fire protection in buildings, mechanical ventilation, air-conditioning systems and vertical transportation systems. Students will also learn about building codes such as Uniform Building By-Law (UBBL) and other relevant laws and standards related to the subject matters.
Measured Drawing and Documentation	The module aims to develop an understanding of the principles of heritage building conservation and the methods of documenting it through measured drawings. Students are to document historically and architecturally significant buildings in the form of as-built drawings.
Principles of Sustainable Design	With an emphasis on the UN Sustainable Development Goals (SDGs), this interdisciplinary introductory module is aimed to give students with diverse backgrounds an overview to explore: What is sustainability and why is it essential for future community development? This module introduces students to environmental issues and provides some in-depth understanding of the complexities and influences that the built environment cause on the natural environment. The module intends to instill environmental literacy and understanding of standards and guidelines related to sustainable development and practices that include the protection and conservation of the natural and cultural heritage that is a significant contribution to sustainable development. The area of study consists of environmental issues that are associated with the built environment, sustainability in heritage conservation, and policies, standards, and guidelines related to sustainable development or construction. Students will examine current environmental concerns such as global warming, carbon footprint, and depletion and pollution of natural resources using lifecycle assessment tools and with reference to existing policies and current green building standards including GBI.
Architectural Conservation and Tourism	This module intends to introduce to the students the current issues of conservation in Malaysia and beyond and to instill awareness on the values and importance of architectural conservation. It also identifies the inter-dependence between architecture and tourism and showcases how tourism is sometimes vital for the preservation of historic architecture and places as well as the innovative re-use of buildings. The module also highlights the balance that is necessary to achieve a long-term sustainable environment for memorable architecture to survive and flourish in the era of mass tourism.
Introduction to Heritage Conservation	his module is intended to give students an introduction to practical understanding of the key principles, theories and methods of documentation of heritage conservation to enable students to understand the importance of preserving cultural and architectural heritage. Students will develop their awareness and understanding of the different approach of heritage conservation of buildings and

	landscapes. Students will also explore the differences between conservation, restoration and reconstruction within a historical and cultural context.
Green Strategies for Building Design	A look into energy efficient residential, commercial and other building typology. Allocation of green components: building shell, HVAC, lighting, indoor air quality and others. Students will undertake case studies to critically evaluate the effectiveness of real life applications of sustainable design strategies.
Sustainable Living	In an increasingly urbanized world, there is growing international demand for the studies on livable cities. This course work will equip the learner with the knowledge and skills to participate in this rapidly expanding profession and find their position as architects. The module uses case study method through films and explores on cities of Malaysia and international contexts focusing on a particular theme pertinent to sustainable living. The students are to explore the relationships of intangible aspects or the content such as cultural, climatic and social situations/user-experiences to tangible aspects such as form, activity and movement pattern. Firstly, the students understand what makes the characteristics of a city for a formal understanding on sustainable aspects. Later, such a characteristic understanding on urban form will be tested for what is still evidenced on the urbanity and content of livability. The course work aims to inspire the students towards fundamental knowledge and skills necessary to comprehend urban places and sustainable living. It is an exploration of both literature and reality.
Energy and Architecture	The module will provide students a comprehensive understanding of how energy is used in buildings. Hence, will introduce principles and ways to achieve energy efficiency in environmental systems operation, renewable energy technology and architectural design features.
Sustainable Design, Policies and Regulations	An introductory module that allows students to learn the basic knowledge in sustainable design and policies that regulates its practice. In this module, topic will look into fundamentals of sustainability, principles of sustainable design and basic method of achieving it. Students are to learn, read and interpret regulations and cases relating to water, air, building construction and acts in the environment. Furthermore comply with today's sustainability requirements and qualifications through understanding and applying GBI and the green building requirements.
Digital Application for Sustainable Design	This module aims to gain awareness on the latest trends of digitalisation using Building Information Modelling (BIM) as a process of innovative sustainable design solutions. BIM is a thriving approach and technology that is widely embraced by the Architectural, Engineering and Construction (AEC) industry of different countries to achieve an integrated, highly collaborative and sustainable design project delivery. The adoption of this whole life-cycle project delivery approach is important to ensure accurate representation of information in projects, thus improving communication, minimizing risk, increased productivity and optimizing time, cost, quality and reducing wastages in design and construction projects. Students are expected to explore the fundamental concept of BIM and its applications in building design collaboration, coordination as well as to apply relevant tools such as Autodesk Revit, Formit Pro and Insight in order to produce a BIM information-centric based building model and documentation which also includes developing environmental analysis and building performance simulations as an innovative solution to optimize the building design.

## BACHELOR OF QUANTITY SURVEYING (HONOURS)

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	BLD60508	Advanced Measurement	8	BLD60408
2	BLD60408	Measurement of Building Works and Costing	8	BLD60308
3	BLD61504	Procurement and Contract Administration	4	-
4	BLD60608	Construction Economics and Management	8	-
5	BLD61804	Value Engineering and Management	4	-
6	BLD60208	Engineering Measurement	8	BLD60508
7	QSB61004	Professional Practice	4	BLD61504
8	LAW66104	Construction Law and Dispute Resolution	4	-
9	BLD62904	Construction Project Management	4	-

Module Name	Module Synopsis
Advanced Measurement	<p>This module covers the measurement of roof, structural steelwork, piles foundation, renovation &amp; demolition works and various elements of external works.</p> <p>The module also integrates computing into their discipline of study by teaching the students to use relevant computer software programs to prepare Bills of Quantities.</p> <p>The learning and teaching approach for the module will be guided learning in facilitating learning for students' needs and subsequently lead students to increasing independence. Other teaching and learning strategies such as experiential learning, problem-based learning, group discussions, presentations, working in groups, etc. are employed to facilitate the learning process. The module is supported by a combination of regular face-to-face lectures, tutorials and feedback sessions in the form of formative assessment to ensure the students have embraced the principle's alignment to the learning outcomes in relation to the module. TIMeS is used for students to</p>
	<p>access module materials, project briefs, assignments and announcements.</p> <p>Assessment will be a combination of group performance and individual performance for the respective assignments given. The students will be assessed by producing measurement and Bills of Quantities in accordance with the standard method of measurement principles and standard phraseology. Another major assessment is to produce a BIM model relating to building works using appropriate computer software.</p>
Measurement of Building Works and Costing	<p>This module covers the principles, purpose and function of Standard Method of Measurement (SMM2) including measurement principles, descriptions and standard phraseology. It also covers the measurement of architectural works based on the Standard Method of Measurements for Building Works Second Edition by the Royal Institution of Surveyors, Malaysia. The students are exposed to the specification writing and preparation of Bills of Quantities for the various trades as described above. This module also provides an introduction on the principle of estimating and components prices such as material, plant, wastage, profit and labour.</p>

Procurement and Contract Administration	This module provides an overview of professional and contractual responsibilities of a quantity surveyor in the consultant group from the design stage to the final account stage. It will focus on the importance of a clear understanding of the organization and administration of quantity surveyor and construction management practices and the legal and contractual procedures in relation to building procurement.
Construction Economics and Management	This module provides an overview of the Quantity Surveyor's role during the pre and post-tender stage of a development, roles and contribution of construction industry to national economy. The students will be introduced to practical situations of the various methods of controlling the cost of buildings at the design stage. Students also will be introduced to the relationship between building morphology, design variables and life cycle costing of a building. It is initiated with the introduction of the process in a property development and factors that influence the development process. The module also covers principles and practices of financial management and various techniques of development appraisal and source of finance available. It is then concluded with the important of market research to the overall development process and its impact of research to the development.
Value Engineering and Management	This module provides the history, background, theories, concepts and principles of Value Management/Value Engineering in decision making process. The module also introduces the idea of unnecessary cost and cost cutting exercise in the cost planning and control stage of the project development. It is then generally covers area of implementation of value engineering and the key person involved – the facilitator. The subject concluded with a series of discussion on the problem and constraint in the implementation stage based on some significant case studies.
Engineering Measurement	This module covers the principles, purpose and function of the SMM2 and MYCESMM including measurement, descriptions and standard phraseology in the measurement of cold and hot water plumbing works, sanitary plumbing and appliances, M&E works and various civil engineering works. The students are also introduced to the principles of specification writing, form of specification and their uses in the various trades. The module integrates computing into their discipline of study by teaching the students to use relevant computer software programs to prepare Bills of Quantities including measurement, comprehensive pricing including building up rates, mark-up profits, resource reports showing the resource quantities and rates for the whole projects, budget and cost control , tendering, tender analysis and evaluation and elemental cost planning.
Construction Law and Dispute Resolution	This module provides an understanding of the principles of construction laws and its applications. By understanding the basic principle of construction law, the importance of adhering to the specific procedures and notices are emphasized. The next phase is to develop an in-depth knowledge on the application of the law and the remedies available to the parties. Subsequently, students will be able to adopt a systematic approach to analyze disputes and the respective liabilities. Lastly, this module focuses to enhance the students' knowledge on matters involving contractual claims and its assessment.
Construction Project Management	This module provides the theories, concepts and principles of management and project management in the construction industry. Using Project Management Body of Knowledge (PMBOK) as a basis, students also learn the principle, techniques and managerial issues,

	<p>which form the process of construction project management. The area of study will focus in particular on project management aspects in a construction context where students learn about the overall processes from inception, evaluation, implementation, monitoring and finally until project completion.</p> <p>Students will learn how to prepare a viable project scheduling using CPM and WBS methodologies taking into account resource (4M) management, quality aspects of projects. Students will also apply their cost management knowledge in the project implementation planning in the preparation of the project schedule.</p> <p>The learning and teaching approach for the module will be student centred learning and TIMeS is used for students to access module materials, project briefs, assignments and announcements. Various teaching and learning strategies such as experiential learning, problem-based learning, site visits, group discussions, presentations, working in groups etc. are employed to facilitate the learning process.</p>
<p>Professional Practice</p>	<p>This module enables the development and establishment of a base knowledge of contract administration and the provisions of the standard contract conditions. It covers the understanding of a professional approach to procedural requirements of the contract and its limitations and the industry's practice of professional services for preparation of payment certificates, valuation of variations, impositions of Liquidated Damages in the event of delays, the retention sum. It also covers the standard conditions of sub-contracts that are used along with the main contract to ensure that the risks are clearly spelt out.</p> <p>The learning and teaching approach for the module will be lecture based, proportion of face-to-face including the use of TIMES/Facebook. There are regular review, feedback and critique sessions leading to the final assignment to assess progress and alignment to the learning outcomes in relation to the brief. The module is supported by a combination of online lectures and teamwork sessions.</p> <p>Students engage with real-life situational problems and the application of conditions of contract to be able to offer options to resolve the problem encountered. The students are required to valuation variations and prepare a final account based on the rules of valuation in the contract. Assessment is via rubric based on report presentation.</p>

**BACHELOR OF SCIENCE (HONOURS) IN SUSTAINABLE DIGITAL  
CONSTRUCTION MANAGEMENT**

**COMMON CORE**

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	BLD60104	Construction Technology I	4	-
2	BLD60204	Construction Technology II	4	BLD60104
3	BLD61904	Building Services	4	-
4	BLD62004	Cash Flow Management and Construction Economics	4	-
5	BLD62204	Construction Measurement and Estimating	4	-
6	BLD62804	Construction Planning and Scheduling	4	-
7	LAW66104	Construction Law and Dispute Resolution	4	-
8	MGT61704	Construction Management and Safety	4	-
9	MGT62104	Building Information Modelling I	4	-
10	MGT62604	Site Management	4	-
11	MGT62804	Construction Environmental Protection Management	4	-

**CHOOSE ONE (1) SPECIALISATION**

**Green Construction**

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	BLD62404	Internet of Things in Construction	4	-
2	BLD62504	Innovative Construction Materials	4	-
3	BLD62604	SMART Building Systems	4	-
4	BLD62704	Green Technology and Construction	4	-

**Smart Construction**

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	ARC61404	Extended Reality in Construction	4	-
2	ITS65704	Data Science Principles	4	-
3	BLD62404	Internet of Things in Construction	4	-
4	MGT62304	Building Information Modelling II	4	-

<b>Module Name</b>	<b>Module Synopsis</b>
Construction Technology I	This module enables the development and establishment of a base knowledge of the fundamental principles of design, materials and technology. Such base knowledge enables students to appreciate the decisions made on design, materials, functional elements, selection and the rational and economic use of resources. It also explains the fundamentals of foundations, piled foundation, concrete framed buildings, walls, windows, doors. The students are also introduced to the principles of sketching.
Construction Technology II	This module enables the development and establishment of fundamental knowledge of construction technology. The module introduces the fundamentals of foundations, structure and load distribution, pre-stressing, steel portal frames, precast concrete and IBS, dewatering, and retaining walls. The students are also introduced to the principles of sketching and the rational and economic use of resources.
Building Services	The module introduces students to the basic services systems provided in buildings. They primarily include water supply, sewerage, rainwater management, electrical supply, mechanical ventilation, air-conditioning, mechanical transportation and fire protection. Students will also learn about statutory requirements related to building design such as the Uniform Building By-Law (UBBL) and other relevant laws, guidelines and standards related to the subject matter. The learning and teaching approach for the module will be authentic teaching and learning. This allows students to explore, discuss, and meaningfully construct concepts and relationships in contexts that involve real-world problems and projects that are relevant to this module.
Cash Flow Management and Construction Economics	This module focuses on planning, co-ordination and control of the construction project from inception till completion stage; managing financial issues of the project; explores macro and micro economic concepts and theories as they apply to the construction industries. This module also covers the principles of design economics applied to buildings and the role of cost planning during construction stage. They will learn the purpose of and apply techniques of cost planning and control. The module also covers principles and practices of project cash flow management, financial management and various techniques of development appraisal including sources of finance available, the importance of budgeting, budget monitoring and its control throughout the construction process.
Construction Measurement and Estimating	This module covers the principles, purpose and function of Standard Method of Measurement (SMM) including measurement principles, descriptions and standard phraseology in the measurement of building works including frames, walls and finishes. The students are also introduced to reading and interpreting technical literature drawings, the principles of specification writing and Bills of Quantities and using appropriate software for measurement and costing. This module also provides an introduction on the principle of estimating and components prices such as material, plant, wastage, profit and labour for trades such as concrete works, brickworks, plastering, tiling and painting works.
Construction Planning and Scheduling	In this module, students are introduced to a comprehensive understanding of the principles, methodologies, and tools used in planning and scheduling construction projects. Through a blend of theoretical concepts and practical applications, this module equips students with the skills necessary to develop efficient and effective project plans, manage resources, and control project timelines in the context of construction.
Construction Law and Dispute Resolution	This module provides an understanding of the principles of construction law and its applications. By understanding the basic principle of construction law, the importance of adhering to the specific procedures and notices are

	emphasized to develop an in-depth knowledge on the application of the law and the remedies available to the parties.
Construction Management and Safety	This course covers fundamental of construction management competencies including role of construction managers, the golden triangle of construction project which are time, cost and quality. This course also covers plant & machineries management including lifting and handling equipment. The second half of this course is about construction safety. In Malaysia, which is also a general practise around the world, safety officer is a must for construction site. For any construction project, health and safety management is utmost concern to create safe working construction site.
Building Information Modelling I	In this module students are introduced to Building Information Modelling (BIM) applications and various digital construction technologies in the construction industry which cover the BIM application, BIM software, system integration between the technologies, 3D model and application and Big Data collection. These digital technologies capture more accurate information to be implemented in construction activities planning. The integrated practice of BIM software will need a systematic understanding followed by systematic consolidation of all relevant technologies and policies. Building Information Modelling (BIM) is a collaborative way of working underpinned by digital technologies, covers different levels of practice from drafting, 3D model and concept work, collaboration between models from different parties.
Site Management	In this module students are introduced to the basic site management activities commonly practice in the construction of building. Primarily the construction site, site office management, construction stakeholders, sundry construction management duties, sub-contractors' management, the environment, site management, communication, resources management, site mobilization management, project planning and control, and risk management. Students will also learn about building codes such as Uniform Building By-Law (UBBL) and other relevant laws and standards related to the subject matters.
Construction Environmental Protection Management	This module will explore the impact of construction practices on nature and the environment in construction management. The most significant quantifiable environmental impacts of the building sector are covered in the topic of construction pollution, construction waste, material manufacturing and energy consumption in this module. The module also discuss about the adverse environmental impacts that are generated by construction activities onto the surrounding areas, and strategies to reduce such impacts by minimizing wastage of materials and equipments, and maximizing re-use, recycling, and recovery of construction wastes in compliance with the local environmental law.
Internet of Things in Construction	This module will explore how the internet of things (IOT) is shaping the construction industries to be sustainable along the construction processes. Initiatives such as those promoted by the BIM agenda, shape construction, various sensing technologies, mobile computing and visualization technologies and realize their impact on the practice of construction management and surveying and process related implementation challenges they will face in the industry along the construction processes, which include pre-construction stage, during construction stage and post-construction stage. Students engage with the understanding of the relationship between IOT and building design, construction and materials which explores the idea of construction methodology in the digital world and finally the maintenance and management of a building. The major project involves adoption of design concepts and processes of a simple building by taking into consideration the integration of IOT. Students need to propose a suitable type for each of the IOT elements to complete the assessment given. The entire proposal needs to be supported with an explanation of the

	description together with reasons for choosing. Students also need to sketch and label the main components of the chosen building together with photos or diagrams. Assessment is via rubric based on verbal and display of pictorial or diagrammatic presentation.
Innovative Construction Materials	In this module, students are introduced to the innovative construction materials that support the GREEN construction industry locally and internationally. These materials provide efficient alternatives to conventional construction materials and improve energy efficiency in construction. Students will also learn the characteristics, properties, and the embodied energy of the innovative materials in attaining a green construction. Students are also exposed to green construction strategies such as modular systems, pre-fabrication, and energy retrofitting to prepare students for GREEN construction management.
SMART Building Systems	This module covers the integrated process of GREEN Construction, operation and management in smart building network. It includes integration of sensors and automation controls which link users, the building and the network systems. Students will study the basic understanding on how SMART design process, building management systems and building automation systems are integrated. They will be exposed to the options associated with changing the characteristics and functions of the building management system by utilising and adjusting the control techniques used in the intelligent buildings. Students will develop a simplified framework and appraise for a building and façade concept (eg. façade automation systems, lighting or window shading devices) by specifying contextual parameters (building use, building project, location, climate) using a precedent study and adopting the application to environmental conditions. Students will apply their knowledge to identify, develop and solve the problems reflecting the selected SMART Building features by analysing the existing life cycle cost of a SMART building including the initial costs of the facility (concept, design, financing, and construction), as well as the long-term operational costs of the building.
Green Technology and Construction	This module introduces the concept of 'green' in the construction industry, which includes green technology, green building, as well as green construction. The role of green construction in reducing negative impact and promoting sustainability is increasingly important to achieve Sustainable Development Goals (SDG). There is an increase of green construction and developments that need green construction management and practices. Green rating tools for buildings will also be discussed in both local and global context. Students are also expected to explore green initiatives and innovation to promote sustainability in the construction management.
Extended Reality in Construction	This module provides an introduction to current leading-edge work on shared virtual environments for construction through a variety of reflective experiences in such environments. The module will delineate and interrelate various theories underlying the pedagogy and content of the virtual environment, discuss the implication and impact of web 2.0 technology on the design of virtual environments for construction, and provide opportunities for students to develop the appropriate strategies for their evaluation of the virtual environments for construction. The teaching and learning approach will be project-based learning with computer lab-based learning where the application of AR/VR/MR will assist the teaching and learning process.
Data Science Principles	This module aims to provide students with a comprehensive introduction to various aspects of data science. It encompasses key areas such as data collection, processing, analysis, visualization, and effective communication. The focus will be on a broad understanding of these topics rather than in-depth exploration, with an emphasis on the integration and synthesis of concepts for practical problem-solving.

# FACULTY OF BUSINESS & LAW

## TAYLOR'S BUSINESS SCHOOL

### SCHOOL OF MANAGEMENT AND MARKETING

#### BACHELOR OF BUSINESS (HONOURS) IN INTERNATIONAL BUSINESS & MARKETING

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	ACC62504	Accounting for Non-Specialists	4	-
2	MGT64604	Introduction to Management	4	-
3	FIN62704	Introduction to Finance	4	-
4	MKT63104	Principles of Marketing	4	-
5	MKT63204	Consumer Behavior	4	MKT63104
6	BUS64004	Introduction to International Business	4	-
7	STA61204	Quantitative Methods for Business	4	-
8	MGT64704	Export Practices and Management	4	BUS64004
9	MKT63304	Integrated Marketing Communications	4	MKT63104
10	FIN63704	International Finance	4	-
11	BUS65604	Transnational Management	4	BUS64004
12	MKT64004	Services Marketing	4	MKT63104
13	MGT64904	Strategic Management	4	-
14	BUS65004	International Business Issues and Policies	4	BUS64004
15	ECN62104	Business Economics	4	-
16	HRM61404	Human Resource Management	4	-
17	BUS63304	Understanding Entrepreneurialism	4	-
18	MKT63504	Marketing Analytics	4	-
19	BUS65004	International Economic Theory and Policy (Only offered in the April semester)	4	-
20	MKT63404	Interactive and Digital Marketing	4	-
21	MKT64204	Contemporary Issues in Marketing	4	MKT63104
22	MKT64104	International Marketing	4	MKT63104
23	ECN62904	International Trade and Multinational Business (Only offered in the September semester)	4	-

Module Name	Module Synopsis
Accounting for Non-Specialists	<p>This module introduces students to the various concepts, techniques and processes that collectively make up the foundations of financial accounting. It aims to develop students' understanding of the accounting process, recording of accounting data, preparing and analysing financial statements and using accounting-related information for effective decision making and also demonstration of accountability. In summary, this module is designed to suit the needs of non-accounting and non-finance students. The module is supported by a combination of face-to-face lectures, tutorials, and online approaches. The online mode of delivery is supported by TiMES. There are formative feedback sessions to recap what have been learned to ensure alignment with the module learning outcomes. The assessment approach of this module consists of three parts, i.e. mid-term test, group assignment and final examination. The mid-term test is designed to test students' understanding on users, needs and sources of financial statements. The group assignment is designed to develop the ability of students to work in a group of 3 to 4 students. Specifically, the group assignment requires students to apply various concepts and</p>
	<p>techniques related to financial accounting. The final examination is aiming to assess students' ability to analyse and interpret financial statements. In the exam, students are expected to perform calculations, apply accounting concepts, analyse and interpret financial statements.</p>
Introduction to Management	<p>This module is designed to provide the candidate with the basic concepts and principles of management in organisations. It focuses on the context of managerial activity and covers the four major functions of management i.e. planning, organising, leading and controlling and places them in a historical, political and economic context.</p>
Introduction to Finance	<p>This module introduces main concepts and methods associated with financial decision-making for individuals and enterprises: the concept of cash flow valuation, evaluation of financial performance, valuation of securities, risk and returns, capital budgeting, and an overview of international finance.</p>
Principles of Marketing	<p>This module introduces students to the key marketing concepts and strategies employed by marketers in facing the challenges in a dynamic business environment. It develops an understanding of the overall process of planning, implementation and control in the contemporary business environment. This module provides students with the needed conceptual skills to identify, analyse and solve marketing problems. This module also provides a foundation for those who intend to further study in the marketing field or other business related modules.</p>

Consumer Behavior	<p>The field of consumer behaviour attempts to explain and predict the ways in which consumers think and behave in given situations. Consumer Behaviour investigates the manner that people interact with products and their marketing environment. This can include the purchase of products, the consumption of services, or the disposal of goods. Understanding consumers enables marketers to more effectively meet the needs of buyers in the market, and be more successful in the market. This module focuses on studying the process of consumer decision making and the resulting implications for marketing strategy. Concepts and theories covered in this module are essential for consumer analysis and the development of effective marketing strategies. To understand consumer behaviour, it is important to understand some concepts and theories borrowed from fields such as psychology, sociology, economics, etc. In addition during this module students will explore many social, cultural and marketing factors that influence the selection and usage of products and services.</p>
Introduction to International Business	<p>The module is designed to provide students with an insight into International Business. It covers a practical framework for understanding the key issues, current relevant principles and concepts to be considered in doing business abroad. The goal of the module is to help students to understand the basic principles of international business and their impact on the world's economy. International Business introduces students to various issues and challenges associated with the formulation and implementation of strategies in business organisations whose operations stretch across national borders. Throughout the module, students will be systematically introduced to the complexities and challenges of leading and managing a "global" company. Further, the module will provide students with an opportunity to integrate business decisions with the ethical and social responsibility considerations inherent to playing on a global field.</p>
Quantitative Methods for Business	<p>This module is designed to provide students with an appreciation of the application of analytical tools to business decision contexts. It also develops students' abilities to access and critically interpret statistics and business information. The module places strong emphasis on developing a clear theoretical understanding of various analytical tools. This is particularly true in business where learning to deal with randomness, variation and uncertainty is a vital skill for anyone intending to apply their knowledge in any employment. Students will also gain an introduction to many of the quantitative techniques which will be used throughout their further studies in their chosen discipline.</p>
Export Practices and Management	<p>There are new opportunities &amp; challenges arising in global marketing and exporting. In order for any organisation to take advantage of the opportunities present as well as to rise above the challenges faced, it has to be adaptable to changes. Opportunities are expanding as international trade continues to grow rapidly. The role of ecommerce is to enable even the smallest business to find potential customers and means of distribution across the globe. The challenges of it would be increased competition, disruptions of trade flows (military), natural disasters etc.</p> <p>This module focuses on the marketing decisions as well as the management processes involved in developing export and other types of international marketing operations. Among areas that will be touched upon would include the most important emerging markets (China &amp; India) in the modern business world, the increased importance of cultural differences in all aspects of exporting, the management of the Supply Chain and logistics.</p>

Integrated Marketing Communications	This course deals with advertising management from theoretical and practical perspectives. It will expose students to various managerial and strategic decisions relating to advertising management. Topics covered will be: the structure of the advertising industry, management of the relationship between agency and client, creative advertising strategy, media developments, budgeting, international advertising considerations, advertising research techniques and ethical issues in advertising and promotion.
International Finance	This module introduces main concepts and methods associated with international financial decision-making for multinational business: the concept of multinational financial management, FOREX, risk analysis and tools, financing foreign trade, international portfolio investment and corporate strategy.
Transnational Management	This module focuses on management's challenge associated with developing strategies, designing organisations and managing operations of companies whose activities stretch across national boundaries. Operating in an international arena will provide various opportunities for the company. This is because having worldwide operations not only gives a company access to new markets and specialized resources but it also opens up new sources of information as well as knowledge and broadens the options of strategic moves the company might make in competing with its domestic and international rivals. Like any other opportunities provided by cross-border management, companies will still have to face the challenges of managing strategy, organisation and operations that are innately complex diverse and uncertain. In this module a conceptual baseline would provide for a more detailed discussion of the various issues faced in the cases presented. Some typical attitudes and mentalities would normally shape the actions of managers in MNCs (Multinational companies) and suggest how these attitudes and mentalities evolve as
	their off-shore operations progress from the state of initial investments to a fully integrated worldwide network of affiliates.
Services Marketing	This module introduces several unique characteristics of services that require a distinctive approach to marketing strategy – both in its development and execution. Students will be exposed to organisational effort in improving service quality, increasing and maintaining customer satisfaction levels, generating customer loyalty, managing the service demand and creating a healthy service culture within the firm. The 7 Ps of the 'Services Marketing Mix' (the traditional 4 Ps plus people, processes, and physical evidence) will be elaborated in examining successful internal marketing in addition to the more traditional customer-focused external marketing.
Strategic Management	This module is designed to provide the candidate with a comprehensive understanding on how organisations are managed strategically with the emphasis of putting theory into practice. The major areas in strategic management that includes strategy formulation, implementation and evaluation are taught together with appropriate case analysis.

<p>International Business Issues and Policies</p>	<p>“International Business Issues and Policies” is the capstone module for the International Business major. In this module, we will examine both the principles associated with the formation and implementation of business strategy, as well as the latest research about business strategy, which challenges traditional ways of thinking. Those ideas will be applied via case studies and simulations.</p> <p>Globalisation means that almost every company is affected by competition from foreign enterprises. Many firms are seeking opportunities to enter new foreign markets and expand the ones that they have already penetrated. Managing in a globalised environment requires knowledge of the regulatory and policy systems of international trade. This module provides this essential knowledge explaining both the theoretical and practical dimensions. The broad aim is to provide insight into current issues that play a dramatic role in the business landscape and to understand the current challenges facing businesses as constituents in the broader societal context. In addition, students will be familiar with the strategic and management issues currently faced by various organisations through a consideration of the structure and challenges of the industry at the global, national and provincial levels.</p>
<p>Business Economics</p>	<p>This module is concerned about the microeconomics and macroeconomics principles for the application to the business environment. The module outlines the various microeconomic and macroeconomics tools of analysis and analytical frameworks that are essential for students to learn and understand the economic environment of businesses in a structured way. It complements other Level One modules and provides a basis for Level Two and Three modules in both business and economics. In addition, this module also covers the importance and elements of the United Nation's Sustainable Development Goals (UN SDG) and Industrial Revolution 4.0 (4IR). Students will be exposed to the latest updates on the development of both elements at the national, regional and global levels.</p> <p>The module teaching and learning approaches include: 1) Authentic Learning - Students will be presented with activities that are framed around 'real life' contexts in which students will find learning more meaningful and motivating, thus will be more engaged in the process</p>
	<p>of acquiring knowledge; 2) Guided Learning - Students will be guided in discussion of specific “real life” situations, sharing their ideas, opinions and collaborating with each other, so as to motivate and increase independence among them; and 3) Self- directed Learning - Students will be given a task/an assignment to promote self-evaluation and self-reflection by assessing their readiness, setting their learning goals, engaging in learning processes, as well as, acting on feedback and seeking advice.</p>

<p>Human Resource Management</p>	<p>This module introduces the key principles, practices, and toolkit of human resource management so that students can develop their approach to skillfully managing people. It covers the foundation of people management and focuses on three core HR areas: hiring, managing, and rewarding employees. This module engages students with various activities such as polls, role-playing, interviews with HR professionals, surveys, peer review, forums, and additional reading etc. Students will be exposed to the best HR practices informed by the best scholarship (latest research publication) and practical learnings in the field (interviews with experienced HR professionals). Upon completing this module, students will be able to understand key concepts and theories of human resource management, to critically analyse the motivation complex and propose best-fit people management solutions, to apply a toolkit of best practices for hiring, managing, and rewarding employees with effective communication skills and to evaluate the efficiency of HRM practices and effectively communicate the evaluation. This module uses group role-playing, group case study, and final closed book exam to assess students' progress and achievement in terms of communication skills, social intelligence, critical thinking and problem-solving skills, and discipline-specific knowledge.</p>
<p>Understanding Entrepreneurialism</p>	<p>This module will equip students with an understanding of the values underpinning entrepreneurialism and engender an entrepreneurial mind-set, inspiring them to adopt entrepreneurial behaviours, including creativity and innovation, problem-solving skills, manage risks, overcome challenges, and cope with failures. This module will explore the characteristics and traits of entrepreneurs and demonstrate that exploiting a new opportunity is a process involving planning, resourcing, managing activities including risks (the journey), and teamwork. A fundamental outcome of entrepreneurship is creating value through developing new products and services to meet identified market needs, which may involve establishing a new business entity. To start a successful business, an entrepreneur must be highly motivated, have entrepreneurial characteristics, a high-risk appetite and key management skills. Entrepreneurship involves mobilising human capital and social capital as well as financial capital.</p>
<p>Marketing Analytics</p>	<p>The use of analytics has become an essential part of a marketer's digital toolkit. With the increased number of digital users and the proliferation of devices, platforms, and applications through which consumers could buy and consume products and services, marketers are presented with a number of new challenges to better understand and satisfy customer behaviour. This course is designed to help students understand the role of market research, data, information systems, analytics and the ethical and social responsibility issues surrounding the handling of consumer data. The marketing analytics course focuses on the role of data, information systems, analytics and</p>

	<p>the ethical and social responsibility issues surrounding the handling of consumer data. Students in this course will learn various tools and techniques required to integrate analytics into marketing strategy. In addition, this course provides an experiential understanding of how to effectively use marketing analytics tools for delivering customer value. The learning process is achieved by engaging students in activities that have elements of problem solving combined with intentional learning. Both formative and summative assessment strategies are used in this module. Formative assessments (creating and compiling of portfolio, case study presentation, class participation) are used to test the current level of understanding and progress at any in a learning programme and provide feedback to instructor and learner and to guide the next phase of learning., and summative assessment (final examination) informs both the students and the lecturer about the level of conceptual understanding and performance capabilities that the student has achieved</p>
<p>International Economic Theory and Policy</p>	<p>The International Economics module consists of contemporary international economic issues, which include international trade, economic integration, international capital market and economic crisis. Students are provided with thorough grounding and analytical perspective of international economic theories, policies, as well as, economic interaction between sovereign countries as a result of massive globalization. The module will thus improve students awareness and understanding of the international and national problems of forming and implementing macroeconomic policies, while extending the students understanding of international economic policy issues. In addition to that, the importance and elements of the United Nations Sustainable Development Goals (UN SDG) and Industrial Revolution 4.0 (4IR) are also covered and discussed in this module. This is to provide exposure to students with the latest updates on the development of both elements in global, regional, and national initiatives and policies.</p>
<p>Interactive and Digital Marketing</p>	<p>This module serves as a platform for students to explore the fundamentals and key concepts of digital marketing. It provides students with ideas for formulating digital marketing strategies as well as exposure to how companies attain digital marketing objectives by employing different types of digital platforms and technologies. The module relates the roles and importance of digital marketing to the business through case studies and other reading resources. In this module, students will learn to plan and develop a digital marketing strategy by understanding the success factors of digital marketing practices that utilise digital media channels in the highly interconnected world, impacted by modern technologies such as AI, big data, and the Internet of Things, and mobile internet, driven by the fourth industrial revolution. By fostering technological innovation, this module aims to help students to understand United Nations Sustainable Development Goal 9 on Industry, Innovation, and Infrastructure and its relevance to digital marketing to heighten digital customer experience in the online marketplace.</p>
<p>Contemporary Issues in Marketing</p>	<p>The module emphasizes on modern marketing environment which is a complex managerial process that is driven by micro and macro forces. In a market driven organisation, customer from the nucleus of all managerial efforts. With the advent of internet and modern technologies, the role of marketing for contemporary organisations has</p>

	become even more pronounced. This module aims to provide students with an in-depth understanding of contemporary issues in marketing practices. Particular attention will be given to changing global business environment and the challenges they pose for global firms. It reviews issues in marketing and provides insights into the development of competitive strategies and global marketing management within the commercial, cultural, and ethical contexts.
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## BACHELOR OF BUSINESS (HONOURS)

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	ACC62504	Accounting for Non-Specialists	4	-
2	BUS63304	Introduction to International Business	4	-
3	BUS64004	Understanding Entrepreneurialism	4	-
4	ECN62104	Business Economics	4	-
5	FIN62704	Introduction to Finance	4	-
6	HRM61404	Human Resource Management	4	-
7	MGT64604	Introduction to Management	4	-
8	MGT64904	Strategic Management	4	-
9	MKT63104	Principles of Marketing	4	-
10	STA61204	Quantitative Methods for Business	4	-

### CHOOSE ONE (1) SPECIALISATION

#### Digital Business & Transformation

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	BUS65304	Digital Transformation <i>(Only Offered April)</i>	4	-
2	CSC62104	E-Commerce	4	-
3	MGT65004	Leadership and Change Management	4	-
4	MGT64804	Sustainable Supply Chain Management	4	-
5	MKT61404	Interactive and Digital Marketing	4	-
6	MKT62304	Marketing Analytics	4	-

#### Digital Marketing & Analytics

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	MKT61404	Interactive and Digital Marketing	4	-
2	MKT63504	Marketing Analytics	4	-
3	MKT63604	Social Media Marketing	4	-
4	MKT64404	Market Intelligence and Data Visualization	4	-
5	MKT63704	Social Media Analytics	4	-
6	MKT64504	Essentials of Big Data and Data Analytics <i>(Only Offered April)</i>	4	-

## Global Business & Sustainability

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	BUS65004	International Business Issues & Policies	4	BUS60104
2	MGT65104	Social Entrepreneurship and Ethics	4	-
3	FIN63704	International Finance	4	-
4	MGT64704	Export Practices and Management	4	BUS60104
5	MGT64804	Sustainable Supply Chain Management	4	-
6	MKT64104	International Marketing	4	MKT60104

## Marketing

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	CSC60104	E-Commerce	4	-
2	MKT63204	Consumer Behaviour	4	MKT60104
3	MKT64004	Services Marketing	4	MKT60104
4	MKT63304	Integrated Marketing Communications	4	MKT60104
5	MKT63404	Interactive and Digital Marketing	4	-
6	MKT62304	Marketing Analytics	4	-

## Finance

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	FIN63104	Risk Management	4	-
2	FIN62904	Corporate Finance	4	FIN60104
3	FIN63604	Derivatives	4	-
4	FIN63704	International Finance	4	-
5	ECN62404	Applied Econometrics	4	-
6	FIN63804	Fintech and Innovation	4	-

## Management

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	BUS65004	International Business Issues and Policies	4	BUS60104
2	BUS64104	Entrepreneurship and Small Business	4	-
3	ACC62404	Ethics and Corporate Governance	4	-
4	MGT65004	Leadership and Change Management	4	-
5	BUS65604	Transnational Management	4	BUS60104
6	MGT64804	Sustainable Supply Chain Management	4	-

Module Name	Module Synopsis
Accounting for Non-Specialists	<p>This module introduces students to the various concepts, techniques and processes that collectively make up the foundations of financial accounting. It aims to develop students' understanding of the accounting process, recording of accounting data, preparing and analysing financial statements and using accounting-related information for effective decision making and also demonstration of accountability. In summary, this module is designed to suit the needs of non-accounting and non-finance students. The module is supported by a combination of face-to-face lectures, tutorials, and online approaches. The online mode of delivery is supported by TImeS. There are formative feedback sessions to recap what have been learned to ensure alignment with the module learning outcomes. The assessment approach of this module consists of three parts, i.e. mid-term test, group assignment and final examination. The mid-term test is designed to test students' understanding on users, needs and sources of financial statements. The group assignment is designed to develop the ability of students to work in a group of 3 to 4 students. Specifically, the group assignment requires students to apply various concepts and techniques related to financial accounting. The final examination is aiming to assess students' ability to analyse and interpret financial statements. In the exam, students are expected to perform calculations, apply accounting concepts, analyse and interpret financial statements.</p>
Introduction to International Business	<p>The module is designed to provide students with an insight into International Business. Introduction to International Business covers a practical framework for understanding the key issues, current principles and concepts which is to be considered in doing business abroad. The goal of the module is to help students to understand the basic principles of international business and its impact on the world's economy. International Business introduces students to various issues and challenges associated with the formulation and implementation of strategies in business organizations whose operations stretch across national borders. Student-centred interactive teaching and learning methods will be utilized to ensure a more holistic approach is practiced for this module. There will also be a fair proportion of face-to-face teaching and learning coupled with online learning. During tutorials, students will be encouraged to have discussions in groups using real-life international businesses. Students will be required to analyse the strength and weaknesses as well as opportunities and threats of these companies and present them to their peers. Throughout the module and its assessments, students will be systematically introduced to the complexities and challenges of leading and managing a "global" company. With the guidance of tutors, the assignment will assist students in evaluating the business environment as well as business strategies. With the main assignment, students will be provided with an "experience" of managing a small international business. Additionally, this will also provide students with an opportunity to integrate business decisions with the ethical and social responsibility considerations inherent to playing on a global field.</p>
Understanding Entrepreneurialism	<p>This module will equip students with an understanding of the values underpinning entrepreneurialism and engender an entrepreneurial mind-set, inspiring them to adopt entrepreneurial behaviours, including creativity and innovation, problem-solving skills, manage risks, overcome challenges, and cope with failures. This module will explore the characteristics and traits of entrepreneurs and demonstrate that exploiting a new opportunity is a process involving planning, resourcing, managing activities including risks (the journey), and teamwork. A fundamental outcome of entrepreneurship is creating value through developing new products and services to meet identified market needs, which may involve establishing a new business entity. To start a successful business, an</p>

	<p>entrepreneur must be highly motivated, have entrepreneurial characteristics, a high-risk appetite and key management skills. Entrepreneurship involves mobilising human capital and social capital as well as financial capital. These entrepreneurial competencies are as important to the success of new ventures as the nature of the market opportunities they address</p> <p>Experiential learning: Learning is achieved through undertaking a hands-on group entrepreneurial project involving identifying market needs, proposing innovative solution(s) and assess various risks, where students will take individual responsibility, rely on teamwork to solve problems,/challenges, and learn from one another.</p> <p>Action learning: Participation in class and group discussions throughout the process of entrepreneurial journey facilitates students in equipping an entrepreneurial mind-set and adopt entrepreneurial behaviours. This is a coursework-based module, involving both individual and teamwork. Students will be assessed on participation throughout the module, group project, and individual assignments.</p>
<p>Business Economics</p>	<p>This module is concerned about the microeconomics and macroeconomics principles for the application to the business environment. The module outlines the various microeconomic and macroeconomics tools of analysis and analytical frameworks that are essential for students to learn and understand the economic environment of businesses in a structured way. It complements other Level One modules and provides a basis for Level Two and Three modules in both business and economics. In addition, this module also covers the importance and elements of the United Nation's Sustainable Development Goals (UN SDG) and Industrial Revolution 4.0 (4IR). Students will be exposed to the latest updates on the development of both elements at the national, regional and global levels.</p> <p>The module teaching and learning approaches include: 1) Authentic Learning - Students will be presented with activities that are framed around 'real life' contexts in which students will find learning more meaningful and motivating, thus will be more engaged in the process of acquiring knowledge; 2) Guided Learning - Students will be guided in discussion of specific "real life" situations, sharing their ideas, opinions and collaborating with each other, so as to motivate and increase independence among them; and 3) Self- directed Learning - Students will be given a task/an assignment to promote self-evaluation and self-reflection by assessing their readiness, setting their learning goals, engaging in learning processes, as well as, acting on feedback and seeking advice.</p>
<p>Introduction to Finance</p>	<p>This module introduces students to basic financial management concepts that non finance majors would be able to appreciate, and yet, equipping finance major students for higher level finance or business related programmes. This subject introduces main concepts and methods associated with financial decision-making for individuals and enterprises: the concept of time value of money, cash flow valuation, evaluation of financial performance, valuation of securities, risk and returns, capital budgeting, and an overview of international finance. In addition to that, the importance and elements of the United Nation's Sustainable Development Goals (UN SDG) and Industrial Revolution 4.0 (4IR) are also covered and discussed in this module. This is to provide exposure to students with the latest updates on the development of both elements in global, regional, and national initiatives and policies. Assessment strategy will be formative and summative. Formative assessments are used to determine the progressive capability of students. Types of assessments include weekly tutorial assignments, individual assignment and mid semester test. Formative assessment strategies are also used to test the current level of understanding and progress at any in a learning programme and provide feedback to teacher and learner and to guide the next phase of learning. The formative assessment for this course will be the group project assignment. Summative assessment is used at in the middle and at the end of the module formally to assess a learner's</p>

	<p>skill, knowledge and understanding gained in this course. The assessment will be largely based on mid-term test and final exam. The assessment will be conducted through questions given to students on basic concepts and students are required to write down the relation of all related formula. The goal of both formative and summative assessment is to evaluate student learning and assess the standard of learning through midterm exam, individual assignment and final exam. The module is supported by a combination of face-to-face and online learning activities such as tutorials, quizzes, forum and group discussions.</p>
Human Resource Management	<p>This module introduces the key principles, practices, and toolkit of human resource management so that students can develop their approach to skillfully managing people. It covers the foundation of people management and focuses on three core HR areas: hiring, managing, and rewarding employees. This module engages students with various activities such as polls, role-playing, interviews with HR professionals, surveys, peer review, forums, and additional reading etc. Students will be exposed to the best HR practices informed by the best scholarship (latest research publication) and practical learnings in the field (interviews with experienced HR professionals). Upon completing this module, students will be able to understand key concepts and theories of human resource management, to critically analyse the motivation complex and propose best-fit people management solutions, to apply a toolkit of best practices for hiring, managing, and rewarding employees with effective communication skills and to evaluate the efficiency of HRM practices and effectively communicate the evaluation. This module uses group role-playing, group case study, and final closed book exam to assess students' progress and achievement in terms of communication skills, social intelligence, critical thinking and problem-solving skills, and discipline-specific knowledge.</p>
Introduction to Management	<p>This module is designed to provide students with the basic concepts, theories, principles and practices of management in business organisations. It focuses on the context of managerial activity and covers the four major functions of management i.e. planning, organizing, leading and controlling. In this module, students can learn how managers use the theories and approaches to get things done in organisations. It is about the important managerial work that managers do and the reality facing today's managers. This module also looks into why managers are important, who managers are and what managers do. The content of the module provides knowledge about managing organisational situations, strategic decision-making and other key workplace relationships. The module is supported by a combination of lectures and tutorials (face-to-face and online learning). The assessment strategies include both formative and summative assessments. Formative assessment include individual assignment/test to determine the progress of the student and it serves as a feedback mechanism for the lecturer and student. Summative assessments (final examination) evaluates the level of conceptual understanding that the student has attained and his ability to apply the concepts/theories appropriately.</p>
Strategic Management	<p>The module emphasizes on experiencing strategic management decision making process using relevant strategic management models and tools. This module is designed to provide the candidate with a comprehensive understanding on how organizations are managed strategically with the emphasis of absorbing theory into practice. The major area in strategic management includes strategy formulation, implementation and evaluation are taught together with appropriate case analysis. Students will also acquire the knowledge of the Industrial Revolution 4.0 and exposed to how this module assist them in understanding the impact of United Nations Sustainable Development Goal (SDG-8 Decent work and Economic Growth). The module is supported by a combination of lectures and tutorials with face to face and online learning. The teaching and learning approach for the module will be case based and problem-based analysis with</p>

	<p>students engaging with practical knowledge and experience gain from lectures and tutorials in investigating strategic plan, formulation, implementation, and evaluation of selected large companies from the website. The discussion and learning experience will provide students with an understanding of how to formulate a strategic plan and to assess the strategic plans of rival firms. The assessment approach to this module includes individual assignment that requires students to critically analyse case of a large corporation and the group assignment requires student to analyse using spreadsheet and submit an analytical report on strategic plan, formulation, implementation, and evaluation of a selected company from the website. Students are exposed to real life strategic planning and decision making by various companies through the website and are introduced to various key strategies developed by rival companies. The learning experience gain by students includes real life experience of conducting internet research to determine the strategic plans and implementation by various companies. Key topics for the modules and a group assignment which incorporate report writing based on the data collected from the selected company from the website. The standout feature of this module is to prepare graduates to sharpen their skills in applying the practical concepts and tools of strategic analysis for decision making and to achieve the required learning outcome.</p>
<p>Principles of Marketing</p>	<p>This course introduces students to the key marketing concepts and strategies employed by marketers in facing the challenges of today's dynamic business environment. This course also aims to equip students with the necessary conceptual skills to identify, analyse and solve various marketing problems. The learning and teaching approach for this module will be action learning whereby learning is achieved by engaging students in activities that have elements of problem solving combined with intentional learning. Students are also expected to be proactive to present their thoughts and discussion ideas in situations where tutorial questions, assignments and group works are assigned. Group discussion with peers coupled with self-learning will deepen the students' understanding of this module as different views and ideas are explored. During tutorials, students will be given the opportunities to harness their soft skills when they present their ideas/thoughts using powerpoint slides and receive constructive feedbacks to improve on their answers. They will also be given practise essay questions and quizzes to attempt during tutorials to gauge their understanding of the topics taught. This module will be delivered via blended learning supported by usage of web applications such as Padlet, Vizia, Kahoot, Linoit, Google Docs and Google Slides among others to enhance the students' learning experience in using technology effectively. The assessments of this module comprise of three components namely; a written individual assignment 1 , a written group assignment and a written individual assignment 2. The knowledge gained from this module will help students develop the fundamental marketing knowledge, critical and creative thinking skills for solving business-related problems and further develop the students' leadership, teamwork, communication and social skills in business.</p>
<p>Quantitative Methods for Business</p>	<p>The module is designed to provide students with an appreciation of the application of analytical tools to business decision contexts. It also develops students' abilities to access and critically interpret mathematics and statistics information. It provides students with an introductory survey of the many applications of descriptive and inferential statistics and help students develop the knowledge and skills of collecting, analysing and interpreting data and the ability to perform independently the basic mathematical and statistical analysis. The subject places strong emphasis on developing a clear theoretical understanding of various analytical tools. This is particularly true in business where learning to deal with randomness, variation and uncertainty is a vital skill for anyone intending to apply their knowledge in any employment. Students will also gain an introduction to many of the quantitative techniques, which will be used throughout</p>

	<p>their further studies in their chosen discipline. In addition to that, the importance and elements of the United Nation’s Sustainable Development Goals (UN SDG) and Industrial Revolution 4.0 (4IR) are also covered and discussed in this module. This is to provide exposure to students with the latest updates on the development of both elements in global, regional, and national initiatives and policies. This module will be delivered via face-to-face lectures and tutorial sessions for the students to practise what they have learnt in the lectures. Tutorials would be conducted interactively as it is designed to encourage participation and involvement from the students with problem scenarios based on lecture topics. In addition, the module is also supported by blended learning activities. Assessment for the module will encompass both coursework and a final examination. The coursework comprises of mid semester test and group assignment whereas the final assessment is the final exam. The module provides the students with the knowledge of statistical techniques that will assist them to recognize situations where quantitative procedures may be of benefit to organize, summarize and present data in relevant forms and to carry out independent statistical investigation.</p>
<p>Digital Transformation</p>	<p>In the highly competitive digital business landscape where change is the only constant, many organizations find it difficult to establish a robust yet agile framework for their digital operations. This module, Digital transformation: Stages and Capabilities aim to introduce students to concepts, theories, models, and essentials of digital transformation covering different types of organisations and contexts. This subject explores six stages of maturity in digital transformation and key digital capabilities based on the digital capability model. The digital capabilities range from customer experience, digital commerce, knowledge management, digital infrastructure to digital development and operations and provides undergraduate students with experience in planning and crafting a digital transformation project in the digital ecosystems.</p> <p>This module is supported by having a combination of lectures and tutorials (face-to-face and online learning). Students will be introduced several sources or journals that could assist them in acquiring most recent information about digital transformation, proven digital capabilities, and trend in the digital space. Using digital capabilities as the key building blocks for digital transformation, the essence of assignments involves working in a group to rethink about business and planning a digital transformation project, a highly customisable solution for a business organisation in various capacity. The plan should have realistic situation analysis and address the critical component of key capabilities in achieving dominance in the digital space.</p> <p>The module allows students to creatively use digital technology to shape new business models (or reshape) in furtherance of national and global agenda. The assessment strategies include both formative and summative assessments. Formative assessment includes individual and group assignments to determine the progress of student and it serves as a feedback mechanism for the lecturer and student to improve further. Summative assessment (final examination) evaluates the level of conceptual understanding that the student has attained and his/her ability to apply knowledge in different business settings appropriately.</p>
<p>E-Commerce</p>	<p>This module provides a framework for understanding the issues and trends relating to electronic commerce. Its overall focus is on understanding how the technology can be used to support business applications. The starting point is therefore from the business perspective, to understand the business needs, and the social and legal aspects that affect electronic trading. A broad introduction to the technology then introduces how such systems can be constructed. The learning and teaching approach for this module will be action learning whereby</p>

	<p>learning is achieved by engaging students in activities that have elements of problem solving combined with intentional learning. Students are also expected to be proactive to present their thoughts and discussion ideas in situations where tutorial questions, assignments and group works are assigned. Group discussion with peers coupled with self-learning will deepen the students' understanding of this module as different views and ideas are explored. This module will also be delivered via blended learning supported by usage of web applications such as Padlets, Kahoot, Linoit, Google Docs and Google Slides among others to enhance the students' learning experience in using technology effectively. The assessments of this module comprise of three components namely; a quiz, a written group assignment and a written final examination. The knowledge gained from this module will help students develop the e-commerce fundamental knowledge, critical and creative thinking skills for solving business-related problems and further develop the students' leadership, teamwork, communication and social skills in business.</p>
<p>Leadership and Change Management</p>	<p>This module is designed to equip students with key theories and issues in understanding the leadership and change management. Such understanding can help them to develop leadership and key change management skills. This subject is both challenging and rewarding as it helps students to focus on understanding the way organisations operate in their economic and social environments. This covers the activities managers and change agents undertake within organisations in pursuit of organisational goals. Also, it augers well as the management landscape today is more chaotic than ever and the future holds more of the same. The module provides current view of leadership and change management in organisation that are not as a fixed entity but one that is constantly evolving. The content of this module provides students with the capacity to analyse organisation from multiple perspectives that involve 'reading' leadership and interpreting change management from different perspectives to better understand the context of leadership and change management. In this module, students will be able to acquire knowledge on how IR4.0 implementation in businesses is viewed as challenges on leadership practices in managing projects involving digital transformation. Such understanding demands a liberal approach as management today face the challenge of continuous and dynamic change. The assessment strategies include both formative and summative assessments. Formative assessments include both the individual and group assignment. The individual assignment requires students to appraise cases/articles given and prepare a write up on the leadership management, while group assignment required students to select one company for research and analysis in the context of leadership and change management theories and practices. The coursework able to determine the progress of the student and it serves as a feedback mechanism for the lecturer and student. Summative assessment (final examination) evaluates the level of conceptual understanding that the student has attained and his ability to apply the concepts/theories appropriately. Besides that, by using a wide range of materials including articles, case studies, videos, students will engage in individual and group learning activities to develop knowledge of leadership and management of change as well as skills in analysis, problem solving, decision making and communication. The module is offered to Business programmes such Accounting Finance, Finance and Economic, Business Administration, International Business, International Business and Marketing, Human Resource Management and Marketing at year level two to three.</p>

Marketing Analytics	<p>The use of analytics has become an essential part of a marketer's digital toolkit. With the increased number of digital users and the proliferation of devices, platforms, and applications through which consumers could buy and consume products and services, marketers are presented with a number of new challenges to better understand and satisfy customer behaviour. This course is designed to help students understand the role of market research, data, information systems, analytics and the ethical and social responsibility issues surrounding the handling of consumer data. The marketing analytics course focuses on the role of data,</p>
	<p>information systems, analytics and the ethical and social responsibility issues surrounding the handling of consumer data. Students in this course will learn various tools and techniques required to integrate analytics into marketing strategy. In addition, this course provides an experiential understanding of how to effectively use marketing analytics tools for delivering customer value. The learning process is achieved by engaging students in activities that have elements of problem solving combined with intentional learning. Both formative and summative assessment strategies are used in this module. Formative assessments (creating and compiling of portfolio, case study presentation, class participation) are used to test the current level of understanding and progress at any in a learning programme and provide feedback to instructor and learner and to guide the next phase of learning., and summative assessment (final examination) informs both the students and the lecturer about the level of conceptual understanding and performance capabilities that the student has achieved</p>

<p>Social Media Marketing</p>	<p>This course provides an introduction to social media marketing by covering all the major Social Media Network (SNS) platforms. Students will also learn how the effectiveness of social media marketing campaigns can be measured and implemented. This course combines the essential theories with practical applications and covers core areas such as strategic planning for SNS applications, integrating the SNS platforms into the brands and marketing communications that will harness the potential of social media data to yield powerful consumer insights. The four major areas in social media marketing will be addressed to achieve the learning outcomes of this course. These areas are Community, Publishing, Entertainment and Commerce. Students will also be exposed to the strategic, tactical, planning and execution of social media campaigns, coverage of the latest research and development in social media marketing, and all relevant case studies like Facebook, Instagram, Twitter, Snapchat, etc. Students will be exposed to discussions on the incorporation of social media into social marketing and health communication programmes. Students will be exposed to how social media can leverage Industrial Revolution 4.0 to strengthen the business model. This is in tandem with the knowledge that students should acquire an understanding of the impact that can be made via the relevant United National Sustainable Development Goals (SDG3 – Good Health and Well-Being; SDG9 - Industry, innovation, and infrastructure). The learning and teaching approach for the module will be case-based learning and problem-based learning. A case-based method is where students will hold discussions of specific situations, typically real-world examples. This method is learner-centred and involves intense interaction between the participants. Meanwhile, problem-based learning (PBL) engages the learner in a problem-solving activity. In this process, learning begins with a problem to be solved rather than content to be mastered. Students are introduced to a real-world problem and are encouraged to dive into it, construct their own understanding of the situation, and eventually find a solution. The major goals of PBL are to help students develop collaborative learning skills, reasoning skills, and self-directed learning strategies. The module is supported by a combination of online lectures, tutorials, and environmental audits. In the online environmental audit, students will be introduced to several databases that could assist them in acquiring the most recent information about the market and trends. The major assignment involves working in a group and designing a social media campaign for a company. The campaign should have a realistic online market analysis and critical components of the online marketing mix.</p>
<p>Market Intelligence and Data Visualization</p>	<p>With information widespread in various platforms and sources, big data is crucially prevalent to business organisations in a competitive environment. The effective and efficient management of big data that leads to critical decision making becomes an important task. Often organisations and that too much data</p>
	<p>can lead to confusion and decision-making opportunities are either delayed or indecisive. Consequently, an intelligence ecosystem that can effectively and efficiently visualise the various sources of data can harness relevant data into actionable business intelligence to enhance the organisation's business growth and productivity. In this course students will be taught innovative marketing intelligence and data visualisation techniques such as data extraction, wrangling and visualisation techniques using appropriate software and large datasets. This is in line with IR4 on digital literacy, software usage and big data analytics. The learning and teaching approach for the module will be case-based learning and problem-based learning. Students are introduced to a real-world problem and are encouraged to dive into it, construct their own understanding of the situation, and eventually find a solution. The assessments will use the innovative techniques learnt in the lectures and utilise the latest software in analysing data for different marketing related situations.</p>

<p>Social Media Analytics</p>	<p>The importance of social media in business is growing rapidly and transforming the way we conduct business. With such amazing growth, every business today needs to leverage proper social media channels in the best possible way. Social media applications are changing business development and market competitiveness. From raising a company's profile to improving client and customer relations, this rapidly evolving sector has already affected the way many businesses work. This course introduces social media analytics by covering all the major aspects of Social Media Network (SNS) analytics platforms. This module will give you an understanding of existing and emerging analytics platforms and the ability to assess the impact of social media on business management. It combines the essential analytics methodologies with practical applications and covers core areas such as social media data mining for SNS applications, establishing real competitive advantage buried in social media, maximize the business value of their social media data, analysing the unstructured data, interpreting, and acting on the knowledge to gain new insights. The learning and teaching approach for the module will be case based learning and problem-based learning. A case-based method is where students will hold discussion of specific situations, typically real-world examples. This method is learner-centered and involves intense interaction between the participants. Meanwhile a problem based-learning (PBL) engages the learner in a problem-solving activity. In this process, instruction begins with a problem to be solved rather than content to be mastered. Students are introduced to a real-world problem and are encouraged to dive into it, construct their own understanding of the situation, and eventually find a solution. Major goals of PBL are to help students develop collaborative learning skills, reasoning skills, and self-directed learning strategies. The module is supported by a combination of lectures and tutorial. The major assignment involves working in a group and produce a written report and in-class oral presentation based on the questions addressing the business scenario provided.</p>
<p>Essentials of Big Data and Data Analytics</p>	<p>In any successful firms, understanding the competitors via deep learning and data analytics is a perennial process. Competing in analytics has never been more important in a digital economy where big data is an open source of information. Analytics is not just a technology: It is a better way to do business. In this course, students will learn what big data is and how analytics can not only improve decision-making but also enables greater innovation and creativity in support of any business strategy. Students will be able to use their understanding in big data to systematically inform human judgment with data-driven insight. In addition, students will be taught innovative big data techniques using appropriate software and large datasets. This is in line with IR4 on digital literacy, software usage and big data analytics. This course provides an essential analytics framework for becoming a smarter enterprise and shows through case studies how we can derive value from analytics throughout business strategies.</p>

	<p>Predictive modelling techniques are introduced to give students a foundation to what they will be expecting in the world of data science. The learning and teaching approach for the module will be case based learning and problem-based learning. A case-based method is where students will hold discussion of specific situations, typically real-world examples. This method is learner-centered and involves intense interaction between the participants. Meanwhile a problem based-learning (PBL) engages the learner in a problem-solving activity. In this process, instruction begins with a problem to be solved rather than content to be mastered. Students are introduced to a real-world problem and are encouraged to dive into it, construct their own understanding of the situation, and eventually find a solution. Major goals of PBL are to help students develop collaborative learning skills, reasoning skills, and self-directed learning strategies. The module is supported by a combination of lectures and tutorial. One of the assignment involves working in a group and produce a written report and in-class oral presentation based on the questions addressing the business scenario provided in line with IR4.</p>
<p>International Business Issues &amp; Policies</p>	<p>International Business Issues and Policies (IBIP) is a type of capstone course which is designed to provide practical and hands-on learning and develop skills to navigate complex business environment. IBIP addresses vast array of business issues, the how those issues have impact on the policies (firm level and country level). IBIP is a workshop-focused module which allows students an opportunity to critically evaluate and demonstrate the implication of international business theories that they have learned in their earlier international business module. Through the understanding of the interrelationship between government and businesses, economic transformation of ASEAN and economic integration in the EU, the emergence of BRIC, globalization, managing across cultures, international labour policy, environmental policy of MNCs, deglobalization, international security management, political and economic risk, and business policy in response to current issues, students will improve their critical thinking skills from a global context. In tandem with the evolvement of business environments, students will be exposed to the discussion of industrial revolutions, the influence of Industry 4.0 to MNCs, and challenges associated with Industry 4.0. Students will also be made aware of the importance of one of the United Nation Sustainable Development Goals (SDGs), namely SDG1-no poverty, and will be exposed to the discussion of the role of government and MNCs in eradicating poverty. During lecture and tutorial sessions, students will be exposed to real-scenario case studies involving well-known multinational corporations - such as McDonald's, Starbucks, Ikea, KFC, Walmart, and Toyota. A blended learning approach will include lectures, class discussion, tutorials, online learning and consultations. Formative approach will be adopted to assess the learning outcomes of the module. The assignments involve working on a learning portfolio (individual) based on the topic covered in the module, as well as, working in a group to solve current business issues and describe policy implications.</p>
<p>Social Entrepreneurship and Ethics</p>	<p>This module designed to ensure students understand and appreciate community issues while running a business. They would essentially focus their business not only on profits but also on a community good. This module combines theory and practice. Students are introduced to the concept, history and practice of social entrepreneurship, as well as ethical issues around different organisational models. This module designed to ensure students gain knowledge and creative capabilities and ways that they might use these to create meaningful projects, jobs and small-scale, not-for-profit enterprises that enhance local well-being. This module combines theory and practice. It is organised around the challenges facing contemporary societies that relate to the real-world needs of local communities, people and the environment. Students are introduced to the concept, history and practice of social entrepreneurship, as well as ethical issues</p>

	<p>around different organisational models. This module adopts a few teaching and learning approaches such as, • Collaborative Learning. Students learn through working in pairs or groups to solve case studies and/or community problems. In this way, students learn to work together and share responsibility to achieve a common goal that enhances real communities. • Authentic Learning. Students learn through engagements in various projects that stimulate and/or real-life scenarios. Students are presented with “real life” activities that will make learning more meaningful. • Assessment strategy will be both formative and summative. • Formative assessment strategies are used to check students’ current level of understanding and progress; to provide feedback to teacher and learners; and to guide the next phase of learning. Types of formative assessments for this module will be discussions on tutorial questions and assignments. • Summative assessment is used at the end of the programme to formally assess a learner’s skill, knowledge and understanding gained in this 2 module. This module uses blended learning approach, proportion of face-to-face and online learning including the use of TIMES as mode of delivery. Lectures, practical project work, research and information retrieval and self-study are used as part of these approaches. This module consists of three continuous assessments which includes individual and group assignments. The assessments encourage student to involve practically in social entrepreneurship. It gives students some exposure of how social enterprises work in a business environment. The assessments encourage students to look into current case studies in social entrepreneurship as well as propose a business in social enterprising.</p>
<p>Export Practices and Management</p>	<p>The course provides a theoretical analysis of international trade topics with references to empirical evidence of modern export initiatives. Students will learn the main empirical patterns of current export practice and other types of</p>
	<p>international marketing operation. Students will become familiar with the concept of contemporary trade patterns, absolute and comparative advantages, resource endowment, economies of scale, and study various export finance methods, export distribution and logistics. The course touches upon currently relevant issues such as grey market, offshoring, export subsidies in agriculture and high-technology industries, and international trade agreements. Students will acquire the critical evaluative skills necessary to analyse these and similar matters. In completing this module, students are able to gain specific export knowledge, international trade theories and flow of logistics. Students are required to manage self and time effectively and complete given task effectively. Learning is achieved by engaging students in activities that have elements of problem solving combined with intentional learning. Students will go through a reflective process within small cooperative learning groups. Students will hold discussion of specific situations, typically real-world examples. This method is learner-centered and involves intense interaction between the participants. Case-based learning focuses on the building of knowledge, critical thinking skills and team spirit. Assessment is consist of individual assignment, group assignment and final examination. Students are expected to be proactive to present their thoughts in tutorial section, discuss assignments/group work and participate in class activities, including Google docs, Kahoot, Padlets and Google slides. Assessment strategy will be both formative and summative. Formative assessment strategies are used to test the current level of understanding and progress at any in a learning programme and provide feedback to teacher and learner and to guide the next phase of learning. Types of formative assessments for this course will be discussions on tutorial questions. Summative assessment is used at the end of the programme formally to assess a learner’s skill, knowledge and understanding gained in this course.</p>

<p>Sustainable Supply Chain Management</p>	<p>A supply chain is a network of organisations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate consumer. The business entities consisting of suppliers' suppliers, suppliers, customers and customers' customers. Due to the economic condition and globalization, sustainable supply chains are important in aligning the organizational goals with the sustainability goals is necessary owing to the rising environmental and social concerns. The co-ordination and integration of information flows both within and across companies are critical to compete successfully in today's marketplace. Logistics is the process that makes that happen. While marketing can be seen as the activities that create customer demand, logistics comprises the activities that satisfy that demand. Hence, the primary aim of this course is to provide a broad understanding of the theory and concepts of Logistics and Supply Chain Management. The learning and teaching approach for the module will be case based learning and problem-based learning.</p> <p>A case-based method is where students will hold discussion of specific situations, typically real-world examples. This method is learner-centred and involves intense interaction between the participants. Major goals of PBL are to help students develop collaborative learning skills, reasoning skills, and self-directed learning strategies. The module is supported by a combination of lectures and tutorial. The major assignment involves working in a group and produce a written report and in-class oral presentation based on the questions addressing the business scenario provided. The assignment focuses on problem-based learning (PBL) and engages the learner in a problem-solving activity. In this process, instruction begins with a problem to be solved rather than content to be mastered. Students are explored to a real-world problem and are required to dive into it,</p>
	<p>construct their own understanding of the situation, and eventually propose the solutions for the problems provided.</p>
<p>International Marketing</p>	<p>This module deals with International Marketing, incorporating both theory and practice. It provides the tools necessary for the successful implementation of cross-border marketing, such as cultural sensitivity, the PESTLED analysis, and modes of entry into foreign markets. Students will be exposed to cases that are based on real world situations. A structured thinking approach is adopted so that the students will have a systematic and comprehensive world view to international marketing. Students will gain the knowledge of how the entire value chain is critical to cross-border marketing. The learning and teaching approach for the module will be interactive and student-centred, namely, case based and problem based. In the case-based method students will discuss specific typical real world situations. It is designed to be learner-centred and stimulate interaction among the students. Whereas, the problem based approach focusses on solving specific problems and not mastery of content, where students are encouraged to dissect problems and offer pragmatic solutions. The goal of these 2 methods is to encourage collaborative learning skills, reasoning skills, and self-directed learning. Students will be encouraged to improve through formative assessments via feedback on work done. The module is conducted through face to face lectures, tutorials and on-line audits where students will have access to up to date databases. Students will also have access to myTImeS which is Taylor's platform for online student-lecturer interaction. Apart from the final exam and a personal assignment, the major thrust will be a group assignment for designing an international marketing plan.</p>

Consumer Behaviour	<p>This course provides the students with a comprehensive view of the issues relating to consumer behavior. Consumer behavior is the study of how individual customers, groups or organizations select, buy, use, and dispose ideas, goods, and services to satisfy their needs and wants. It refers to the actions of the consumers in the marketplace and the underlying motives for those actions. The study of consumer behaviour assumes that the consumers are actors in the marketplace. The perspective of role theory assumes that consumers play various roles in the marketplace. Starting from the information provider, from the user to the payer and to the disposer, consumers play these roles in the decision process. Through the analysis of the consumer behaviour, the course focuses on every aspects of consumer behavior in developing marketing strategies development; understanding marketing insights, marketing research, customers, brand building, communicating and delivering value to create long-term growth. The learning and teaching approach for the module will be case based learning and problem-based learning. A case-based method is where students will hold discussion of specific situations, typically real-world examples. This method is learner-centered and involves intense interaction between the participants. Meanwhile a problem based-learning (PBL) engages the learner in a problem-solving activity. This encourages the students to think holistically and at the same time develop their critical thinking skills. At the same time, they learn group dynamics in completing this assignment. In this process, instruction begins with a problem to be solved rather than content to be mastered. Students are introduced to a real-world problem and are encouraged to dive into it, construct their own understanding of the situation, and eventually find a solution. Major goals of PBL are to help students develop collaborative learning skills, reasoning skills, and self-directed learning strategies. The module is supported by a combination of online lectures, tutorial and environmental audit. In the online environmental audit, students will be introduced several databases that could assist them in acquiring most recent information about the market and trend. The major assignment involves working in a group and designing a marketing plan for</p>
	<p>a company. The marketing plan should have realistic market analysis and the critical component of marketing mix, which is the 4P's.</p>
Services Marketing	<p>The service sector represents more than 50% of the GDP of most developed nations and the majority of new jobs in the next 10 years are expected to be from the service sector. Services Marketing is therefore an important module for those venturing out into the marketplace. The purpose of this Module Information Booklet is to provide you with the essential information you will need to successfully complete your studies. It describes the parameters of the subject area, key learning objectives and assessment requirements. It also points you towards the people, documents and websites that can offer the support and detailed information you require mastering this exciting business area. While much of marketing theory focuses upon understanding the value exchange of tangible products, global economies are increasingly driven by service-dominant enterprises. As such, there are many career opportunities available in this field. This module explores the unique challenges that a service marketer encounters in pursuit of strategic competitive advantage. This module is conducted via lectures and tutorials. Online methodologies will be utilised for knowledge dissemination as well as content evaluation. Discussions and presentations will be conducted in class (encompassing of X-Spaces/Mobile X-Spaces) to enhance student critical thinking as well as presentation skills. Students are assessed via a project report, an online test, as well as their final examination. Summative and formative assessments are directed towards the student, to gauge their progress. Summative assessments are done via the final examinations, and formative assessments are gauged through class discussions and quizzes.</p>

<p>Integrated Marketing Communications</p>	<p>The module deals with marketing communication management from theoretical and practical perspectives. It provides the theoretical underpinning of a set of concepts, approaches and tools in integrated marketing communications (IMC). In addition, this module is built on a hands-on experience in developing an IMC plan for a real organisation/ client. Students will gain knowledge about how a well-coordinated use of different promotional methods can achieve the objectives of an organisational marketing campaign. Students will be actively involved in the design and implementation of various strategic communications approaches meant to target different publics. The emphasis rests on strategic planning and development of marketing communications campaign, its integration and evaluation. The learning and teaching approach for the module will be interactive and student-centred. During tutorials, students will prepare individual exercises requiring research and application of learning from the module. Additionally, students will engage in group discussion, presenting/ sharing their ideas and thoughts as well as their group progress within the class. There will be regular review and feedback sessions to assess group progress and alignment to the learning outcomes. The module is supported by a combination of lectures, tutorials and online discussions. This is a 100% coursework assessment approach module consisting of a combination of individual assignment, test and group project. The coursework assessment is a good measure of student learning experience. It is a more practical and hands-on approach. Test will act as a check point on students understanding of the fundamental concepts of IMC. Individual assignment measures on student's ability to critically analyse/evaluate a chosen advertisement. Group project measures students' application of IMC knowledge through coming-up with a central theme (key message) and developing a communication plan for an existing company.</p>
<p>Interactive and Digital Marketing</p>	<p>This module serves as a platform for students to explore the fundamentals and key concepts of digital marketing. It provides students with ideas for formulating digital marketing strategies as well as exposure to how companies attain digital marketing objectives by employing different types of digital platforms and technologies. The module relates the roles and importance of digital marketing to the business through case studies and other reading resources. In this module,</p>
	<p>students will learn to plan and develop a digital marketing strategy by understanding the success factors of digital marketing practices that utilise digital media channels in the highly interconnected world, impacted by modern technologies such as AI, big data, and the Internet of Things, and mobile internet, driven by the fourth industrial revolution. By fostering technological innovation, this module aims to help students to understand United Nations Sustainable Development Goal 9 on Industry, Innovation, and Infrastructure and its relevance to digital marketing to heighten digital customer experience in the online marketplace. This module is supported by having a combination of lectures and tutorials (face-to-face and online learning). The assessment strategies include both formative and summative assessments. Formative assessment includes individual and group assignments to determine the progress of students and it serves as a feedback mechanism for the lecturer and student to improve further. Summative assessment (final examination) evaluates the level of conceptual understanding that the student has attained and his ability to apply his or her knowledge in different business scenarios appropriately.</p>

Risk Management	This module is designed to provide a comprehensive approach to identify the main areas of risk in an organization with a view towards recommending appropriate measures to mitigate any adverse impact to the organization, and at the same time to preserve shareholder value. The module aims to provide a good knowledge and understanding of the economic and business concepts of risk in the main functional areas of a business (eg. credit risk, market risk, operational risk). This will enable the student to evaluate the main areas of risk in a business; and deal with complex problems relating to those risks. Besides providing the students with an appreciation of the range of the main areas of risk in the business, the module aims to provide a strategic framework in which the student can employ various tools and mechanisms for managing risk. In addition to that, the importance and elements of the United Nations Sustainable Development Goals (UN SDG) and Industrial Revolution 4.0 (4IR) are also covered and discussed in this module. This is to provide exposure to students with the latest updates on the development of both elements in global, regional, and national initiatives and policies. Assessment strategy will be both formative and summative. The goal of formative assessment is to monitor student learning to provide ongoing feedback and improve the learning process.
Corporate Finance	This subject examines the various analytical techniques used in capital budgeting and capital structure decisions. Specifically, capital structure, estimation of cost of capital and dividend decisions are examined empirically and theoretically. For example, in making financing or capital structure decisions, the impact on a firm's value due to the actions taken by management is examined using various financial tools and analyses. After completing this module, students would be able to comprehend the concepts, theories, and techniques related to corporate finance that would help them in providing solutions to various corporate finance-related problems.
Derivatives	This module is designed to help students understand the specifications of each type of derivative product, and the mechanics of derivative trading and its usefulness, including hedging, speculation and arbitraging. The module is an introduction to a broad range of derivatives products in the financial markets and discusses how these products are used in managing risks. Students will develop the knowledge and understanding of how derivatives work, how they are used by hedgers, speculators, and arbitrageurs, as well as how they are priced. In addition to that, the importance and elements of the United Nation Sustainable Development Goals (UN SDG) and Industrial Revolution 4.0 (4IR) are also covered and discussed in this module.
International Finance	The module addresses the theory and application of international finance, including exchange rate theory, models of exchange rate determination and the efficiency of international finance markets. The models introduces main concepts
	and methods associated with international financial decision-making for multinational business which includes, the concept of multinational financial management, foreign exchange, risk analysis and tools, financing foreign trade, international portfolio investment and corporate strategy. The outcomes of international trading and investment decisions are more directly affected by exchange rate variability than similar decisions taken with respect to domestic markets. The module will also enable an appreciation of the role of corporate strategy in international business expansion and its management of risk.

Applied Econometrics	Economists apply econometric tools in a variety of specific fields (such as labor economics, development economics, health economics, and finance) to shed light on theoretical questions. They also use these tools to inform public policy debates, make business decisions, and forecast future events. They will also be able to develop a critical appreciation of the uses and shortcomings of various econometric methods and techniques whereby they will be introduced to certain problems involved in modelling and forecasting with time-series data. This module will also enhance students' statistical and analytical skills to the point where they are able to approach the analysis and interpretation of economic data with confidence and experience and they will also be able to explore a wide range of topical applications of econometrics. In addition, there are numerous econometric problems in the data available for empirical testing, This module concentrates on the introduction of econometric tools to analyze empirically, Ways of identifying and dealing with these problems whereby they will be exposed to diagnostic tests and criteria for choosing models. Selected applications such as: modelling both at micro and macro level such aggregate consumption, inflation, money demand, national income to name a few will be introduced. The students will also be exposed to special problems of using time-series data and selected forecasting techniques.
Fintech and Innovation	The module emphasizes the importance of technology in financial services. Students are introduced to an exploration of technology and the concept of Financial Innovation. The learning and teaching approach for the module will be technology-based example, with students engaging with practical tasks during the tutorial sessions, and presenting their ideas and thoughts within the group. There is regular review, feedback and critique sessions leading to the final design review to assess progress and alignment to the learning outcomes in relation to the brief. The module is supported by a combination of online lectures and materials. Examples and case-studies will also be used to engage students with the potential solutions FinTech can offer to support the SMEs business activities. Experts from FinTech industry will also be invited to share and discuss their experience.
Entrepreneurship and Small Business	This course is for students who wish to learn the principles and processes of small business and entrepreneurship. It is designed for individuals interested in starting a new business venture, acquiring an existing business, or working in industries that serve entrepreneurs. The course provides an overview of the many principles and processes of entrepreneurship and small business management. 2. The assessment strategy will be both formative and summative. Formative assessment strategies are used to test the current level of understanding and progress at any in a learning programme and provide feedback to teacher and learner and to guide the next phase of learning. Types of formative assessments for this course will be discussions on tutorial questions and short quizzes. Summative assessment is used at the end of the programme formally to assess a learner's skill, knowledge and understanding gained in this course. 3. This course is delivered via Lectures, Tutorials, Fieldwork/Research and Information Retrieval/Self-Study. 4. This course is assessed via three learning strategies. (a) Action Learning. Learning is achieved by engaging students in activities that have elements of problem-solving combined with intentional learning.

<p>Ethics and Corporate Governance</p>	<p>This module is an advanced level module focusing on business and accounting ethics, and corporate governance. It is designed to further enhance students understanding of the concepts and issues in theory and practices of ethics and corporate governance. This involves the study of theoretical and practical issues involved in the development, implementation and changes in ethics and corporate governance theories and regulatory framework. This module provides students with some generic skills required in the accounting profession such as communication, critical thinking and decision making, teamwork, lifelong learning and information management, professional ethics, and leadership skills.</p>
<p>Transnational Management</p>	<p>This module focuses on management's challenge associated with developing strategies, designing organizations, and managing operations of companies whose activities stretch across national boundaries. Operating in an international arena will provide various opportunities for the company such as access to new markets and specialized resources, new sources of information and knowledge as well as broadens the options of strategic moves in competing with its domestic and international rivals. Like any other opportunities provided by cross-border management, companies will still have to face the challenges of</p>
	<p>managing strategy, organization and operations that are innately complex diverse and uncertain.</p> <p>In this module, a conceptual baseline would be provided for a more detailed discussion of the various issues faced in the cases presented. This module will include some typical attitudes and mentalities that would normally shape the actions of managers in MNEs (Multi-National Enterprise) and suggest how these attitudes and mentalities evolve as their offshore operations progress from the state of initial investments to a fully integrated worldwide network of affiliates.</p>

## SCHOOL OF ACCOUNTING & FINANCE

### BACHELOR OF FINANCE AND ECONOMICS (HONOURS)

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	ACC62304	Introduction to Accounting	4	-
2	ECN61904	Microeconomics	4	-
3	FIN62704	Introduction to Finance	4	-
4	ECN62004	Macroeconomics	4	ECN61904
5	FIN62904	Corporate Finance	4	FIN62704
6	STA61204	Quantitative Methods for Business	4	-
7	FIN63204	Personal Financial Planning and Wealth Management	4	-
8	ACC62404	Ethics And Corporate Governance	4	-
9	BNK60604	Islamic Banking and Finance	4	-
10	FIN63304	Financial Markets	4	-
11	FIN63004	Portfolio Management	4	-
12	FIN63604	Derivatives	4	-
13	ECN62404	Applied Econometrics	4	-

Module Name	Module Synopsis
Introduction to Accounting	This module introduces students to the various concepts, techniques and processes that collectively make up the foundations of financial accounting. It aims to develop students' understanding of the accounting process, recording of accounting data, preparing and analysing financial statements, and using accounting-related information for effective decision-making and also demonstration of accountability.
Microeconomics	In a continuously ever-changing globalised business environment, businesses need to make quick, well informed, and correct decisions in order to survive. This module is concerned about the principles of microeconomics as they apply to the business environment. The module outlines the various microeconomic tools of analysis and analytical frameworks that are essential for business students to learn and understand to enable them to comprehend the economic environment of business in a structured way. It complements other Year One business modules and provides a basis for Year Two and Three modules in both business and economics.
Introduction to Finance	This module introduces main concepts and methods associated with financial decision-making for individuals and enterprises: the concept of cash flow valuation, evaluation of financial performance, valuation of securities, risk and returns, capital budgeting, and an overview of international finance.
Macroeconomics	In an increasingly globalised world, countries and their governments need to be able to make quick, well informed, and correct decisions to achieve their macroeconomic objectives. This module focuses on the workings of a domestic economy and the policies that governments may implement to improve the business environment. The module outlines the various macroeconomic tools of analysis and analytical frameworks that are essential for business students to learn and understand to enable them to comprehend the national and global economy in a structured way. It complements other Year One business

	modules and provides a basis for Year Two and Three modules in both business and economics.
Corporate Finance	This module examines the various analytical techniques used in capital budgeting and capital structure decisions. Specifically, capital structure, estimation of cost of capital and dividend decisions are examined empirically and theoretically. For example, in making financing or capital structure decisions, the impact on a firm's value due to the actions taken by management is examined using various financial tools and analyses. After completing this module, students would be able to comprehend the concepts, theories, and techniques related to corporate finance that would help them in providing solutions to various corporate finance-related problems.
Quantitative Methods for Business	This module is designed to provide students with an appreciation of the application of analytical tools to business decision contexts. It also develops students' abilities to access and critically interpret statistics and business information. The module places strong emphasis on developing a clear theoretical understanding of various analytical tools. This is particularly true in business where learning to deal with randomness, variation and uncertainty is a vital skill for anyone intending to apply their knowledge in any employment. Students will also gain an introduction to many of the quantitative techniques which will be used throughout their further studies in their chosen discipline.
Personal Financial Planning and Wealth Management	This module involves the study of financial issues from a personal wealth management perspective in Malaysia. The module will discuss the overview and regulatory framework of the financial planning industry, process of construction of a financial plan including setting of personal goals, asset allocation, investment in financial securities, tax planning, insurance planning, retirement and estate planning. The focus will be from a wealth planning and personal risk management perspective applying products available in Malaysia. At the preliminary session, students are exposed to the wealth planning and personal risk management perspective by applying products available in Malaysia. Following this, students are then exposed to technical aspects of regulatory framework of the financial planning industry, process of construction of a financial plan including setting of personal goals, asset allocation, investment in financial securities, tax planning, insurance planning, retirement, and estate planning.
Ethics and Corporate Governance	This module is an advanced level module focusing on business and accounting ethics, and corporate governance. It is designed to further enhance students' understanding of the concepts and issues in theory and practices of ethics and corporate governance. This involves the study of theoretical and practical issues involved in the development, implementation and changes in ethics and corporate governance theories and regulatory framework.
Islamic Banking and Finance	The module emphasizes Islamic banking and financial markets have made remarkable progress during the last two decades and this burgeoning growth has increased the appetite for financiers and bankers to understand more of this emerging market. This module is concerned with the helpful insights to students particularly on Islamic banks and financial institutions. The module outline and incorporate valuable examples and practical discussions that will offer better understanding of Malaysia as an emerging Islamic capital market. This module is an extension of finance and banking knowledge as well as crucial for comparative study in finance and banking practices. The students will be exposed to Islamic contracts such as exchange-based

	contracts are contracts, charity-based contracts, waiving contracts and partnership contracts.
Portfolio Management	The module emphasizes in various portfolio theories and help students to understand the widely used techniques to the creation of optimal portfolios to achieve a consistent portfolio management process and rational investment decisions. This module will enable students to comprehend the varied investment alternatives that are available in the present financial environment and techniques to manage money effectively by deriving the maximum benefit of their investments.
Financial Markets	Upon completion of this module, students should be able to explain the structure and operation of financial institutions and markets, evaluate short-, medium- and long-term financial instruments, apply problem solving techniques dealing with financial markets, and demonstrate the ability to communicate effectively towards financial markets issues. The module will cover a broad range of topics that will help students demonstrate an understanding on the financial system, its operation and component parts; yield curve analysis, the term structure of interest rates, and exchange rate interaction; sources and types of business finance, short, medium and long term, domestic and overseas, and associate pricing formulae; the structure and operation of Malaysian financial institutions and markets; the major types of risk and the derivative products available to manage financial risk; the structure, functions and role of prudential supervision in the financial markets.
Derivatives	This module is designed to help students understand the specifications of each type of derivative product, and the mechanics of derivative trading and its usefulness, including hedging, speculation and arbitraging. The module is an introduction to a broad range of derivatives products in the financial markets and discusses how these products are used in managing risks. Students will develop the knowledge and understanding of how derivatives work, how they are used by hedgers, speculators, and arbitrageurs, as well as how they are priced. In addition to that, the importance and elements of the United Nation's Sustainable Development Goals (UN SDG) and Industrial Revolution 4.0 (4IR) are also covered and discussed in this module. This is to provide exposure to students with the latest updates on the development of both elements in global, regional, and national initiatives and policies.
Applied Econometrics	Economists apply econometric tools in a variety of specific fields (such as labor economics, development economics, health economics, and finance) to shed light on theoretical questions. They also use these tools to inform public policy debates, make business decisions, and forecast future events. They will also be able to develop a critical appreciation of the uses and shortcomings of various econometric methods and techniques whereby they will be introduced to certain problems involved in modelling and forecasting with time-series data. This module will also enhance students' statistical and analytical skills to the point where they are able to approach the analysis and interpretation of economic data with confidence and experience and they will also be able to explore a wide range of topical applications of econometrics. In addition, there are numerous econometric problems in the data available for empirical testing, This module concentrates on the introduction of econometric tools to analyze empirically, Ways of identifying and dealing with these problems whereby they will be exposed to diagnostic tests and criteria for choosing models. Selected applications such as: modelling both at micro and macro level such

	<p>aggregate consumption, inflation, money demand, national income to name a few will be introduced. The students will also be exposed to special problems of using time-series data and selected forecasting techniques. This will also be a good for the project which will be undertaken in the final semester. In addition to that, the importance and elements of the United Nation's Sustainable Development Goals (UN SDG) and Industrial Revolution 4.0 (4IR) are also covered and discussed in this module. This is to provide exposure to students with the latest updates on the development of both elements in global, regional, and national initiatives and policies. The learning and teaching approach for the module is guided and self-directed learning. For guided learning students will be guided to formulate questions, source for information, analyse the results, share their conclusions, and evaluate the worth and importance of those conclusions. Guided learning encourages students to discuss the issues, collaborate and share their ideas. Guided learning complements self-directed learning. Students will be given a tasks/an assignment to promote self-evaluation and self-reflection by assessing their readiness, setting their learning goals, engaging in learning processes, as well as, acting on feedback and seeking advice. All teaching and learning approaches are learner-centred and involves intense interaction between the participants, as well as, focusing on building of basic knowledge and critical thinking skills. The mode of delivery for this module includes face-to-face lectures, tutorials and information retrieval/self-study. In particular, the lectures and tutorials include the use of blended learning approach, which includes the use of TIMES, online engagement activities and learning activities. Face-to-face delivery is also significant in supporting these various learning approaches. There are two assessment methods based on continues assessment and final exam for this module, which include a combination of both final examination and coursework, respectively. The coursework assessment is further separated into an individual test and written assignment.</p>
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**FACULTY OF HEALTH & MEDICAL SCIENCES**  
**SCHOOL OF BIOSCIENCES**

**BACHELOR OF BIOMEDICAL SCIENCE (HONOURS)**

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	BIM60304	Immunology	4	BIO63704
2	BIM60804	Human Pathology	4	BIO63704
3	BIM60604	Epidemiology, Public Health and Bioethics, Biostatistics	4	-
4	BIO63204	Principles of Biochemistry	4	-
5	BIO61604	Applications of Bioinformatics	4	BIO63204
6	BIO63704	Basic Anatomy with Histology and Hematology	4	-
7	BIO63804	Instrumentation in Medical Diagnostic, Laboratory Science and Blood Banking	4	BIO63704
8	BIO62404	Medical Parasitology	4	MIC60904
9	BIO62504	Clinical Genetics	4	BIO63204
10	CHM61404	Clinical Chemistry	4	BIO63204
11	MIC60904	Introduction to Microbiology	4	-
12	MIC60804	Medical Microbiology	4	MIC60904
13	NUT60404	Nutritional Biochemistry	4	BIO63204
14	NUT60704	Applied Nutrition	4	-
15	NUT60804	Community Nutrition	4	-
16	PHA68604	Advanced Pharmacology	4	PHC68504
17	PHC68504	Basic Pharmacology and Toxicology with Health Informatics	4	-
18	RES60204	Research and Laboratory Management	4	-

Module Name	Module Synopsis
Immunology	<p>Immunology is essential science for knowing how human body distinguishes components of “self” and “non-self”. Immune system works to eliminate invading microorganisms, tumor cells, foreign substances and transplants. This module introduces components of immune system and how individual component integrates for effector function. Students will learn the details of molecular and cellular mechanisms of immune responses. Clinical and applied immunology emphasize on diseases cause by disorders of immune system, immune responses to transplants and tumor cells, as well as the use of components of immune system for clinical laboratory diagnostics. Students will also be trained to perform various immunoassays, mainly in conducting diagnostic tests, during practical sessions. These theoretical and practical skills will be necessary to prepare them for employment in the field of microbiology, immunology, diagnostics and scientific research.</p> <p>The teaching and learning approaches for the module include self-directed learning and problem-based learning. Students will be actively engaged in the learning process as they are introduced to real-world problems and will be encouraged to find solutions to the problems. The delivery mode of the module will be lecture- and tutorial-based, in</p>

	<p>addition to hands-on practical sessions and workshop. The module will be supported by a combination of online lessons and journal articles. Blended learning will be included and students will be guided to learn independently at their own pace.</p>
Human Pathology	<p>This module aims to create in students understanding of the “diseased state” of the human body and the various causes, predisposing factors, trigger mechanisms and consequences in the pathogenesis of diseases. These “diseased states” will include abnormalities in cells, tissues, organs and systems. This module attempts to integrate the knowledge of the various disciplines of pathology and laboratory medicine in assisting in the diagnosis of diseases. It provides knowledge and understanding of the processes of disease mechanism in the human body and relevant changes which encompasses the aetiology of the disease. It applies physiological concepts and pathways involved in important techniques used for the investigation of particular organs or systems, many of which complement the use of biochemical test.</p> <p>The teaching and learning approach for this module will be guided learning, problem-based learning and collaborative learning, with students actively engaging in discussions to solve a problem utilising the pathological knowledge acquired, presenting their ideas and thoughts within the group. This module will be supported via lectures, tutorials and practical / demonstration sessions using histology slides and basic laboratory tests. This module will also teach students to use laboratory results in diagnosis and prognosis of a disease. In addition, there will be problem-based learning to cultivate critical thinking and reasoning, and time for self-directed learning to encourage independent sourcing for additional information.</p>
Epidemiology, Public Health and Bioethics, Biostatistics	<p>This module teaches the epidemiology of communicable and non-communicable diseases; methods and bioethics used for epidemiological studies and surveillance; the social and political influences on patterns of health and healthcare; effective public health practice and health promotion, biostatistical analysis and interpretation of study findings.</p> <p>The teaching and learning approaches for the module include instructional learning, self-directed learning and problem-based learning. Students will be actively engaged in the learning process as they are introduced to real-world problems and will be encouraged to find solutions to the problems. The delivery mode of the module will be lecture- and tutorial-based, in addition to hands-on practical sessions and workshop. The module will be supported by a combination of online lessons and journal articles. Blended learning will be included and students will be guided to learn independently at their own pace.</p>
Principles of Biochemistry	<p>Principles of biochemistry primarily focused in the biochemistry of humans. It is known that the basic principles of biochemistry are common to all living organisms. This module provides an introduction to biomolecules in living systems. Students are introduced to the basics of bioenergetics before progressing to studying energy metabolism pathways and their regulation. The individual pathways will then be integrated together to give students a holistic view of energy metabolism. This module also introduces the basic theoretical knowledge of molecular genetics.</p> <p>This module will be delivered using the pedagogies of ‘Guided Learning’ and ‘Self-directed Learning’ via lecture and tutorial-based approach and is supported by a combination of face-to-face lectures, online lectures and tutorials, with students engaging with practical</p>

	tasks during the laboratory sessions. The module is supported by a combination of online lectures and supplementary reading materials.
Applications of Bioinformatics	The module introduces the underpinning knowledge of Applied Bioinformatics and its main applications in Biotechnology and Biomedical Sciences. The fields of “omics” which include genomics, transcriptomics, proteomics, and metabolomics all rely on bioinformatics for computing tools to analyse and “make sense” of the tremendous amount of biological data. Beginning with an overall introduction to the science of Bioinformatics, followed by various analyses methods of DNA sequences; genome sequencing and analysis; genome-wide analysis of RNA sequences transmission genetics; protein analysis and proteomics; and finishing with the analysis of biological networks. Two clear module objectives are outlined which include (i) attaining an understanding of applied concepts of Bioinformatics, establishing a strong foundation in the principles of biological data analyses and (ii) developing keen problem solving skills and apply knowledge gained in other related fields in Biotechnology and Biomedical Sciences through mastering the applications of Bioinformatics in relevant fields such as genomics, transcriptomics, proteomics and biological networks through exposure to practicals and assignments. This module is supported by a combination lectures, online tutorials, practicals, and self-directed learning. Module delivery strategy include focusses on discovery learning, generative learning and reciprocal teaching.
Basic Anatomy with Histology and Hematology	Basic Anatomy with Histology & Hematology module focuses on the fundamental principles of human major body systems (musculoskeletal system, central nervous system, endocrine system, cardiovascular system, respiratory system, gastrointestinal system, urinary system and reproductive system) in human body. In this module, both macroscopic (gross) anatomy and microscopic anatomy (histology) of the major body systems will be addressed in classroom and laboratory. Some disease situations will also be discussed in relation to a change in the organization of the organs systems. Some memorizing (especially new terms) is inevitable, but through this module, students will learn to appreciate the wonders of the human body’s amazing structures and functions. The learning and teaching approach for the module is supported by a combination of face-to-face lectures, online lectures, tutorials, workshop and with students engaging with practical tasks during the laboratory sessions. The module is supported by a combination of online lectures and supplementary reading materials.
Instrumentation in Medical Diagnostic, Laboratory Science and Blood Banking	This module introduces the student to the theoretical basis and operation procedures of various diagnostic and analytical instruments used in research and medical settings. Students will also be taught an overview of concepts and techniques in basic molecular biology techniques including primer design, aseptic techniques in mammalian cell culture, mammalian RNA and cDNA analysis and DNA sequence analysis. In addition, students will learn the general concept of 3D printing and CRISPR technology. The underlying theories and laboratory techniques concerning blood banking will also be covered. Knowledge and skills gained in this module will prepare students to pursue a career in biomedical research. The teaching and learning approach for the module will be real-life problem-based learning, with students engaging with practical tasks during the practical sessions and demonstrate their understanding, thoughts and reflection via written reports and presentation. The

	<p>module is supported by a combination of lectures (face-to-face and online learning) and tutorials.</p>
Medical Parasitology	<p>This module introduces basic concepts in parasitology, including the discussion on the different types of parasites, vectors and the host-parasite relationships that result in diseases. Students will learn about the biology and life cycle of parasites, mechanism of pathogenesis, treatment and global control programs aimed at eliminating parasitic diseases. Students will also learn about the basic tools used in parasitology research and the different ways to differentiate parasites under the microscope, in addition to other methods used in the diagnosis of parasitic diseases. The teaching and learning approaches for the module include self-directed learning and problem-based learning. Students will be actively engaged in the learning process as they are introduced to real-world problems and will be encouraged to find solutions to the problems. The delivery mode of the module will be lecture- and tutorial-based, in addition to hands-on practical sessions. The module will be supported by a combination of online lessons and journal articles. Blended learning will be included and students will be guided to learn independently at their own pace.</p>
Clinical Genetics	<p>Clinical Genetics will provide an overview of human genetics and epigenetics and their relationships to complex phenotypes, inheritance, evolution and health and diseases. Students will explore some common human genetic diseases including hereditary cancers and inborn errors of metabolism. Insights from the recent advances in genomic research (e.g. human genome reference projects) and the application of human genetics in genetic screening, genetic counseling and biomedical ethics will be addressed. The module is supported by online lectures, collaborative problem-based learning and laboratory practical whereby students hone their skills in human molecular genetics. The learning and teaching approach for the module will be lecture and tutorial-based, with students performing guided experiments and analyzing data obtained during the practical sessions. The module is supported by a combination of online lectures and supplementary reading materials.</p>
Clinical Chemistry	<p>This module focuses on the role and importance of biochemical tests in the field of laboratory medicine in aid of diagnosis, prognosis, monitoring and screening of disorders associated with carbohydrate, lipid and protein metabolism, as well as renal disorders, acid-base balance, the endocrine system and the role of vitamins and trace elements in health and disease. This is followed by reporting, interpretation of test results and identifying sources of errors and discrepancies in clinical chemistry test results. A wide range of biochemical tests such as general/routine biochemistry, special biochemistry, toxicology, endocrinology, urine and body fluids analysis will be covered in this module.</p> <p>The teaching and learning approach for this module will be guided learning, problem-based learning and collaborative learning, with students actively engaging within group discussions to solve problems utilising the clinical biochemistry knowledge acquired. This module will be supported via lectures, tutorials, practical / demonstration sessions and basic laboratory biochemistry tests, including the proper use and care of analytical instruments as part of the interactive learning experience. This module will also teach students on the interpretation of biochemistry laboratory data to correlate with the clinical signs and symptoms of the patient. In addition, there will be problem-based</p>

	learning to cultivate critical thinking and reasoning, and time for self-directed learning to encourage independent sourcing for additional information.
Introduction to Microbiology	<p>This module is designed to provide an introduction to basic microbiology, which includes the diversity of prokaryote and eukaryote microorganisms, the evolutionary relationship of microorganisms, the structural and physiological characteristics of microorganisms, the relationship between microorganisms with the environment and human, and the roles of microorganisms in food, pharmaceutical and environmental management industries. General microbiology laboratory skills are included. These fundamental knowledge are the important as introductory topics required for more specific area of microbiology such as bacteriology, virology, mycology, microbial physiology and applied microbiology.</p> <p>The learning and teaching approach for the module will be lecture, practical and tutorial-based. In practical classes, students will be going through guided experiments and analyzing data obtained during the practical sessions. The module is supported by a combination of online lectures, videos and supplementary reading materials.</p>
Medical Microbiology	<p>This module involves the study of microorganisms that can cause disease in the human host. It introduces basic concepts in medical microbiology, including the epidemiology, biology, pathogenesis, signs/symptoms, transmission and treatment of infectious diseases due to microorganisms. In addition, the ways by which the host immune system interacts with microorganisms and the effect on clinical outcomes will be discussed. Students will also learn basic laboratory techniques that are used to identify microorganisms and diagnose infectious diseases.</p> <p>The teaching and learning approaches for the module include self-directed learning and problem-based learning. Students will be actively engaged in the learning process as they are introduced to real-world problems and will be encouraged to find solutions to the problems. The delivery mode of the module will be lecture- and tutorial-based, in addition to hands-on practical sessions. The module will be supported by a combination of online lessons and journal articles. Blended learning will be included and students will be guided to learn independently at their own pace.</p>
Nutritional Biochemistry	<p>This module describes the metabolism of macro-nutrients and key micro-nutrients and how the theory contributes to the production of energy and supply of intermediates for biosynthesis. The regulation of the various nutrients are emphasized to link the role of these nutrients with health and metabolic diseases.</p> <p>This module will be delivered using the pedagogies of 'Guided Learning' and 'Self-directed Learning' via lecture and tutorial-based approach. The module is supported by a combination of online lectures and videos, including supplementary reading materials. Various activities available on TIMES such as games and feedback forms will also be used.</p>
Applied Nutrition	<p>This module is built on the knowledge gained by the students in the previous nutrition modules and covers applied aspects of nutrition. It includes learning about nutritional assessments and tools to design a healthy diet and nutritious meals, energy balance and weight control, food composition and nutrient databases, food choices and eating habits and their impact on nutritional status, dietary management of</p>

	<p>lifestyle diseases, applied food processing technologies to provide nutritious functional foods.</p> <p>This module will be delivered using the pedagogies of 'Authentic Learning and Teaching' and 'Self-directed Learning' via lecture and tutorial-based approach. In addition, students will perform guided experiments and analyzing data obtained during the practical sessions. The module is supported by a combination of online lectures and supplementary reading materials. Various activities available on TIMES such as games, SCORM and feedback forms will also be used to make the learning and teaching more interesting.</p>
Community Nutrition	<p>This module is organized into four sections: nutrition in the diverse communities of Malaysia; nutrition programs for the communities; understanding nutrition-related primary prevention of disease; and an exploration of disease management and care of disease through nutrition.</p> <p>This module will be delivered using the pedagogies of 'Authentic Learning and Teaching' and 'Self-directed Learning' via lecture and tutorial-based approach. The module is supported by a combination of online lectures and supplementary reading materials. In order to make the learning and teaching more interesting, global and nationwide survey data including recent research articles related to community nutrition will be used for students to answer questions and provide suggestions via online platforms such as Padlet.</p>
Advanced Pharmacology	<p>Advanced Pharmacology builds on the fundamental of drug action at both cellular and molecular levels. This module enables students to relate pharmacology of drugs to physiological systems, such as nervous, cardiovascular, respiratory, digestive, renal and endocrine systems. Students will learn the pharmacokinetics and pharmacodynamics of drugs in various systems, at the same time obtain skills and knowledge for drug design that can be applied toward careers in health and medical sciences.</p> <p>The teaching and learning approach for this module will be learner-centric, problem-based and collaborative learning. Students will engage in group discussions to solve a problem using pharmacological concept that they learnt. This module will also expose students to laboratory techniques used in major Pharma industries including HPLC and fluorescent-based assays. The module is supported by face to face and online lectures, case study-based tutorials and laboratory practicals.</p>
Basic Pharmacology and Toxicology with Health Informatics	<p>The module emphasizes the basic principles of pharmacology, toxicology and health informatics. Topics covered include drug-receptor binding and activity, induction of cell signalling upon binding, drug absorption, distribution and metabolism. The module also focuses on the application of these concepts to the understanding and prevention of mortality and morbidity resulting from exposure to toxic substances. Students will understand the interaction between information technology and healthcare delivery and management issues in the current healthcare arena.</p> <p>The learning and teaching approach for the module will be lecture and tutorial-based, with students performing guided experiments during the laboratory sessions. Laboratory activities will be geared towards teaching students to generate, analyze and interpret pharmacological and toxicological data. The module is supported by a combination of online lectures and supplementary reading materials.</p>

Research and Laboratory Management	<p>This module focuses on the principles of laboratory and research management, as well as commercialization. Topics for laboratory management include lab resources management, operation, accreditation, risk assessment and project management. Research management covers the initiation of research problem, intensive literature search, research planning, data analysis, reporting of scientific findings, current trends in life science research and critical understanding of copyright and regulations in research profession. The fundamental concepts of commercialization, involving developing prototype, patent and business plan will also be included. Problem-based learning approach will be emphasized as the teaching and learning approach in this module. The module will be delivered by lecture and tutorial-based, including illustrative cases presenting management problems by focusing on thought-provoking questions to enhance critical thinking skills as a reinforcement of theoretical content, and also to simulate real-life situation. The module is supported by a combination of online lecture, supplementary reading materials and classroom activities with group discussion.</p>
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### BACHELOR OF FOOD SCIENCE (HONOURS)

1	BIO63204	Principles of Biochemistry	4	
2	BIO63304	Cell Biology	4	
3	CHM61304	Fundamental of Chemistry	4	
4	FSC61404	Food Chemistry	4	CHM61304
5	FSC61504	Food Microbiology	4	MIC60904
6	FSC60404	Food Preservation	4	FSC61504
7	FSC60504	Food Processing	4	FSC61404
8	FSC60604	Sensory Evaluation	4	
9	FSC61604	Food Physics	4	CHM61304
10	FSC61304	Food Safety and Quality Management	4	FSC61504
11	MIC60904	Introduction to Microbiology	4	
12	NUT60104	Introduction to Food Science and Nutrition	4	
13	NUT60504	Food and Nutrients Evaluation	4	FSC61104 FSC60104
14	NUT60604	Techniques in Food / Nutrition Research	4	FSC61404
15	PRJ63404	Food Product Development	4	FSC60304 FSC60104 FSC60504 NUT60504 FSC60404
16	STA61104	Introduction to Biostatistics	4	-

Module Name	Module Synopsis
Principles of Biochemistry	Principles of biochemistry primarily focused in the biochemistry of humans. It is known that the basic principles of biochemistry are common to all living organisms. This module provides an introduction to biomolecules in living systems. Students are introduced to the basics of bioenergetics before progressing to studying energy metabolism pathways and their regulation. The individual pathways will then be integrated together to give students a holistic view of energy metabolism. This module also introduces the basic theoretical knowledge of molecular genetics. This module will be delivered using the pedagogies of 'Guided Learning' and 'Self-directed Learning' via lecture and tutorial-based approach and is supported by a combination of face-to-face lectures, online lectures and tutorials, with students engaging with practical tasks during the laboratory sessions. The module is supported by a combination of online lectures and supplementary reading materials.
Cell Biology	This module introduces the student with a comprehensive understanding of cell structures and functions, including how cells divide, genetic information systems, generate energy, coordinate complex processes and communicate in a living system. The core concepts of molecular cell biology and techniques which are essential to build up the strong foundation in any of the core disciplines covered in the programme. The teaching and learning approach for the module will be real-life problem-based learning, with students engaging with practical tasks during the practical sessions and demonstrate their understanding, thoughts and reflection via written reports and presentation. The module is supported by a combination of lectures (face-to-face and online learning) and tutorials.
Fundamental of Chemistry	Chemistry is an indispensable knowledge of sciences. This module emphasizes three main parts namely physical chemistry, inorganic and organic chemistry. The module content will focus on the fundamental concepts in bonding and quantitative aspects of chemistry, periodic trends, coordination chemistry and organic functional groups. The module will be using authentic learning and collaborative learning as teaching and learning pedagogy. Module content will be delivered in lecture-style settings and concepts will be extended in detailed problem-solving exercises. Tutorials will be a mixture mode of face to face and online discussion between instructor with students and among peers to strengthen the knowledge and solve chemistry related questions.
Food Chemistry	This module introduces the chemical structures of major bio-molecules such as water, carbohydrates, fats, proteins, and other minor components including vitamins, minerals, colours, flavours and additives in food systems. The reactions of these components that govern the functional properties of foods and affect the shelf life, nutritional content and quality attributes of food are also covered. The teaching and learning activities are designed based on blended learning approach, which cover face-to-face and online lectures and tutorials.

Food Microbiology	This module provides the overview of the principles of food microbiology in regards to the roles of microorganisms in food that may involve in food spoilage and food-borne diseases; identifying the potential microbial hazard; control methods of microbial hazard associated with food; fermentation processes involving microorganism in food production; laboratory skills in microbial quality control inclusive
	of aseptic food sampling, microbial testing and analysis; cleaning and sanitization of food, food processing equipment's and food production rooms; the risk assessment and managing in food industry. Teaching and learning will be carried out based on authentic and problem based learning approach through a mixture of F2F and online lectures, tutorial and practicum. Learning situations will include some of the characteristics of real-life problem that can be found in everyday applications of knowledge. These real world problems encouraged students to dive into it, construct their own understanding of the situation, and eventually find a solution.
Food Preservation	This module introduces various preservation technologies used in the preservation of fresh, minimally processed, and processed foods in terms of their principles, mode of action, materials and equipment employed. In addition to the study of preserving foods through the application of heat, chilling and freezing, modification of water activity, use of chemicals, and fermentation, non-thermal physical techniques (high pressure processing, irradiation, and ultrasound) and the role of packaging in relation to food preservation are also covered. The teaching and learning activities are designed based on blended learning approach, which cover face-to-face and online lectures and tutorials. The teaching and learning materials for face-to-face lectures are accessible through TIMEs. Online lectures and tutorials are conducted using e-learning tools such as ReWIND, Labster, and online forum (TIMEs). This module provides hands on laboratory experience in evaluation of effects of different food preservation techniques to the quality, nutritional value and shelf life of foods. Besides, it provides student-centered learning experience through group projects in reviewing and criticizing the latest preservatives methods used in food industry and research and solving food science related global issue. Assessments include written examinations, practical reports, oral presentation, and assignment.
Food Processing	This module introduces major unit operations involved in food processing. Various food processes, safe food handling systems and practices are discussed. Process control, cleaning and sanitation of food processing plant, pest control as well as water and waste management are included. Good manufacturing practices are highlighted.
Sensory Evaluation	This module is to develop an understanding on the basic scientific principles underlying various sensory analytical techniques used in assessing consumer behaviour in food consumption. Techniques to evaluate the reliability of data collected through the sensory panel and to report data in a meaningful way with sensible significant numbers are also emphasized. The teaching and learning approach for the module will be lecture, tutorial, and hands-on practical sessions. The module will be supported by a combination of online lessons and discussion. Blended learning will be included and students will be guided to learn in a group.

Food Physics	This is an introductory but wide-ranging module that deals with (1) physical principles that are relevant to the processing and preservation of foods and (2) the physical properties of food materials and their measurement. It draws attention to the importance of these properties to food quality, the changes that can occur during processing and storage, and manipulation of such properties which is integral to good product design. This module includes well-designed case studies and problem solving exercises to facilitate integration of theory and application.
Food Safety and Quality Management	This course embraces the implications of food safety and quality management against the framework of food authenticity and sustainability within an increasingly globalized food industry. Student will gain an in-depth understanding of regional, national, and international standards in regulatory processes, and the role of public institutions and policy makers in delivering safe, quality foods to consumers. In conclusion, student will acquire a knowledge of the design and management of safety and quality management systems based upon risk analysis, e.g. Hazard Analysis and Critical Control Point (HACCP), ISO 9001:2015 and private standards, all designed to meet the requirements of national and international legislation. Besides the inter-classroom teaching, students will be engaging in their own learning through knowledge from teaching materials such as, lectures notes, videos, and self-directed learning.
Introduction to Microbiology	This module is designed to provide an introduction to basic microbiology, which includes the diversity of prokaryote and eukaryote microorganisms, the evolutionary relationship of microorganisms, the structural and physiological characteristics of microorganisms, the relationship between microorganisms with the environment and human, and the roles of microorganisms in food, pharmaceutical and environmental management industries. General microbiology laboratory skills are included. These fundamental knowledge are the important as introductory topics required for more specific area of microbiology such as bacteriology, virology, mycology, microbial physiology and applied microbiology. The learning and teaching approach for the module will be lecture, practical and tutorial-based. In practical classes, students will be going through guided experiments and analyzing data obtained during the practical sessions. The module is supported by a combination of online lectures, videos and supplementary reading materials.
Introduction to Food Science and Nutrition	This module is a prelude to more detailed studies of the core elements that comprise a food science degree program. It traces the evolution of food science and nutrition, introduces the core content including food composition and chemistry, food nutrition and health, food preservation and processing, food safety and quality, as well as discusses contemporary issues in food science and nutrition. Authentic learning, collaborative learning, and student self and independent study are among the teaching and learning approaches adopted by the module. The module content will be delivered mainly via interactive lectures and tutorials.

Food and Nutrients Evaluation	The module provides an introductory knowledge on the science of foods including a comprehensive understanding of food composition and properties, processing and analysis of foods, food evaluation, food safety and quality assurance. Basic laboratory techniques to investigate properties of food, analysis of food components, simple processing of food and evaluation of the finished product are also included in this course. Laboratory practicums will introduce some of the experimental approach to preparation, analysis, compositional and quality assessment of food products. With hands-on practical activities, this module provides an opportunity for students to develop their basic laboratory skills and understand the strengths and limitations of proximate analyses, thereby enabling students to justify the choice of analytical techniques that are most suitable for certain food materials. This module is supported by a mixture of face-to-face and online lectures, tutorial and practicum, covering theories that includes the identification of appropriate method for analysis of food and nutrients
	composition in the food industry (written examination); perform the lab experiment analysis (individual laboratory skill test); critically analyse the experimental data (online forum); and present the data effectively through written report.
Techniques in Food / Nutrition Research	The module is designed to develop students' theoretical and practical understanding of instrumental methods applied to the determination of major and minor components of foods. Criteria for the choice of various analytical methods will be presented where emphasis will be put on the integration of analytical concepts and technologies to solve practical analytical problems related to different food properties. The teaching and learning approaches for the module include self-directed and problem based learning. The information and knowledge will be managed and transferred using both traditional and digital approaches such as lecture, tutorial, discussion, demonstration (practical session), case studies, games, virtual lab and projects, where students will be actively engaged in the learning process. Student feedback and response from these learning activities will serve as a formative assessment to monitor student learning.
Food Product Development	his module aims to provide the students theoretical and practical knowledge of new food product development. Food components and their interaction in food products will be reviewed through product modifications and reformulations to meet changing health requirements, lifestyle preferences and consumer demand. All of the projects require the groups to produce a product in a 'market ready', packaged form. Students need to go through the stages of concept development, prototype development, shelf-life assessment, consumer testing, packaging design and labelling. Information and knowledge will be managed and transferred using both traditional and digital methods through approaches such as lecture, discussion, demonstration (practical session), case studies and projects through active, collaborative and multidisciplinary learning approaches. As a capstone course, this module requires students to assimilate and integrate the knowledge they have gained to work in teams. The technical problem-solving phase of food product development set in a simulated industrial research and development situation. Students will be working in groups to research and undertake the development of a food product from initial consumer needs analysis, concept/product briefing to ingredients sourcing, development and sensory trials and a presentation.

Introduction to Biostatistics	<p>Introduction to Biostatistics aims to teach students to organize, summarise and make evidence-based decisions. This module provides students with an understanding of scientific data and the application of various statistical methods regarding living things and/or their by-products. It also further develops students' analytical, observation, experimentation, data collection, data interpretation, theorizing, besides decision-making skills. The lecture topics in this module include descriptive statistics, quantitative plots, probability, hypothesis testing, chi-square test, chi-square, linear regression, and non-parametric methods. This module allows students to use SPSS to perform statistical analysis effectively and present results in a significant manner. Students learn on the development of a questionnaire, data collection, and data analysis, as well as various ethical considerations that are of concern during surveys, and/or experimental research. Lectures, online videos, online tutorials, tutorials using SPSS, quizzes, and survey-based assignment approaches are used to cover these topics.</p>
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## BACHELOR IN BIOTECHNOLOGY (HONOURS)

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	BIO60204	Principles of Biochemistry	4	-
2	BIO60904	Cell Biology	4	-
3	BIO61204	Principles of Genetics	4	BIO60904
4	BIO61304	Techniques and Instrumentation in Biotechnology	4	BIO62204
5	BIO61404	Crop Biotechnology	4	BIO62204
6	BIO61204	Animal Biotechnology	4	BIO60904
7	BIO61604	Applications of Bioinformatics	4	BIO60204 BIO61204
8	BIO62104	Bioprocess Technology	4	MIC60104
9	BIO62204	Introduction to Biotechnology	4	-
10	RES60204	Research and Laboratory Management	4	-
11	BIO62704	Molecules from Nature: Biodiversity and Natural Products	4	-
12	BIO62804	Trends in Applied and Synthetic Biotechnology	4	BIO62204
13	STA60204	Introduction to Biostatistics	4	-

Module Name	Module Synopsis
Principles of Biochemistry	Principles of biochemistry primarily focused in the biochemistry of humans. It is known that the basic principles of biochemistry are common to all living organisms. This module provides an introduction to biomolecules in living systems. Students are introduced to the basics of bioenergetics before progressing to studying energy metabolism pathways and their regulation. The individual pathways will then be integrated together to give students a holistic view of energy metabolism. This module also introduces the basic theoretical knowledge of molecular genetics. This module will be delivered using the pedagogies of 'Guided Learning' and 'Self-directed Learning' via lecture and tutorial-based approach and is supported by a combination of face-to-face lectures, online lectures and tutorials, with students engaging with practical tasks during the laboratory sessions. The module is supported by a combination of online lectures and supplementary reading materials.
Cell Biology	This module introduces the student with a comprehensive understanding of cell structures and functions, including how cells divide, genetic information systems, generate energy, coordinate complex processes and communicate in a living system. The core concepts of molecular cell biology and techniques which are essential to build up the strong foundation in any of the core disciplines covered in the programme. The teaching and learning approach for the module will be real-life problem-based learning, with students engaging with practical tasks during the practical sessions and demonstrate their understanding, thoughts and reflection via written reports and presentation. The module is supported by a combination of lectures (face-to-face and online learning) and tutorials.
Principles of Genetics	The module introduces the fundamental knowledge of genetics and its applications in Biotechnology. Beginning with an overall introduction to the science of genetics, followed by transmission genetics (Mendelian

	inheritance), extensions to Mendelian inheritance, chromosomes heredity, genetic linkage and mapping in bacteria and eukaryotes, as well as core concepts of quantitative-, population- and developmental genetics. Two clear module objectives are outlined which include (i) attaining an understanding of fundamental knowledge of genetics, establishing a strong foundation in the principles of transmission genetics, molecular genetics, quantitative and population genetics and their applications; and (ii) developing keen problem solving skills and apply knowledge gained in other related fields in biotechnology through mastering the principles of genetics and exposure to genetic experiments and problems. This module is supported by a combination lectures, online tutorials, practicals, and self-directed learning. Module delivery strategy include focusses on discovery learning, generative learning and reciprocal teaching.
Techniques and Instrumentation in Biotechnology	This is an important module that introduces the techniques and instrumentations used commonly, in the field of biotechnology. This module allows students to gain theories and practical, hands-on knowledge of the operation, maintenance and calibration of instruments specialized in biotechnological laboratory. Technical procedures and instrumentation include basic laboratory techniques, molecular techniques, proteomics, metabolic analysis, whole cell analysis, nanobiotechnology and chemical analysis. The learning and teaching approaches will be conducted in research informed setting which consist of both lecture and practical.
Crop Biotechnology	Crop biotechnology is a multidisciplinary module that introduces the underpinning terms, concepts, and knowledge of a rapidly progressing and expanding biotechnology-based agriculture industry. This module brings together the fundamental concepts, knowledge, and techniques such as breeding, selection, hybridization, farming practices, mutagenesis, DNA extraction, recombinant, and gene editing with emphasis on special focus areas (current and future) of the agriculture sector such as molecular marker-based selections and development of transgenic plants. The selection and improvement of crops enable students to venture into research or be affiliated with bodies that cater to global issues on food shortage, and rising demand for crops. Other important related topics such as bioethics, biosafety regulation, and social perceptions of crop biotechnology are also covered in this module. Knowledge of concepts, techniques, and social issues in crop biotechnology, and its significance in agriculture-based biotechnology industries are essential in paving the way towards agricultural biotechnology- or research-related careers in the future.
Animal Biotechnology	This module introduces the basic concepts, tools and techniques as well as applications of animal biotechnology. Topics covered include the use of in vitro and in vivo animal models of diseases, animal tissue culture, tissue engineering, reproductive technologies, transgenic animals, conservation efforts as well as ethical and safety considerations in the field. Current issues in laws and biosafety regulations regarding animal biotechnology will also be discussed. The learning and teaching approach for the module will focus on student-centered learning approach, with interactive lecture and tutorial sessions as well as students performing guided experiments and analyzing data obtained during the practical sessions. There will be field trips to animal farms for observation and learning on livestock and veterinary reproductive biotechnology process. The module is

	supported by a combination of online lectures and supplementary reading materials.
Applications of Bioinformatics	The module introduces the underpinning knowledge of Applied Bioinformatics and its main applications in Biotechnology and Biomedical Sciences. The fields of “omics” which include genomics, transcriptomics, proteomics, and metabolomics all rely on bioinformatics for computing tools to analyse and “make sense” of the tremendous amount of biological data. Beginning with an overall introduction to the science of Bioinformatics, followed by various analyses methods of DNA sequences; genome sequencing and analysis; genome-wide analysis of RNA sequences transmission genetics; protein analysis and proteomics; and finishing with the analysis of biological networks. Two clear module objectives are outlined which include (i) attaining an understanding of applied concepts of Bioinformatics, establishing a strong foundation in the principles of biological data analyses and (ii) developing keen problem solving skills and apply knowledge gained in other related fields in Biotechnology and Biomedical Sciences through mastering the applications of Bioinformatics in relevant fields such as genomics, transcriptomics, proteomics and biological networks through exposure to practicals and assignments. This module is supported by a combination lectures, online tutorials, practicals, and self-directed learning. Module delivery strategy include focusses on discovery learning, generative learning and reciprocal teaching.
Bioprocess Technology	This unit introduces some fundamental aspects of biological processing with engineering principles, focusing on fermentation technology which involves kinetics and modeling of fermentation processes, as well as instrumentation, design and control of bioreactor. This unit also covers microbial fermentation with emphasis on microbial biomass, enzymes and metabolites, food, environmental and industrial engineering applications. The final focus is on the purification of products leaving the reactor using different product recovery sections such as recovery of particulates, product isolation, precipitation and combined operation. The learning and teaching approach for the module will be lecture and tutorial-based, with students performing guided experiments and analyzing data obtained during the practical sessions.
Introduction to Biotechnology	Introduction to Biotechnology is a module that aims to produce graduates with good knowledge and understanding of basic theories and principles of modern biotechnology. This MODULE covers fundamental topics such as recombinant DNA technology, vectors, selection, and transformation and development of recombinant molecules. Topics are taught from both theoretical aspects as well as experimental. Besides the fundamental knowledge, applications of biotechnology in various fields are also discussed using clear examples especially in domains such as microbial, plant, animal, medical, and nanobiotechnology. Current issues in law and biosafety regulations regarding modern biotechnology, and bioethics are incorporated to enable ethical decisions. The above topics are covered via lectures (face-to-face and online), and online tutorial activities such as case studies-based discussions, forums, and quizzes. Six guided practical sessions on bacterial transformation and nanoparticle synthesis are set, and a field trip is organized to understand the potential industrial application.

<p>Research and Laboratory Management</p>	<p>This module focuses on the principles of laboratory and research management, as well as commercialization. Topics for laboratory management include lab resources management, operation, accreditation, risk assessment and project management. Research management covers the initiation of research problem, intensive literature search, research planning, data analysis, reporting of scientific findings, current trends in life science research and critical understanding of copyright and regulations in research profession. The fundamental concepts of commercialization, involving developing prototype, patent and business plan will also be included. Problem-based learning approach will be emphasized as the teaching and learning approach in this module. The module will be delivered by lecture and tutorial-based, including illustrative cases presenting management problems by focusing on thought-provoking questions to enhance critical thinking skills as a reinforcement of theoretical content, and also to simulate real-life situation.</p>
<p>Molecules from Nature: Biodiversity and Natural Products</p>	<p>This module is to introduce basic understanding of the inter-relationship between the living processes of humans, animals, plants and organisms with the habitats that they live in. It also provides students with an overview in utilising the resources in various aspects, particularly medicinal approach. The module discusses the various strategies of biological resources management and also utilisation of natural resources. The students will be equipped with sound understanding of biological diversity and the related processes, where the knowledge can be extended into various fields, including biotechnology, human biology and the environment, in addition to its resources and utilisation as natural products. Module content will be delivered as lectures and relevant online materials (eg. YouTube), and concepts will be extended in detailed problem-solving exercises during the tutorials. Students will develop their practical skills in identifying the diverse life forms and laboratory work involving extraction and identification of constituents from the natural products as well as their biological activities. The students will also work on a group assignment in the form of oral presentation on the importance of natural resources and their application. Students will be assessed continuously through written examinations, assignments, and practical worksheets. Students' level of understanding of the knowledge will be assessed formatively via written examinations. Their experimental data analysing skill will be assessed through worksheets and report. Critical thinking skill, social competency and teamwork will be assessed through fieldtrips and group assignment.</p>
<p>Trends in Applied and Synthetic Biotechnology</p>	<p>This is an important module that introduces the contemporary trends, research and developments in the field of applied and synthetic biotechnology. It is a study that reflects the aim of biotechnology which is the integrated use of different biotechnology platforms for effective translation of novel research into application.</p> <p>There are three special focus areas: healthcare, crop and food biotechnologies where successful examples on the various applications are explored. Topics covered include synthetic biology, metabolic engineering, synthetic biotechnology, biological therapeutics &amp; vaccines, biosimilar, nanobiotechnology, environmental biotech, bioenergy, big data analytics and the application of AI in biotechnology.</p>

	<p>A combination of teaching strategies including guided, authentic, problem-based and self-directed learnings will be used. The module contents are organized to promote effective teaching and learning of trends in biotechnology. The schedule starts from the introduction of both background and practical skills of each research area, followed by the current trending research and applications in each topics. Students will be assessed continuously to gauge acquisition of knowledge via (1) Case study , which contributes 30% of the assessment; (2) Impact lab research proposal, 20%; (3) Impact lab experimental research report, 30%; and (4) Reflective writing which is contributing to the remaining 20% of the students' total marks in this module.</p>
Introduction to Biostatistics	<p>Introduction to Biostatistics aims to teach students to organize, summarise and make evidence-based decisions. This module provides students with an understanding of scientific data and the application of various statistical methods regarding living things and/or their by-products. It also further develops students' analytical, observation, experimentation, data collection, data interpretation, theorizing, besides decision-making skills. The lecture topics in this module include descriptive statistics, quantitative plots, probability, hypothesis testing, chi-square test, chi-square, linear regression, and non-parametric methods. This module allows students to use SPSS to perform statistical analysis effectively and present results in a significant manner. Students learn on the development of a questionnaire, data collection, and data analysis, as well as various ethical considerations that are of concern during surveys, and/or experimental research. Lectures, online videos, online tutorials, tutorials using SPSS, quizzes, and survey-based assignment approaches are used to cover these topics. This module is assessed based on a written final exam, a guided group project that consists of data collection, and analysis, evaluation of ethical requirements of a questionnaire and application of statistical knowledge.</p>

**FACULTY OF SOCIAL SCIENCES & LEISURE MANAGEMENT**  
**SCHOOL OF MEDIA AND COMMUNICATION**

**BACHELOR OF MASS COMMUNICATION (HONOURS)**

**Common Core**

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	COM64404	Intro to Mass Communication	4	-
2	COM64104	Intercultural Communication	4	-
3	COM63804	Media Writing	4	-
4	COM64004	Visual Communication	4	-
5	COM63904	Communication Theory	4	-
6	COM64504	Media Analytics	4	-
7	COM64604	Introduction to Social Media	4	-

**Choose ONE (1) Specialisation**

**Public Relations**

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	PRL61704	Public Relations Principles	4	-
2	PRL61804	Publicity and Media Relations	4	-
3	PRL61604	Crisis Management	4	-
4	PRL61504	International Public Relations	4	-
5	COM63704	Organisational Communication	4	-

**Advertising and Brand Management**

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	ADV62104	Advertising Fundamentals	4	-
2	ADV62304	Strategic Copywriting	4	-
3	ADV62004	Brand Management	4	-

**Digital Media Production**

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	DMP60604	Trends in New Media	4	-
2	DMP60304	Film Studies	4	-
3	DMP60004	Narrative Writing	4	-

## Journalism and Media Practice

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	JRN61704	Journalism Fundamentals	4	-
2	JRN61504	Narrative Journalism	4	-
3	JRN61304	Activism and the Media	4	-
4	JRN62404	New Media Production	4	-

Module Name	Module Synopsis
Introduction to Mass Communication	<p>This module outlines a basic understanding of the various types and roles of different traditional and new media industries as well as the related institutions of journalism, advertising and public relations and their respective structure, support and influence. Particular attention will be paid to mass communication issues relating to the rise of digital media such as trends, conglomeration, convergence, globalization and hypercommercialism. The module also discusses the impact of the developments on society, culture, politics and other relevant contexts. Mass media and communication in the Malaysian context will also be explored.</p> <p>The teaching and learning approach will be project-based, with lectures and guided tutorials exercises and instructions to assist students in accomplishing their assigned tasks. Students will learn to apply concepts to analyse the current issues which involve the developments of the media industry. Students will accomplish their assignments by collaborating in groups and working independently. There are regular face to face and online feedback sessions to gauge the progress of learning and the alignment of their learning to the learning outcomes stated in the brief leading to a final submission piece. The module is supported with a combination of lectures, tutorials and industry guest talk sessions when available and blended learning activities through online exercises to encourage self-directed learning.</p>
Intercultural Communication	<p>This module outlines the personal and theoretical understanding of the cultural origins of people's values, ideologies, habits and how they affect communication across cultural, racial and ethnic lines. It also seeks to develop awareness and increased understanding among peoples of different cultures, an appreciation of this rich diversity, and to offer tools for a lifeline of continued growth in intercultural competence. The module will be divided into three sections; Foundations of Intercultural Communication, Intercultural Communication Processes and Intercultural Communication Applications. The teaching and learning approach is based on action research, authentic learning and experiential learning. This module will be delivered through face-to-face lectures and tutorials, in class activities which requires individual and group presentations and blended learning approaches.</p>
Media Writing	<p>This introductory course on various aspects of writing for different media platforms intends to help students acquire written communication skills by exploring different forms of writing online and in print. In this course, you are expected to develop strong basic reporting and writing skills. Using different story forms – including but not limited to journalistic news – students will learn how to write a diverse set of stories and embrace the freedom and responsibilities of traditional journalism. Students will learn Associated Press style and various journalistic reporting and writing techniques. They will learn the basics of writing press releases, copywriting for advertisements and other journalistic and communication forms throughout the semester in both lecture and tutorial sessions.</p>

Visual Communication	This module emphasizes the basic understanding of visual literacy and communication within the current media industries through the comprehension of design elements and principles. It also focuses on the practical application and ethical considerations of the visual aspect in screen and print based visual communication design. The learning and teaching approach for the module will be computer-lab based, by having students to learn and engage in practical tasks in a computer lab environment. As a result, the lecturer is able to have a good view at students' learning progress during class so that it aligns with the learning outcomes.
Communication Theory	module introduces history, origin, background and evolution of various mass communication theories. It presents the important notions, concepts, assumptions, arguments, issues, limitations and future development of the theories. This module also discusses the connections between communication theories and research. The learning and teaching approach for the module will be lecture- and tutorial-based, with students engaging in discussion with instructor.
Organisational Communication	This subject develops exceptional communication skills and understanding of the different communication theories, ethics, and practices needed in an organisation. The understanding of the communicative processes will assist an individual in his/her success in contributing positively in an organisation by empowering his/herself. Communication performs a key role in understanding ourselves as part of an interconnected network of knowledge and skills in the working world.
Media Analytics	Media Analytics covers subjects that are relevant to media and communication studies which empowers students in content creation to build brand awareness, generate leads, and boost sales. Students will first be introduced to the key principles of media economics and management. The module outlines how to interpret and present results, the principles of data visualization and storytelling, and the basics of research design and sampling. Although shifting technology makes measurement and analytics a dynamic space, this module takes an evergreen, conceptual approach, reminding students to focus on the principles and foundations that will remain constant. The key objective of this module for media and communication students is to learn how to find the stories in the data and how to present those stories in an engaging way to others. As such, the only way to understand analytics in the digital age is to practice it, the teaching and learning approach for this module is through a collection of cases - both local and international - using datasets that present real and hypothetical scenarios for students to work through and provide their own interpretations and solutions to real-world problems encountered in the industry across the advertising, broadcast, online, mobile, social, news and entertainment media sectors.
Introduction to Social Media	This module aims to introduce students to the history, evolution, and utilization of social media in everyday society. Students will be able to gain an understanding and experience the application of social media interactions and content creation in an academic setting. Students will be exposed to both theoretical and practical applications of social media technologies and content. There will be regular progress checks, feedback and constructive critique with analytical approaches via online contact and face-to-face class time. The module is supported by a combination of lectures and practical sessions.
Public Relations Principles	This module gives students an overview of history and development of Public Relations with an emphasis given to different public that an organisation has to deal with. It also provides a ground for students to understand the need for a strategic perspective instead of the mindset of a public relations technician. Students are expected to keep up with current affairs and the communication approach adopted widely using the social media. The teaching and learning

	<p>approach for the module will be a combination of face-to-face lecture with a blend of online and practical tutorial tasks where students get to analyse case studies and present their ideas, both online and in class.</p>
Publicity and Media Relations	<p>The module outlines the role of a public relations practitioner as a media relations strategist in an organization. Students are introduced to the fundamentals of media practice, various techniques of media relations, methods of evaluating publicity outcomes, and understanding the various types of publicity collaterals for the press. The learning and teaching approach for the module combines face-to-face lecture with a blend of online and practical tutorial tasks where students get to role play, analyse case studies and present their ideas and within the group. There is regular review and feedback sessions for students to know about how they are progressing through the module and their level of attainment of the module learning outcomes.</p>
Crisis Management	<p>This module outlines the key responsibilities of public relations in the contemporary world by understanding the importance of managing crisis locally and internationally. It will introduce to the students the different types of crisis and offers a wide range of frameworks and methods to managing crisis. Due to the heavy frequency of crisis taking place in organisations and countries, this module will help students to differentiate between a crisis and an issue. At the end of the module, students are expected to create a crisis communication plan based on varieties of scenarios. The learning and teaching approach for the module will be a combination of face-to-face lecture with a blend of online and practical tutorial tasks where students get to analyse case studies and present their ideas, both online and in class.</p>
International Public Relations	<p>This module outlines the practice of Public Relations in an international context. It also introduces students to the nature of cross-cultural communication. Students are exposed to various public relations campaigns in order to explore the differences and similarities of campaigns from various countries. Issues of ethics as well as language (verbal and non-verbal) and global consultancy are covered in this module. The teaching and learning of this module is towards student-centred learning approach with the combination of lectures (online and face-to-face), research and field study as the mode of delivery.</p>
Advertising Fundamentals	<p>This module aims to provide students with the basic understanding of the history, development, scope, structure, and nature of the advertising industry as well as media trends and the process of creating an advertising campaign. Students will be exposed to the basic principles of integrated marketing communications, and its effects on and issues related to media industries. The teaching and learning approach for this module is a combination of guided learning and project-based learning. There will be in-class lectures, supported by additional online material and online tutorials. The tutorials are structured for students to be able to self-assess their knowledge of the topics covered in the classes.</p>
Strategic Copywriting	<p>This module is designed as a skill-based course focusing on the ideational aspects of advertising, specifically copywriting. The emphasis will be on strategy which involves research for information on product and consumer and the conveyance of the information through suitable forms of writing in the creation of persuasive ad copies for various media. The teaching and learning approach will be project-based, with lectures and guided tutorials exercises and instructions to assist students in accomplishing their assigned tasks. Students will learn to apply concepts to solve problems critically by collaborating in groups and working independently.</p>

Brand Management	Brand management looks at the process involved in creating a unique name and image for a product in the consumers' mind, mainly through advertising campaigns with a consistent theme. This course outlines the theory and practice of brand management. It delves into the theories, concepts, issues, principles, processes of Branding by considering it from the perspective of Marketing, Management, and Communication. It provides a viewpoint of the organization taking into consideration its competitive environment and the forces that affects its banding exercise. Practical branding experience will be gained through individual and group-based assignments. In this module, students examine how a favourable brand and memorable brand experiences can influence a firm's ability to withstand competitive pressures and thrive in dynamic market conditions. Students will become acquainted with cutting-edge frameworks, concepts and tools that have been adopted across industries and around the globe to build lucrative brand franchises. Additionally, students will consider the role of integrated marketing communication vehicles and platforms in effective brand management.
Trends in New Media	This module provides students with a basic understanding of the history, nature, development, current trends, and future digital media practice. We design the module to help students comprehend the digital culture and explore the meanings of technical innovations in media, economics, politics and social life. Digital platforms and devices are profoundly affecting the way groups, institutions, businesses, communities and governments communicate. While studying the emerging technologies of the present, we also look forward to possible future developments and explore how new media could transform the nature and ethics of communication. The learning and teaching approach for the module will primarily be lecture-based. Simultaneously, tutorials are designed for students to engage with group discussions and group and individual activities, enabling them to deepen their understanding of the topics delivered during lectures. The module is supported by online lectures, discussions and other classroom activities.
Narrative Writing	This module will cultivate the students' ability to conceive story ideas from their original vision, research and further develop them, to finally write drafts in producing a short fiction script for the digital media. Students are introduced to the basic elements of narrative writing for the screen such as character, world of the story, dramatic events, conflict, dialogue, treatment, and format. The learning and teaching approach for the module will be discussion-based, with students engaging with vast ideas during the tutorial sessions and presenting their stories and thoughts individually. Regular review, feedback and critique sessions leading to the final draft of the script to assess progress and alignment to the learning outcomes in relation to the brief. Students will also work collaboratively to provide feedback on each other's scripts.
Audience Studies	This module introduces students to film art and film form with a particular emphasis on narrative filmmaking. Students will be exposed to the fundamentals and key concepts in film form and film style in developing their ability to evaluate and articulate filmic works. Students will also focus on key filmmakers and their key filmic works to understand what is special or significant about these works within the larger context of modern cinema. The teaching and learning approach for the module will primarily be lecture-based. Simultaneously, tutorials are designed for students to engage with group discussions, as well as group and individual activities, enabling them to deepen their understanding of the topics delivered during lectures. The module is supported by online classes, guided learning, discussions, and other classroom activities. Assignments are geared toward shaping

	students' research on textual analysis, particularly in the aesthetics and philosophical of film as a cinematic text.
Journalism Fundamentals	Students learn the foundations of journalism, significant contributions in history, essence of modern journalism, developments of past and present journalism in Malaysia through this module. Students are exposed to newsroom traditions, shifts and contemporary practices in global perspective from news gathering and reporting, investigations and experiences. The teaching and learning approach will be assignment-based, with lectures and guided tutorials exercises and instructions to assist students in accomplishing their assigned tasks. Students will learn to connect the concepts learned with the current standard practices in the field of journalism. Students will accomplish their assignments by collaborating in groups and working independently. There are regular face to face and online feedback sessions to gauge the progress of learning and the alignment of their learning to the learning outcomes stated in the brief leading to a final submission piece. The module is supported with a combination of lectures, tutorials and industry guest talk sessions when available and blended learning activities through online exercises to encourage self-directed learning. Online feedback would be provided to guide the students. Students will be assessed primarily based on assignments which provide them opportunities to explore the developments of the journalism field in both traditional and new media platforms.
Narrative Journalism	This course helps students to develop their narrative and feature writing skills and build their confidence in written communication and storytelling. It draws upon the discipline of writing for publication and links it with the rigours of feature writing conventions and creativity. The course components will enable the students to be informative, entertaining, and persuasive whilst observing media conventions of accuracy, brevity, and clarity. The teaching and learning approach will be assignment-based, with lectures and guided tutorials exercises and instructions to assist students in accomplishing their assigned tasks. Students will learn to put into practice various forms and styles of narrative writing for feature story pieces throughout the course.
Activism and the Media	This module aims to introduce students to the role that media practitioners such as journalists, public relations practitioners, social media influencers and ad campaigners in using the media to affect political, social, economical and cultural transformation in a local, regional and international context. The focus of this module will be to study and analyse the impact of various creative uses of media and communication tools by various groups, opinion leaders and interests to influence policy, shift mindsets and champion society causes. Students will get to study current theoretical debates around the use of media in activism and campaigning, through seminar debates of lectures and readings, role plays, group work, devising their own campaigns and by examining a campaign case study of their choosing. The teaching and learning approach will be assignment-based, with lectures and guided tutorials exercises and instructions to assist students in accomplishing their assigned tasks. Students will learn to connect the concepts learned with the current standard practices in the field of journalism.
New Media Production	This module introduces students to digital non-fiction story development skills for professional media purposes and social media dissemination across a range of platforms. This module will prepare students with necessary skills to create online news, blogs and other news mediums for reporting/news dissemination. Students will have to demonstrate the ability to create and edit non-fiction stories for media-related industries through the writing, capturing of audio, video and photographic material. Students will establish and develop an online portfolio and learn how to establish a related professional social

	<p>media identity in order to promote their work. The teaching and learning approach will be coursework-based, which will focus on the development of digital literacy and practical skills in content creation. As such the lectures and guided tutorials exercises and instructions, most of which will be online/digital-based learning lectures to assist students in accomplishing their assigned tasks. Students will learn to connect the concepts learned in other modules and this module and apply them in the field of online and mobile journalism.</p>
<p>Film Studies</p>	<p>This module introduces students to film and film form with a particular emphasis on narrative filmmaking. Students will be exposed to the fundamentals and key concepts in film form and film style in developing their ability to evaluate and articulate filmic works. Students will also focus on key filmmakers and their key filmic works to understand what is special or significant about these works within the larger context of modern cinema.</p> <p>The teaching and learning approach for the module will primarily be lecture-based. Simultaneously, tutorials are designed for students to engage with group discussions, as well as group and individual activities, enabling them to deepen their understanding of the topics delivered during lectures.</p>

## SCHOOL OF HOSPITALITY, TOURISM & EVENTS

### BACHELOR OF INTERNATIONAL HOSPITALITY MANAGEMENT (HONOURS)

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	HOS61304	Hotel Revenue Management	4	-
2	HOS62304	Hospitality Business Modeling	4	-
3	HOS61504	Hotel Innovation Management	4	-
4	HOS61204	Hospitality Management and Leadership	4	-
5	HOS61604	Luxury Brand Management	4	-
6	HOS60504	Hospitality Project Management	4	-
7	HOS60904	Convention and Banquet Sales	4	-

Module Name	Module Synopsis
Hotel Revenue Management	The discipline of revenue management combines data and operations research with strategy and understanding of today's customer. The study of revenue management must be analytical and detail orientated, yet capable of thinking strategically and managing the relationship with sales. This subject deals with the learning and understanding of the principles and elements of revenue management. Students will be exposed to the implementation of revenue management strategies. It also covers the area of performance analysis to allow students to assess the situation and to develop a suitable approach to better maximize an organisation's revenue.
Hospitality Business Simulation	The module provides an opportunity for the students to operate a hotel operation in a simulated environment to practice the knowledge and skill learned in the bachelor program. The students are expected to work as a team and actively participate in the day-to-day operation of simulated hotel and decision-making of the simulated hotel's management. Simulations are particularly effective in helping learners to integrate and apply business knowledge and skills developed across a range of earlier units. The student should acquire 21 <sup>st</sup> century competencies or skills for their future employability to cope up with the demands and changing hospitality industry workforce during the Industrial Revolution 4.0 (IR4.0). These simulations also allow students to practise analysis, evaluation, creation and collaboration skills to operate their business successfully. The module also helps the students to explore the relevant United National Sustainable Development Goals (SDG8- Decent Work and Economic Growth and SDG9-Industry, Innovation and Infrastructure).
Hotel Innovation Management	This course will provide an introduction to the key issues involved in the design of hotel premises and facilities, illustrated with examples drawn from the industry itself. It presents the basics of hotel layout, equipment/systems, project planning and design.
Hospitality Management and Leadership	This module covers the pertinent management functions of planning, organizing and controlling as well as human relations functions that are essential in hospitality management and these are: communication and decision making, conflict management, leadership and motivation. In introducing the module, the syllabus provides an overview of management in the hospitality industry specifically, its characteristics, career opportunities and important influencing trends. In addition, the role of service as well as critical and contemporary issues/challenges faced in managing and leading hospitality organizations are also examined.
Luxury Brand Management	The module will equip students of the programme with management, marketing and professional skills to work in the luxury goods and

	<p>experiential luxury sectors. The module would comprise of factors that impact luxury brand management in tourism and hospitality management related businesses by providing an in-depth understanding of the debates on luxury in an historical and cross-cultural context, and offers a strong academic underpinning on theories of luxury and consumption.</p> <p>The module would develop critical thinking and problem solving skills by understanding the theoretical approaches of luxury brands and to critically debate on luxury brands. It covers the fundamental knowledge and skills that can be directly applied in the practical work context.</p>
<p>Hospitality Project Management</p>	<p>The Hospitality Project Management of School Hospitality, Tourism and Events degree program allows students the opportunity to study the management of small businesses, start-ups and intrapreneurship. Through the course of study, students are prepared to start their own business as well as work for small businesses and start-up companies. Students also learn about intrapreneurship and how to lead change within organizations. Entrepreneurship is not solely about business skills or starting new ventures; it is a way of thinking and behaving relevant to all parts of society and the economy. Entrepreneurship education is a process which develops individuals' mindsets, behaviours, skills and capabilities and can be applied to create value in a range of contexts and environments from the public sector, charities, universities and social enterprises to corporate organisations and new venture start-ups. Entrepreneurial and enterprising graduates should be equipped to fulfil their potential and to create their own future.</p> <p>In this module, students are expected to:</p> <ul style="list-style-type: none"> <li>• Apply the major concepts, skills and values of business administration.</li> <li>• Communicate effectively to diverse audiences, purposes and situations through a variety of professional methods within business administration.</li> <li>• Use decision-support tools to resolve contemporary business issues using ethical business practices.</li> <li>• Identify the types of capital funding sources for start-up and existing businesses.</li> <li>• Develop a viable business plan.</li> <li>• Execute their business plan and review business operation.</li> </ul> <p>This module approach is supported by a combination of proportion of face-to-face and practical sessions enable students to learn from each other and students will work with business on a real life development project. This allows them to learn 'in' entrepreneurship and creating knowledge and as well as 'about' entrepreneurship. Student projects focus on:</p> <ol style="list-style-type: none"> <li>1. Life-images of entrepreneurship – students visit the business and write the business concept; students write a report reflecting upon their learning from these 'live cases'.</li> </ol> <p>An entrepreneurial project – students can choose from: engaging in an entrepreneurial venture, developing their own business plan, or investigating a topic from an entrepreneurial perspective.</p>
<p>Convention &amp; Banquet Sales</p>	<p>This module gives an insight into the Sales Catering and Convention services from a sales perspective in the Hospitality Industry. The aim is to enable students to understand and apply the concepts of sales &amp; catering management principles and industry practices in the classroom practical environment. The learning and teaching approach for the module will be students engaging in practical role play during the class sessions. There will be opportunity for students to learn the Delphi Sales and Catering System – the world's leading sales and catering system. The technology-based skills</p>

	acquired by students will give them the competitive advantage. This module is also supported by group assignment & presentation on hotel sales proposal in bidding for an event. There will be comments and reviews given in class for the practical tasks. The module is carried out by a combination of lectures, role play and in TIMES. There are various assessment approaches ranging from assessing the sales negotiation skills and knowledge among students to exploring the use of Delphi system.
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**BACHELOR OF INTERNATIONAL EVENTS MANAGEMENT (HONOURS)**

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	EVT62504	Event Sponsorship and Funding	4	-
2	EVT63004	Sustainable Event Management	4	-
3	EVT62004	Events Project Management	4	-
4	EVT61904	Event and Tourism Risk Management	4	-
5	EVT62704	Exhibition Management	4	-
6	EVT62804	Events Operations	4	-
7	EVT62104	Events and Entertainment	4	-
8	EVT62204	Conventions and Meetings Management	4	-
9	EVT62904	Event Technology	4	-

Module Name	Module Synopsis
Event Sponsorship and Funding	<p>The module introduces students to the various elements of sponsorship and fundraising related to the event industry. The module covers the importance of sponsorship as well as how sponsors can benefit from sponsorship. In addition, the module looks into the steps in preparing a sponsorship package and ways in developing a fundraising plan. The teaching and learning approach for this module focuses on student centered learning approach together with project based learning, where students will have to search for necessary information for the project and assignments.</p> <p>Throughout the semester, there will be a mixture of face to face and online guided learning through online lectures and tutorial. The assessment approach will be based on formative as well as summative approaches. Students will have to prepare a sponsorship proposal and fundraising plan where formative feedback will be provided during tutorial sessions and online consultations. In addition, there will be opportunity to approach potential sponsors for an assigned event.</p>
Sustainable Event Management	<p>Sustainability has emerged as an important events management concept, and successful events managers must be equipped with knowledge and understanding of various components related to sustainable event management. This module introduces global environmental issues and sustainability management in the events industry. It includes various components and elements related to sustainable events management, which would enable students to develop and manage environmentally sustainable events successfully.</p> <p>The learning and teaching approach for the module will encapsulate Authentic Learning when students examine and review environmentally sustainable</p>

	<p>components at various stages of an event. Additionally, students will undergo Problem-based Learning by developing a compelling proposal that recommend systems and best practices for implementation at sustainable events. The module is also supported by a combination of face-to-face and Blended Learning/e-Learning sessions, with materials accessible through TIMES.</p> <p>The module has a combination of two assignments and one group project. The assignments require students to recognise environmentally sustainable components for events, and then review these components at various stages of an event. The main project requires students to recommend and justify the implementation of environmentally sustainable components for an event of their design. Students will be guided through regular feedback and discussions as well as critiqued through peer and tutor formative assessment.</p>
Events Project Management	<p>This module will equip students with the skills and tools in event planning. It will focus on the development of an event proposal that covers the elements of planning, management, finance, operation, marketing, and sponsorship. In order to prepare the event proposal, students are required to negotiate with potential stakeholders, conduct a site inspection and some research based on the proposed event. Students will be advised to take into consideration the recommendation and opinion given by potential stakeholders. By doing so, students will be required to conduct a feasibility study, which is an analysis of the viability of an event idea. This analysis will help the students to answer essential questions related to their proposed event.</p> <p>Another part of this module will cover the communication skills that will be developed during a bidding session pertaining to the proposed event idea. The teaching and learning approach that will be used for this module mostly cover guided learning and project-based learning. Apart from that, students will be given an exercise pertaining to the real issue that has happened in the industry. This initiative will help students to have greater skills of analysis and synthesis that is applicable in the event industry.</p>
Event and Tourism Risk Management	<p>This module exposes the students to identify event risk factors inherent to any event and the strategies to manage those risks. It aims to equip students with theoretical insights of managing risk in event and tourism management. It incorporates holistic view of risk management that includes risk identification, assessment, control, prevention and solutions. This module requires students to complete both individual and group formative and summative assessments that are evaluated through the course of fourteen weeks. Pedagogy approach may include the focus on problem-based learning, action learning, and collaborative learning. Online quiz on TIMES will be conducted throughout the semester. A fair division of face-to-face sessions and e-learning discussions relating to the module assessments are prepared. At the end of the semester, it is anticipated that the students will be able to comprehend the essentials of event risk management and ultimately deliver a comprehensive plan to minimise, if not eliminate risk potentials. The module will adopt a personalized and collaborative learning and teaching approach where there will be a mixture of guided learning and project-based learning. Assessment tasks are designed to develop students' capability in comprehending risk management in the context of event and tourism. The tasks evaluate students' knowledge level in communication skills, entrepreneurship and critical thinking. This is delivered in presentation and analyses of case studies in tutorial sessions.</p>
Exhibition Management	<p>There is an increasing emphasis on the role that exhibitions play in economic, professional and educational development which promotes benefits in</p>

	<p>knowledge exchange, scientific research, technology transfer, networking and motivation. This module will:</p> <ol style="list-style-type: none"> <li>1. enable students to build their skills and knowledge of exhibitions in the Meetings, Incentives, Conventions and Exhibitions (MICE) industry.</li> <li>2. help students identify and understand and fundamental elements for different types of exhibitions.</li> <li>3. equip students to take on key positions in exhibition management to meet growing demands of the MICE industry.</li> </ol> <p>The learning and teaching approach for this module is Authentic Learning and Case-Based Learning as study trips are organised for students to experience exhibitions. Working in groups, students are required to observe and review real issues of exhibitions visited and, subsequently, design and plan towards the production of a proposed exhibition. Guidance and feedback shall be offered progressively throughout the assessments of learning outcomes, Question and Answer (Q&amp;A) sessions during tutorials as well as through online group discussions. The module is delivered through a combination of face-to-face lectures and tutorials as well as blended learning through online quiz or games. Additionally, students are required to conduct self-directed learning through research and analysis or evaluation of observed scenarios.</p> <p>Comprehension of fundamentals shall be conducted continuously through online assessments (online quiz and games). Review of an exhibition floor layout and booth designs along with visitor activities offers learning through observations, retention, and replication. The group project offers students the opportunity to integrate their knowledge and experiences to develop a comprehensive proposal, which includes design, operational planning and marketing. The proposal shall be presented to an audience of peers and industry experts for critique and feedback as formative assessment.</p>
<p>Events Operations</p>	<p>The module equips students with the essential knowledge and skills in event coordination. The module covers the aspect of event operation tools such as timeline, manpower allocation, logistics, processes and dealing with external stakeholders. The students also will experience how to coordinate a real event from planning phase to the actual day of the event. The module will be conducted through online and face-to-face approach. For online approach, it will cover the theoretical components inclusive of online lectures, online videos, quizzes, discussions and forums meanwhile the-face-to face approach will be focusing on tutorials (on how to do it) and weekly meetings that monitor the progress of the event. The learning and teaching approach for the module will be inquiry-based learning and cooperative learning. There will be four assessments in this module, which are the event concept, event operations tools, VLOG and event coordination. Assessment 1 will measure students TGC2 (Problem solving, critical and creative thinking skills) where the students are required to think creatively on how to conceptualize an event experience for the event that they will organize. Research on information from multiple sources will help students to prepare for assessment 1. The second assessment is the event operation tools that requires the students to work in a department to produce their departmental plan inclusive of the production schedule and report. The students will achieve TGC 3 (communication skills) for this assessment. For assessment 3, students will be required to work in teams and coordinate the event according to the plan. Each member of the team will be assessed on their teamwork and leadership in organizing the event. The evaluation will be based on their performance from three perspectives, and they are the organizer, internal team and the supervisor. Students will develop TGC 6 (Social competencies) through this assessment. The last assessment is the VLOG that requires students to self-reflect on their</p>

	<p>performance based on their progression of assessment 2 and 3. This assessment will help them to achieve TGC 4 (lifelong learning). In order to ensure that the event is organized according to the plan, there will be regular meetings and consultation sessions with the lecturer, organizer and other stakeholders of the event. In the preliminary phase of event coordination, students will be required to do research and come out with the concept that meets the organizer's needs. The major project (assessment 2 and 3) involves teamwork, communication skills and organizational skills.</p>
Events and Entertainment	<p>The module introduces students to the events and entertainment industries, which covers a general aspect on the development of the events industry and the types of events available within the industry. The module will also look into the structure of the events industry and the relationship between events management and education as well as the various theories involved in events management. Another part of the module will emphasize on the significance on entertainment for events, entertainment management and music licensing. The module will adopt a personalized and collaborative learning and teaching approach where there will be a mixture of guided learning and project-based learning. Students will be guided through online lectures, face-to-face lectures and tutorials together with a series of online activities that helps to prepare students for the final written assessment. Students are required to conduct online information search to prepare for the face-to-face tutorial sessions and for preparation of assignments and project. The module has a combination of two group assignments and one group project. The assignments require students to evaluate the impacts of an event and to visit an event to assess the entertainment genre of the event. The main project requires students to present the structure of the event industry, event life cycle and uniqueness of events in an oral and written communication format.</p>
Conventions and Meetings Management	<p>This module emphasises on design and planning of meetings and conventions. Students are introduced to industry developments, key players and their roles, as well as essential components for them to plan and bid for meetings or conventions projects. The teaching and learning approach for the module will incorporate case-based learning, where students will visit a convention to identify issues and propose solutions. Group work will engage students in collaborative learning. Students will also undergo self-directed learning and authentic learning to create a successful proposal and bid by showcasing their entrepreneurial skills. Blended or e-learning lesson delivered through online quiz and games, will offer fundamental and theoretical information on major components in planning conventions or meetings. Online games and quizzes will generate frequent feedback, while face-to-face reviews will be given progressively through presentations and interactive (critique/debate) sessions aligned to learning outcomes. The group assignment will synthesize knowledge and creativity to produce a proposal of professional competence. The proposal shall be presented to an audience of peers or industry experts for critique and feedback as formative assessment.</p>
Event Technology	<p>The module covers the concept of events and technology which emphasize the various usage of technology in planning and coordination of events. Students will be introduced to the application, software and equipment that can be used for events. This module also looks into the innovative event technology trends in the events industry. The class will be conducted through online and face-to-face approach. For online platform, there will be online lectures, videos, quizzes and forums that cater for the theoretical component of the module meanwhile the face-to-face practical classes will enhance students' learning through activities, discussions and application of technological skills. The module has four assessments, which are digital event review, event technology proposal, digital event operation and self-reflective assignment. Assessment 1 Digital Event Review requires students to find a</p>

	virtual/hybrid event and conduct a review on the usage of technology of the virtual/hybrid event individually. Assessment 2 Event Technology Proposal is a group project that requires students to develop an event technology concept in the form of a proposal that solves the challenges of the event industry. Assessment 3 Digital Event Operation requires students to demonstrate proficient and effective use of event technology applications to execute a digital event task individually. Assessment 4 is an individual Self-Reflective Assignment that requires students to prepare a reflective assignment based on their involvement in Assessment 2. This module incorporates the development of technological skills.
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## BACHELOR OF INTERNATIONAL TOURISM MANAGEMENT (HONOURS)

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	TOU62804	Data and Media Analysis for Tourism	4	-
2	TOU63004	Sociology of Tourism	4	-
3	TOU63104	Tourism Economics	4	-
4	EVT61904	Event and Tourism Risk Management	4	-
5	TOU63404	Holistic Approach to Health and Wellness	4	-
6	TOU62704	Destination Geography and Analysis	4	-
7	MPU31002	Bahasa Melayu Komunikasi 2 (Malay Language)	2	-
8	TOU63204	Sustainable Tourism Development	4	-
9	TOU62304	Tourism Business Management	4	-
10	TOU62604	Leisure Attraction Management	4	-
11	TOU62404	Airline and Airport Management	4	-
12	TOU63304	Tourism Integrated Project	4	-
13	EVT62504	Event Sponsorship and Funding	4	-
14	EVT62004	Events Project Management	4	-
15	EVT62104	Events and Entertainment	4	-
16	EVT62204	Conventions and Meetings Management	4	-
17	HOS64804	Service Quality Management in Hospitality	4	-

Module Name	Module Synopsis
Data and Media Analysis for Tourism	The course's conceptual content focuses on technology in Tourism and hospitality. The use of different media (online and printed) in tourism business, websites, online marketing techniques, e-commerce, innovative methods with which to gather, store, and utilise information on a tourism business's clientele, and how technology can be used to manage and deliver information. These are important in today's rapidly changing and somewhat converged business environment, the content is primarily a platform from which the students will learn skills that will serve them well in their future careers. The learning and teaching approach for the module will be immersive and problem-centred (problem and case-based Learning). Students will be required to provide solutions to the problems and cases given to them. The module is supported by a combination of online lectures and hands-on sessions. Additionally, industry experts will be invited to conduct a workshop and talk to enhance the analytic skills of the students. The main project will be data analytic for tourism enterprises on a small scale. The collected data should be an analysis based on current theories. This assessment help the students to

	strengthen their critical thinking and analysis skills. Moreover, it helps them to apply theories to practice.
Sociology of Tourism	This module introduces students to the tourism phenomenon from a sociological perspective. Students will be taught the various sociological stances concerning tourist behaviour. Moreover, various research methodologies will be examined and discussed in order to have an in-depth understanding of tourist behaviour. This module also exposes students to the idea that different cultural contexts influence people's behaviour on holiday, which is a crucial concept for students to understand how to manage effectively culturally diverse tourism businesses. The learning and teaching approach for the module will be immersive and problem-centred (problem and case-based Learning). Students will be required to actively participate in fieldworks and online activities designed for them. Additionally, sociologists will be invited for giving a talk to enhance the analytic skills of the students. The main project will be a sociological analysis of a destination based on a given theory. Few field works will be provided to give a live example of the current issues in tourism. The assessments will be based on the field trips and theoretical bases.
Tourism Economics	The specifications in tourism economics should encourage students to be inspired, moved and changed by following a broad, coherent, satisfying and worthwhile course of study and gain an insight into related sectors. It should prepare students to make informed decisions. This subject covers issues within microeconomics and macroeconomics. Students will consider the basic economic problem and how it affects the allocation of resources in competitive markets. The subject will cover how price is determined through the forces of demand and supply and how tourism firms compete in the market. The subject also covers the issues firms face: costs, revenues, profits, growth and productivity. It considers the impact that such factors have upon a business operating in a competitive market. Within the macroeconomic specification students will consider three of the main variables in the economy and how these are influenced by government policy. It covers the expenditure and revenue of government, including taxes, and the effects that these have on the economy. The subject will also cover the reasons for tourism international trade, exchange rate including the impacts of changes in the value on tourism activity. Globalization and its implications on tourism sector, at a local, national and global level are discussed.
Event and Tourism Risk Management	This module exposes the students to identify event risk factors inherent to any event and the strategies to manage those risks. It aims to equip students with theoretical insights of managing risk in event and tourism management. It incorporates holistic view of risk management that includes risk identification, assessment, control, prevention and solutions. This module requires students to complete both individual and group formative and summative assessments that are evaluated through the course of fourteen weeks. Pedagogy approach may include the focus on problem-based learning, action learning, and collaborative learning. Online quiz on TIMES will be conducted throughout the semester. A fair division of face-to-face sessions and e-learning discussions relating to the module assessments are prepared. At the end of the semester, it is anticipated that the students will be able to comprehend the essentials of event risk management and ultimately deliver a comprehensive plan to minimise, if not eliminate risk potentials. The module will adopt a personalized and collaborative learning and teaching approach where there will be a mixture of guided learning and project-based learning. Assessment tasks are designed to develop students' capability in comprehending risk management in the context of event and tourism. The tasks evaluates students' knowledge level in communication skills, entrepreneurship and critical thinking. This is delivered in presentation and analyses of case studies in tutorial sessions.

<p>Holistic Approach to Health and Wellness</p>	<p>This module designed to educate and train university students using holistic theories and practicals to understand and reflect upon their general health and wellness. The module uses traditional holistic teachings (e.g. Ayurveda and yoga) to introduce techniques for students to improve and reflect upon their day-to day physical and mental wellness. This module, through the theoretical coupled with practical lessons, gives a foundation for students to use themselves as well as promote health and wellness amongst their peers.</p> <p>The module is an elective, comprises of 12 lectures with practicals introducing the concept of a holistic approach to health and wellness where the students are taught the theories and methods for maintaining a healthy lifestyle as well as reducing and minimising the effects of stress. Students are taught Ayurvedic concepts around the body constitution and impact of diet, and exercise. In tandem with traditional practical methods (e.g. yoga) for working with the physical and mental attributes. This serves to guide the students to develop a balanced way of life unique to their individual requirements. The module also serves to provide guidance for students to develop a more disciplined healthy daily routine including the purpose of behavioural and internal self-restraints for body weight management, posture modification, breathing exercises, concentration techniques, mindfulness and relaxation techniques.</p> <p>Throughout the module the students will appreciate the effects of the holistic methods on their health and wellness with the expectation they will continue to use the knowledge in their future undertakings.</p>
<p>Destination Geography and Analysis</p>	<p>This module is designed to give a global understanding of the world geography in terms of their tourism resources and potential. After being introduced to the basis of geography, students will implement their knowledge using geographical tools to draw maps and understand the notion of distance. Emphasis will be placed on the physical layout and characteristics of each region, enabling the students to get familiar with the different resources and the main transport network across continents as well as the leading tourist destinations in each region accordingly. The module identifies the tourist flows within and into the regions, as well as gives an overview of the main tourist attractions in each region. It also identifies the main factors of tourism development of the regions. This module gives the tourism student a basis of understanding of the relationship between tourism and geography. The teaching and learning approach is lecture and tutorial based, where lectures and tasks are given, after which discussions take place in groups. The major project involve the application of geographical knowledge and destination analysis tools to gauge the strengths and weaknesses of a tourism destination. Students will be given immediate feedback on their use of analytical tools in their presentation, which will be a formative assessment of their understanding of each chapter.</p>
<p>Bahasa Melayu Komunikasi 2 (Malay Language)</p>	<p>This module is designed for students to communicate in basic Bahasa Melayu that covers their daily life as international students in Malaysia. When students have the ability to master and communicate in Bahasa Melayu, this will ease their daily communication with local people in any kind of situations. Students are also able to interact, read and understand Bahasa Melayu with ease. In addition to that, students are also able to write a short essay using simple sentences related to their daily life.</p>
<p>Sustainable Tourism Development</p>	<p>The module introduces students to the concepts of sustainable development that can be integrated in tourism business environment. The module will also investigate the fundamental theories of sustainability, the three dimensions of sustainable development; social, economic, and environmental pillars. Another part of the module will emphasize on the development of Sustainable Development Goals (SDGs 2015-2030) within the scope of hospitality and tourism. Various indicators of sustainable tourism development that are used</p>

	<p>by UNWTO, top tourism destinations, and major tourism organizations to measure sustainability in a particular tourism entity will be also explored. The module will adopt a personalized and collaborative learning and teaching approach where there will be a mixture of guided learning and project-based learning. Students will be guided through online lectures, face-to-face lectures, and tutorials together with a series of online activities that helps to prepare students for the final written assessment. Students are required to conduct online information search to prepare for the face-to-face tutorial sessions and for preparation of assignments and project. The module has an individual assignment and a group project. The assignments require students to evaluate the impacts of sustainable development goals on hospitality and tourism industry. The main project requires students to present the potential sustainable practices that tourism organizations can employ towards achieving 17 SDG's.</p>
Tourism Business Management	<p>The module focuses on the roles, responsibilities and functions of tour operators and travel agencies with an overview of the travel and tourism industry. This module comprises both of theoretical and hands on components that will equip students with relevant skills and techniques to address, advise as well as sell appropriate tourism products according to the needs to tourists. Students will identify and apply methods in preparing, planning and organizing tour and travel itineraries. They will also learn how to handle different groups of tourists during a tour in terms of learning and applying tour guiding skills. Authentic, Case-based, collaborative, problem-based, reciprocal and blended learnings will be applied throughout the module. Intrapersonal skills will be developed though this module as required them to organize a domestic trip. This allow students to acquire tour operating skills and techniques to manage tourists, create appropriate tour packages, planning the arrival of tourists and handling them during their stay at the destination and optimize guest's satisfaction by understanding the needs and wants of tourists.</p>
Leisure Attraction Management	<p>This module will equip students with the knowledge of spa, wellness, theme parks, nature, cultural, heritage, and leisure tourism in terms of recognising the different socio-cultural, geographical, economic, legal, environmental, organisational, technical as well as managerial aspects of nature, leisure-based tourism. This module exposes students to the theoretical and practical applications of the spa, wellness, theme parks, nature, culture, heritage and leisure as a recreational activity and business. It will cover the roles and functions of different tourism players in leisure tourism businesses, market segments and tourist behaviour, leisure-based products, leisure, cultural and heritage attractions, supplementary activities and success and failure of leisure attractions. The learning and teaching approach for the module will cover both theoretical and practical techniques which focuses on authentic learning (learning process through real-life situation and application of knowledge), collaborative learning (learning through teamwork), discovery learning (learning through problem-solving technique and experiences) and blended learning (a combination of both face-to-face and online learning). Guest speaker and video clips on leisure-related tourism also will be used as additional learning tools during lecture sessions to stimulate thought and discussion. There are regular review and feedback sessions leading to the classroom activities, individual and group projects to assess progress and alignment to the learning outcomes concerning the brief. The e-Learning or online learning approach will be conducted via various online platforms. Students can access to all learning materials, pre-recorded videos and tutorial or practical questions through these learning platforms. Students will be assessed on their knowledge and the synthesis of knowledge through short answer questions, assignments and/or projects and case study. Besides enhancing lifelong learning, the module also helps to develop the students'</p>

	communication, problem-solving, social competencies, and personal competencies.
Airline and Airport Management	<p>This module will introduce students to the fundamental knowledge of airport management and operations of global airlines. The teaching and learning approach used in this module includes lecture, discussion, use of videos on airline and airport operations that stimulate thought and discussion. Case studies will be discussed in class to engage students to think strategically and expose students to real-life practices of the commercial aviation industry. The lectures for this module will be delivered online via recordings for asynchronous learning. Tutorial sessions will be held to facilitate discussions and activities to enhance learning and understanding, as well as to develop critical thinking and communication skills. Students are expected to learn independently outside of class by doing their readings and research for tutorial sessions.</p> <p>Students will be assessed on their knowledge and the synthesis of knowledge through MCQ, short answer questions, and/or discussion questions. They will also be assessed on their ability to think critically and creatively in proposing possible solutions to problems faced by airlines. Apart from that, they will be tested on their ability to communicate ideas clearly and precisely in an engaging manner to the stakeholders.</p>
Tourism Integrated Project	<p>The module equips students with a practical part in tourism management. The module is designed to provide students with an opportunity to synthesize theoretical knowledge gained from various fields in tourism studies and to apply them in a practical environment. Students are free to select any project that is relevant to the industry. The project will expose students to the steps involved in project management. The project is carried out in three stages: pre-during-post. Each stage has different requirements and must be completed within a stipulated time frame. This module will require the students to have good teamwork, dynamic and collaborative based on the application of the management process. The learning and teaching approach for the module will cover both theoretical and practical techniques which focus on authentic learning (learning process through real-life situation and application of knowledge), collaborative learning (learning through teamwork), discovery learning (learning through problem-solving technique and experiences) and blended learning (a combination of both face-to-face and online learning). There are regular review and feedback sessions leading to the classroom activities and group assignments to assess and align to the learning outcomes concerning the brief. The e-Learning or online learning approach will be conducted via various online platforms. Students can access to all learning materials, pre-recorded videos and tutorial or practical questions through these learning platforms. Students will be assessed on their knowledge and the synthesis of knowledge through progress assignments and presentation.</p>
Event Sponsorship and Funding	<p>The module introduces students to the various elements of sponsorship and fundraising related to the event industry. The module covers the importance of sponsorship as well as how sponsors can benefit from sponsorship. In addition, the module looks into the steps in preparing a sponsorship package and ways in developing a fundraising plan. The teaching and learning approach for this module focuses on student-centered learning approach together with project-based learning, where students will have to search for necessary information for the project and assignments.</p> <p>Throughout the semester, there will be a mixture of face-to-face and online guided learning through online lectures and tutorial. The assessment approach will be based on formative as well as summative approaches. Students will have to prepare a sponsorship proposal and fundraising plan.</p>

	<p>where formative feedback will be provided during tutorial sessions and online consultations. In addition, there will be opportunity to approach potential sponsors for an assigned event.</p>
<p>Events Project Management</p>	<p>This module will equip students with the skills and tools in event planning. It will focus on the development of an event proposal that covers the elements of planning, management, finance, operation, marketing, and sponsorship. In order to prepare the event proposal, students are required to negotiate with potential stakeholders, conduct a site inspection and some research based on the proposed event. Students will be advised to take into consideration the recommendation and opinion given by potential stakeholders. By doing so, students will be required to conduct a feasibility study, which is an analysis of the viability of an event idea. This analysis will help the students to answer essential questions related to their proposed event.</p> <p>Another part of this module will cover the communication skills that will be developed during a bidding session pertaining to the proposed event idea. The teaching and learning approach that will be used for this module mostly cover guided learning and project-based learning. Apart from that, students will be given an exercise pertaining to the real issue that has happened in the industry. This initiative will help students to have greater skills of analysis and synthesis that is applicable in the event industry.</p>
<p>Events and Entertainment</p>	<p>The module introduces students to the events and entertainment industries, which covers a general aspect on the development of the events industry and the types of events available within the industry. The module will also look into the structure of the events industry and the relationship between events management and education as well as the various theories involved in events management. Another part of the module will emphasize on the significance on entertainment for events, entertainment management and music licensing. The module will adopt a personalized and collaborative learning and teaching approach where there will be a mixture of guided learning and project-based learning. Students will be guided through online lectures, face-to-face lectures and tutorials together with a series of online activities that helps to prepare students for the final written assessment. Students are required to conduct online information search to prepare for the face-to-face tutorial sessions and for preparation of assignments and project. The module has a combination or two group assignments and one group project. The assignments require students to evaluate the impacts of an event and to visit an event to assess the entertainment genre of the event. The main project requires students to present the structure of the event industry, event life cycle and uniqueness of events in an oral and written communication format.</p>
<p>Conventions and Meetings Management</p>	<p>This module emphasises on design and planning of meetings and conventions. Students are introduced to industry developments, key players and their roles, as well as essential components for them to plan and bid for meetings or conventions projects. The teaching and learning approach for the module will incorporate case-based learning, where students will visit a convention to identify issues and propose solutions. Group work will engage students in collaborative learning. Students will also undergo self-directed learning and authentic learning to create a successful proposal and bid by showcasing their entrepreneurial skills. Blended or e-learning lesson delivered through online quiz and games, will offer fundamental and theoretical information on major components in planning conventions or meetings. Online games and quizzes will generate frequent feedback, while face-to-face reviews will be given progressively through presentations and interactive (critique/debate) sessions aligned to learning outcomes. The group assignment will synthesize knowledge and creativity to produce a proposal of</p>

	<p>professional competence. The proposal shall be presented to an audience of peers or industry experts for critique and feedback as formative assessment.</p>
<p>Service Quality Management in Hospitality</p>	<p>The module will emphasize on the different concepts and dimensions of service quality management. The module would comprise of the factors that impact service quality in tourism and hospitality-related businesses, the role of service providers, and the method of measuring service quality. The module accentuates the service delivery system of the hospitality industry, which references a particular focus on service quality and other catering on different concepts and dimensions of service quality management. The module is expected to provide a detail understanding of service quality management in the hospitality and tourism industry, which is essential as this serves as a fundamental for quality service environment in the hospitality and tourism industry. The application of service quality in the operational activity will provide clear evidence of guest satisfaction, thus provide the industry with a competitive advantage. The learning and teaching approach for the module will be in flipped classroom-based alongside problem-based learning based; thus, presenting their ideas and thoughts within the group are incorporated. This module is supported by blended-learning and collaborative learning in order to achieve desired goals. The TIMES online platform will be used for providing tutorial notes and lecture slides. Besides, assignments are developed to provide a combination of field-based learning and project-based learning, supporting student's problem-solving skills and elevate thinking capacity.</p>

## SCHOOL OF LIBERAL ARTS & SOCIAL SCIENCES

### BACHELOR OF PSYCHOLOGY (HONOURS)

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	PSY63104	Introduction to Psychology	4	-
2	PSY63204	Human Personality	4	-
3	PSY63304	Learning and Motivation	4	-
4	PSY63004	Biological Psychology	4	Offered in September semester only
5	PSY64014	Development Psychology	4	PSY63104
6	PSY64204	Abnormal Psychology	4	PSY63204 PSY63104
7	PSY63404	Social Psychology	4	-
8	PSY62904	Cognitive Psychology	4	PSY63704
9	PSY64304	Psychological Tests and Measurements	4	-
10	PSY63504	Qualitative Methods	4	PSY63704
11	PSY64504	Cross-Cultural Psychology	4	-
12	PSY63704	Research in Psychology	4	-
13	PSY64604	Cyberpsychology	4	PSY63104 PSY64304
14	PSY63804	Philosophy and Theories of Psychotherapy	4	Offered in April semester only
15	PSY64004	Quantitative Methods	4	PSY63704
16	PSY63904	History of Psychology	4	-

Module Name	Module Synopsis
Introduction to Psychology	The module is designed to provide the students with an understanding of the basic concepts and general theoretical approaches of Psychology. It provides an informative background to the scientific study of human behaviour and mental processes. The learning and teaching approach for the module is a mixture of authentic and collaborative learning and teaching. These approaches allow the students to reflect the way knowledge will be used in real life, construct knowledge collaboratively, coach each other, and able to self-evaluate and self-reflect. Under the guided learning, teacher is proactive in facilitating learning for student needs, and involves motivating and guiding students to their learning outcomes.
Human Personality	The subject is designed to provide the students with an understanding of human personality. It will provide an informative background to the study of varying personality types in individuals and groups. The topics outlined will incorporate a broad conceptual framework of psychology and illustrative examples will be covered to provide key important analyses. Students will be given formative and summative assessments throughout the semester.

Learning and Motivation	The module is designed to provide students with an understanding of the principles of learning and motivation. Students will be exposed to the scientific study of learning and motivation from the various perspectives of the biopsychosocial model such as behaviorist perspective, cognitive perspective, social cognitivist perspective and biological perspective. This module will undertake the guided learning pedagogy with differentiated instruction strategy. Students also will be facilitated towards self-directed learning with weekly tutorial sessions where students will need to plan, engage in group discussions and present their ideas and thoughts
	after. The module is taught by a combination of face to face and online classes. By the end of the semester, students are expected to exhibit sound understanding of the subject matter and utilise the learned theories and concepts to develop strategies to overcome learning issues. These will be assessed using both formative assessment through project, presentation and reflective writing and summative assessment through the final examination.
Biological Psychology	The module is designed to provide the students with an understanding of Biological Psychology. It provides a broad conceptual framework of the brain structures, functions, and how the brain activities influence human behaviours. The learning and teaching approach for the module is a mixture of authentic and collaborative learning and teaching. These approaches allow the students to reflect the way knowledge will be used in real life. In addition, under the guided learning, teacher is proactive in facilitating learning for student needs, and involves motivating and guiding students to their learning outcomes, allowing students to construct knowledge collaboratively, coach each other, and to self-evaluate and self-reflect.
Developmental Psychology	This module is designed to introduce students the milestones of human development from conception to death. Students will learn theories of human development and be exposed to various research of Developmental Psychology. Students will eventually describe the physical, cognitive, and social growth of people with special attention to various cultural contexts of development and the rich diversity of individuals. The teaching and learning approach will be through the use of lectures, tutorials, case studies and field trips, coupled with directed and independent learning. Students are expected to integrate their personal experiences, knowledge of developmental psychology, and their observations of human development with the content of this module. In addition, discussions of the implications of parenting, education, and social policy-making will be carried out throughout the semester, so that they can apply course information into problems meaningfully.

Abnormal Psychology	<p>The subject is designed to provide students with an understanding of abnormal psychology. It will provide an integrative understanding of the biological and psychological processes of mental disorders. A general overview of the interactions of human beings with their physical and social environments will be covered. The topics outlined will incorporate a broad conceptual framework of abnormal psychology and illustrative examples of psychological disorders.</p> <p>The learning and teaching approach for the module will be guided learning, problem-based, and case-based learning.</p> <p>The module is supported by a combination of face-to-face lectures and tutorials, and online activities. These approaches allow the students to reflect the way knowledge will be used in real life, able to evaluate and reflect, collaborate in decision making and problem solving, and understand how to engage in using strategic and deep approaches to learning as opposed to superficial approaches. It offers opportunities to perform research studies and encourage applications of concepts and theories.</p>
Social Psychology	<p>Social psychology is the scientific study of how people's thoughts, feelings and behaviors are influenced by the actual, imagined, or implied presence of others. This module introduces basic concepts, theories and research in Social Psychology. The learning and teaching approach for this module is a mixture of authentic, collaborative and project-based learning. These approaches would allow the students to reflect the way knowledge is applicable in real life as well as would enable</p>
	<p>them to conduct self-evaluation and self-reflection.</p> <p>. Students will be able to discuss social psychological issues and apply their knowledge through individual and group assignments which focus on meaningful, realistic, intriguing, and relevant topics. In addition, the assignments will provide opportunities for students to perform research and encourage applications of concepts and theories on everyday life issues. Social psychologists are interested in all aspects of personality and social interaction, exploring the influence of interpersonal and group relationships on human behaviors. Hence, this module will enable students to apply the content learnt, in order to improve their rational thinking, problem solving and decision making in everyday life.</p>
Cognitive Psychology	<p>The module is designed to provide the students with an understanding of cognitive development, its mechanisms and processes. It provides an informative background to the study of human mental processes or cognition. The learning and teaching approach for the module is a mixture of authentic, collaborative learning and teaching among learners and facilitator, and project-based learning. These approaches allow the students to reflect the way knowledge will be used in real life, able to self-evaluate and self-reflect, collaborate in decision making and problem solving, and understand how to engage in using strategic and deep approaches to learning as opposed to superficial approaches. They need to be able to apply their knowledge to new situations, together with the project-based learning which focuses on meaningful activity in realistic, intriguing, relevant learning occurs through participation in a challenging and motivating project. It offers opportunities to perform research studies and encourage applications of concepts and theories.</p>
Psychological Tests and Measurements	<p>This subject introduces students to basic measurement issues in assessment of individual differences. Students will learn to critically evaluate the psychometric properties and utilities of tests. Students will also learn about basic psychometric theories and relevant key concepts. The learning and teaching approach for the module will be guided learning, problem-based, and case-based learning. The module is supported by a combination of face-to-face lectures and tutorials, and online activities.</p>

Qualitative Methods	The goal of the module is to introduce the basic concepts and philosophical paradigms of the qualitative research design in Psychology. The module will look into the various approaches in qualitative research, taking into account the validity, rationale and ethical considerations of each. Students will learn on how to conduct and analyse qualitative psychological research.
Cross-Cultural Psychology	This module is designed to equip students with contemporary theory and research on cross-cultural psychology and the methodological challenges faced when bringing a cultural level of analysis to human behaviour. It will provide a general overview of basic and complex psychological processes in the cross-cultural context. The topics outlined will incorporate research findings, theoretical framework and application based on these developments and illustrative examples will be covered to provide key concepts. Guided learning is the main approach of this module.
Cyberpsychology	The subject is designed to provide the students with an understanding of cyberpsychology, which involves examining the human-technology interaction. Students will be exposed to the theories and concepts used in cyberpsychology to understand human-technology interaction. The topics outlined will incorporate research findings and its applications, and theoretical frameworks of cyberpsychology. Guided learning and self-directed learning will be the main approach of this module, where the teacher is proactive in facilitating learning for student needs. It involves
	<p>motivating and guiding students to their learning outcomes. Guided learning provides opportunity for differentiated instruction.</p> <p>Learning occurs in online sessions throughout the semester with certain face-to-face opportunities constantly available on/off campus (or outside the classroom).</p> <p>As part of the module's assessments, students are required to exercise their understanding on cyberpsychology by selecting and analysing the interaction of technology usage and psychological functioning or concepts. Students will be given formative and summative assessments throughout the semester.</p>
Philosophy and Theories of Psychotherapy	This module will provide the students the opportunity to explore the theories and techniques of the major approaches to psychotherapy. It will provide a critical examination of these theories from a variety of perspectives. After successful completion of this course, students should have a basic knowledge of the theories and techniques of major psychotherapy approaches, an awareness of ethical issues associated with the field, an understanding of the different critiques that have been directed at mainstream therapeutic approaches, and a growing awareness of one's self and one's own therapeutic philosophy.

Quantitative Methods 1	The goal of this module is to introduce basic concepts and scientific methodologies in psychology. The module will look into the various designs of scientific research conducted in psychology whilst taking into account the validity, rationale and ethical considerations of each. Students will learn on how to conduct and evaluate psychological research. Emphasis will be placed on understanding traditional research methods, applying sound experimental techniques in order to produce interpretable and reproducible results, and evaluating published scientific claims. The pedagogy undertaken for this module is guided learning and self-directed learning to strengthen student's foundation in research. The learning and teaching approach for the module will be lecture-based, with weekly tutorial sessions where students will engage in group discussions and present their ideas and thoughts. The module is taught by a combination of face to face and online classes. By the end of the semester, students are expected to know how to evaluate a research paper and develop a sound research proposal.
Quantitative Methods 2	This course introduces concepts and procedures related to the measurement and analysis of psychological variables. The main goal of this course is for students to understand the data of psychology and the appropriate selection and use of statistical tools to describe and evaluate results of psychological research. This course will also prepare you to understand research results presented in Psychology courses and to participate in research projects. The pedagogy undertaken for this module is guided learning and self-directed learning to strengthen student's foundation in research. The Learning and teaching approach for the module will be lecture-based, with weekly tutorial and consultation sessions where students will experience using data analysis software to analyse raw data and interpret it. The module is taught by a combination of face to face and online classes. By the end of the semester, students are expected to be able to identify accurately which type of analysis to use for a given research question. Students will also engage in data collection and analysis. These assessments will enable students to develop analytical and organizational skills along with the ability to present information coherently and accurately.
Research in Psychology	The subject is designed to provide the students with an understanding of basic research in Psychology. It will focus on expounding the difference between quantitative research, qualitative research and mix method research in Psychology. Along with that, students will also be guided to search for literature effectively, read it critically and acknowledge it accurately. Students will also be taught on how to manage these research information effectively and how to conduct and write research paper. Guided learning is the main approach of this module. This module is assessed both with formative assessment and summative assessment. Formative assessments include two written assignment and a presentation. Summative assessment in this module will be the final examination.

## BACHELOR OF SOCIAL SCIENCE (HONOURS) IN INTERNATIONAL RELATIONS

### COMMON CORE

No	Module Code	Module Name	Credit Hours	Pre-Requisite
1	SOC64004	Introduction to International Relations	4	-
2	SOC65304	Foreign policies and Diplomacy in Asia Pacific	4	-

3	SOC65404	International Conflict Negotiation, Mediation and Resolution	4	-
4	SOC64704	Politics and Public Issues in Malaysia	4	-
5	SOC64604	Social Studies and Transformative Research	4	-

Module Name	Module Synopsis
Introduction to International Relations	This is an introductory course to international relations (IR). The course introduce the concepts and the practice of IR. It discusses the international system, and explores the current relationship between states and international organizations. Topics will also introduce the key concepts and contemporary issues in International Relations, including International Law, International Organization and Diplomacy, foreign policy, causes of war and peace, international political economy and foreign financial assistance. As the module taught in the first semester, the teaching and learning approach of the module adopt the combination of guided learning by lecturers and independent learning that includes case-study in textbooks, articles and videos, as well as group discussions and debates.
Foreign policies and Diplomacy in Asia Pacific	This course discusses theories of foreign policy and how diplomacy could help a state in setting and achieving national interests. The learning and teaching approach for this module will be based on case-based learning, where students will work on case studies in groups and present their findings with other class members. This module has weekly face to face lecture session and supported by online activities such as forum and discussion. tudents will learn how to make critical assessment on foreign policy and diplomatic tools based on the literature and case studies. These would help the students to understand the process of foreign policy making and statecraft that expresses foreign policy characteristics.
International Conflict Negotiation, Mediation and Resolution	This course will introduce students into international conflicts and the process of negotiation and mediation in order to achieve resolution. Firstly, the study will discuss the types of international conflicts. Then, it will discuss different types of negotiations and meditations as well as the different variables that impact the process. Moreover, the course will bring up the prescriptive model of negotiation to teach students key skills that are involved in the preparation
	and execution of an actual negotiation. Such skills will be further strengthened by several practical exercises to be developed along the course, and a larger simulation of two weeks that will expose students to the common challenges faced during a negotiation or a mediation process.
Politics and Public Issues in Malaysia	This course serves as an introduction to political science, Malaysian government and issues revolving Malaysian politics and government. The course surveys the theoretical and the practical dimensions of politics in Malaysian government. It discusses issues in Malaysian politics and government and how public is We will emphasize not only how these issues affect the public but also how the public affect them. The issues range from government spending, civil rights, poverty, education, urban problems, crime, violence and repression, defence policy, environment, foreign policy.
Social Studies and Transformative Research	This module prepares students to do social studies and transformative research that is important in the social industry and international studies to promote social justice. The module consists of five parts. Firstly, it discusses the social research worldviews (postpositivist, constructivist, pragmatic and transformative) and research designs (quantitative, qualitative and mixed methods). Secondly, it trains students to develop social research proposals. Thirdly, it introduces quantitative and qualitative research procedures, methods, tools and analysis. Fourthly, it introduces the paradigm, concepts and conducts of transformative research methods. Finally, it trains students to write research reports while keeping ethical research considerations.

<p>International Marketing</p>	<p>This module deals with International Marketing, incorporating both theory and practice. It provides the tools necessary for the successful implementation of cross-border marketing, such as cultural sensitivity, the PESTLED analysis, and modes of entry into foreign markets. Students will be exposed to cases that are based on real world situations. A structured thinking approach is adopted so that the students will have a systematic and comprehensive world view to international marketing. Students will gain the knowledge of how the entire value chain is critical to cross-border marketing. The learning and teaching approach for the module will be interactive and student-centred, namely, case based and problem based. In the case-based method students will discuss specific typical real world situations. It is designed to be learner-centred and stimulate interaction among the students. Whereas, the problem based approach focusses on solving specific problems and not mastery of content, where students are encouraged to dissect problems and offer pragmatic solutions. The goal of these 2 methods is to encourage collaborative learning skills, reasoning skills, and self-directed learning. Students will be encouraged to improve through formative assessments via feedback on work done. The module is conducted through face to face lectures, tutorials and on-line audits where students will have access to up to date databases. Students will also have access to myTIMeS which is Taylor platform for online student-lecturer interaction. Apart from the final exam and a personal assignment, the major thrust will be a group assignment for designing an international marketing plan. Assessments are created to achieve the objectives of Taylor Graduate Capabilities.</p>
<p>International Trade and Multinational Business</p>	<p>In an ever progressing and changing business environment; trade and investment play a crucial and significant role in the world economy. This module concentrates on the introduction of the key theories explaining international trade, finance and investment. Framework of this module will give importance to expose learners with to the fundamental concepts of international trade, finance and investment and tools that are essential for them to understand and analyse the operation of international currency markets and the different types of exchange rate regimes. The module gives students the conceptual basis and the necessary tools for understanding international trade environment and the role of business in the economy. In addition to that, the importance and elements of the United Nations Sustainable Development Goals (UN SDG) and Industrial Revolution 4.0 (4IR) are also covered and discussed in this module. This is to provide exposure to students with the latest updates on the development of both elements in global, regional, and national initiatives and policies. The learning and teaching approach for the module is guided and self-directed learning. For guided learning students will be guided to formulate questions, source for information, analyse the results, share their conclusions, and evaluate the worth and importance of those conclusions. Guided learning encourages students to discuss the issues, collaborate and share their ideas. Guided learning complements self-directed learning. Students will be given a tasks/an assignment to promote self-evaluation and self-reflection by assessing their readiness, setting their learning goals, engaging in learning processes, as well as, acting on feedback and seeking advice. All teaching and learning approaches are learner-centred and involves intense interaction between the participants, as well as, focusing on building of basic knowledge and critical thinking skills. Mode of delivery for this module are face-to-face lectures, tutorials and information retrieval/self-study. In particular, the lectures and tutorials include the use of blended learning approach, which includes the use of TIMES, online engagement activities and learning activities. Face-to-face delivery is also significant in supporting these various learning approaches. There are two assessment methods based on</p>

	<p>formative and summative for this module, which include a combination of both final examination and coursework, respectively. The coursework assessment is further separated into an individual test, group presentation and written assignment.</p>
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