



# PAÑÑĀSĀSTRA UNIVERSITY OF CAMBODIA

*Sila Samādhī Paññā*

*Faculty of Business and Economics*

*Commitment to Excellence*

## ACADEMIC PROGRAM

Type:	Higher Education
Faculty:	Business and Economics
Department:	Business and Management
Degree:	Bachelor of Arts
Major:	Business Information Systems
Duration:	4 years

## PROGRAM DESCRIPTION

Bachelor of Arts in Business Information Systems is offering students with the knowledge of analytical and problem solving by using information communication technology (ICT) such as database management, programming, networking, IoT as productive tools to create innovative solutions for business entity to effectively, efficiently, and securely operating and managing the day-to-day business practices. Information Communication Technology is one of crucial tool to help businesses growth and stay competitive. As you are already aware, not only large corporation, small and medium enterprises now start to computerize their operations in order to stay strong in the competitive environment. They start to use accounting system, inventory system, point of sale, website, online application, mobile application, and/or network system, etc. for their business. With the advancement of technology, machine learning, IoT, and data analytic can make the automation smarter and more efficient. These can be implied that more IT services are in need. Who can create IT solutions for businesses? Only those who have IT skills with knowledge of the business concept or you need to hire another person who knows such a computerized business concept.

## Major: Business Information Systems

Year One: Foundation Year Courses			
Course Code	Course Title	Credits	Priority
POL 101	Introduction to Political Science	3	Required
ANTH 102	Cultural Anthropology	3	Required
NATS 102	Environmental Science	3	Required
COMP 110	Introduction to Computers	4	Required
ENGL 110	English I: Reading and Composition <sup>(1)</sup>	3	Required
KHMR 110	Khmer Studies	3	Required
SOC 110	Gender Studies	3	Required
ENGL 120	English II: Reading and Composition	3	Required
Oriented Courses Required by the Faculty			
ACCT 110	Financial Accounting I <sup>(2)</sup>	3	Required
MGT 110	Management Principles	3	Required
	<b>Subtotal</b>	<b>31</b>	

**Note:** -<sup>(1)</sup> ENGL 110 is pre-requisite for ENGL 120

-<sup>(2)</sup> ACCT 110 is pre-requisite for ACCT 212

Year Two: Functional Skills Courses			
Course Code	Course Title	Credits	Priority
BIS 201	Computer Programming I <sup>(3)</sup>	3	Required
HFT 201	Health Education and Fitness	3	Required
BUS 201	Math for Business	3	Required
ECON 210	Introduction to Economics: Basic Concept	3	Required
BIS 210	Multimedia and Web Design <sup>(4)</sup>	3	Required
PHIL 210	Logic and Critical Thinking	3	Required
BIS 212	Introduction to Database <sup>(5)</sup>	3	Required
ACCT 212	Financial Accounting II	3	Required
PSYC 212	Personal Growth and Development	3	Required
Institutional Skills Courses			
POL 202	ASEAN Governments, Politics and Economics	3	Required

HIST 230	History of Cambodia	3	Required
	<b>Subtotal</b>	<b>33</b>	

*Note:*     <sup>(3)</sup> BIS 201 is pre-requisite for BIS 310 & BIS 325

<sup>(4)</sup> BIS 210 is pre-requisite for BIS 310 & BIS 402

<sup>(5)</sup> BIS 212 is pre-requisite for BIS 310 & BIS 325

<b>Year Three: Basic Major Courses</b>			
<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>	<b>Priority</b>
STAT 201	Introduction to Statistics & Its Application	3	Required
ARIL 210	Academic Research: Information Literacy	3	Required
PHIL 212	Introduction to Ethics and Good Governance	3	Required
BIS 301	Data Communication and Networking <sup>(6)</sup>	3	Required
BIS 310	Computer Programming II <sup>(7)</sup>	3	Required
ENBC 311	Technical Writing for Business	3	Required
BIS 315	Introduction to IoT <sup>(8)</sup>	3	Required
BIS 320	Introduction to Cloud Computing <sup>(9)</sup>	3	Required
BIS 325	Database Management System <sup>(10)</sup>	3	Required
BIS 330	Network Operating System <sup>(11)</sup>	3	Required
FIN 375	Fiscal Legislation & Taxation (Cambodia taxes accounting)	3	Required
	<b>Subtotal</b>	<b>33</b>	

*Note:*     <sup>(6)</sup> BIS 301 is pre-requisite for BIS 315, BIS 320 & BIS 330

<sup>(7)</sup> BIS 310 is pre-requisite for BIS 403, BIS 404 & BIS 405

<sup>(8)</sup> BIS 315 is pre-requisite for BIS 401

<sup>(9)</sup> BIS 320 is pre-requisite for BIS 401

<sup>(10)</sup> BIS 325 is pre-requisite for BIS 403, BIS 404 & BIS 405.

<sup>(11)</sup> BIS 330 is pre-requisite for BIS 401

<b>Year Four: Major Courses</b>			
<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>	<b>Priority</b>
MKT320	Marketing Principles	3	Required
BIS 401	Network System Administration <sup>(12)</sup>	3	Required
BIS 402	Website Development and Application <sup>(13)</sup>	3	Required
BIS 403	Object Oriented Programming <sup>(14)</sup>	3	Required
BIS 404	Mobile Application <sup>(15)</sup>	3	Required
BIS 405	E-Commerce Design	3	Required
BIS 406	Computer Network Security	3	Required

BIS 407	Advanced Mobile Application	3	Required
BIS 408	Management Information System	3	Required
BIS 409	Systems Analysis & Design	3	Required
	<i>Subtotal</i>	30	
<b>Graduation Path</b>			
BIS 489	Senior Project <sup>(16)</sup> or Exit Exam	3	Required
	<i>Subtotal</i>	3	
	<b>Total Credits</b>	<b>130</b>	

*Note:*

- (<sup>12</sup>) BIS 401 is pre-requisite for BIS 406
- (<sup>13</sup>) BIS 402 is pre-requisite for BIS 405
- (<sup>14</sup>) BIS 403 is pre-requisite for BIS 405 & BIS 407
- (<sup>15</sup>) BIS 404 is pre-requisite for BIS 407
- (<sup>16</sup>) BIS 489 cannot be taken unless all the required courses are already taken.

#### Elective Course

<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>	<b>Priority</b>
MATH 201	College Algebra	3	Elective
POL 203	US Government and Politics	3	Elective
POL 231	Chinese and Japanese Contemporary Studies	3	Elective
POL 232	European Contemporary Studies	3	Elective
POL 233	American Contemporary Studies	3	Elective
ACCT 235	Accounting Information Systems	3	Elective
ECON 311	Microeconomic Principles	3	Elective
ECON 312	Macroeconomic Principles	3	Elective
BUS 425	Fundamentals of Business & Entrepreneurship	3	Elective
MGT 466	Management and Leadership Development Skills	3	Elective
ENTR476	Entrepreneurial Real Estate and Property Management	3	Elective
MATH 201	College Algebra	3	Elective

## **Course Description**

### **POL 101 Introduction to Political Science**

The course introduces the student to basic concepts of political science. The course also examines institutions and political processes in various systems throughout the world. Information and analysis provided in the course are necessary foundations for further study in this field.

### **ANTH 102 Cultural Anthropology**

This course is designed as part of the general studies that any undergraduate student has to fulfill before going on for a specific major course. This course is designed to investigate the impact of culture on our everyday living and decision-making, both locally and globally. This course deals with basic concepts of the study of humans, past and present, with emphasis on their differing cultures. The course entails the students not only to learn conceptual information but also to apply it in problem solving, case studies and class debates.

### **NATS 102 Environmental Science**

This is a non-lab science course that is part of the general studies. Any undergraduate student has to complete it in order to go to their specific majors. This course examines the complex interaction between human being and their environment. Some fundamental concepts of environmental science are presented to students in order to make them environmentally aware about vital issues like conservation of natural resources, sustainable use of resources, environmental degradation, and rapid growth of human population coupled with technology causing major environmental problems. Emphasis is given to promote sustainable concepts and to enable students to make informed choices regarding their environment. This course is designed to make students understand theories and integrate them into practical applications through real world situation observations, consequentially allowing them to establish cause and effect relationship through impact assessment projects.

### **COMP 110 Introduction to Computers**

This course is one of the general courses in the foundation year program required by PUC to familiarize student with the use of computer as an efficient tool in Information Technology for their study and work. It is designed to provide non-IT of how computer system has been developed the fundamental concepts and terminologies of computer systems, knowledge of basic computer hardware and software, and IT students of how to assemble computer, install software and perform computer troubleshooting. Besides this, students will learn selective Microsoft Office for practical purpose.

### **ENGL 110 English I: Reading and Composition**

This course is designed to enable students of the foundation year to improve their reading and writing skills at an intermediate level. The students will read a wide range of interesting texts related to real situations. All the texts will enhance students' reading competence through guided and independent reading activities for both academic work and pleasure. In addition to the reading skills, the students will develop their writing skills ranging from writing meaningful paragraphs to composing meaningful short essays which include descriptive essays, narrative essays, cause-effect essays, problem-solution essays, and opinion essays. To make this course more fun and productive, a variety of approaches and interactive practice activities will be employed. Those include student-centered, communicative, cooperative learning, task based and project-based approaches, and communicative and interactive practice activities. The students are also required to do assignments and projects individually, in pairs, and/or in groups.

**KHMR 110    Khmer Studies**

Khmer Studies enables students to learn about the origins of culture and civilization of each race, which had settled on our land, and to acquire Austro-Asian culture that is the primitive Khmer culture before the arrival of foreign cultures. Likewise, we can learn about the evaluation of Khmer culture from one era to another such as Pre-history, Norkor Phnom (Funan) era, Chenla era, Angkor era, Post-Angkor as well as present society. Moreover, Khmer Studies also focuses on the early beliefs, superstitions, and religions in which Khmer believed and practiced in various historical ages. Also, Khmer Studies is about arts, languages, literature, customs, traditions and creativities of the Khmer people. In addition, Khmer Studies enables students to be well aware of the Khmer cultural values and civilization. Consequently, students will love, nurture and defend their country, races, culture and civilization and national identities in order to benefit Cambodian people as a whole.

**SOC 110        Gender Studies**

This course introduces Gender Studies as general studies for all undergraduate students at PUC. Given the comprehensiveness and diversity of the overall subject area, this course will introduce and critical engagement with several specific areas of inquiry that make up Gender Studies. The course first examines several fundamental gender concepts necessary for the students to acquire the basic gender perspectives. Then it focuses on the issues of gender-based violence, such as domestic violence and rape, so as to understand how gender interlinks with violence against women. Students will learn by examining substantial incidents on gender by reading relevant materials as well as having several discussions with the guest speakers working to promote gender equity. Through the classes and group discussions, students will be encouraged to engage the issues presented in the class, and to compare assigned readings interdisciplinary. The students are also encouraged to think critically about their implications, apply and synthesize what they are learning, and make connections to their own personal and professional lives.

**ACCT 110       Financial Accounting I**

This course will provide students a clear understanding of basic accounting concepts with emphasis on controlling the accuracy of recording business transactions and the preparation of financial report at the end of the accounting cycle, so students pursuing various disciplines have acquired the ability to utilize and interpret the accounting information as a valuable tool for other achievement. The most important requirement for this course is a thorough preparation and analysis of the assigned problems and/or cases and active participation in the classroom. The expectation is that students will come to class having already thought through and analyzed the assigned problems and/or cases. This way, we can devote the bulk of the class time to thinking about and responding to each other's analyses and only the necessary minimum to getting the facts out. Students are strongly encouraged to actively participate in class.

**MGT 110        Management Principles**

Along the course, student would understand better the importance of management and learn how organization and individual differentiate themselves when both the resources to acquire, skill to use and the tool. In order words, students will students would learn how individuals in organizations treat one another, how people are managed and the ability to direct the human energies to achieve organizational goals.

**ENGL 120       English II: Reading and Composition**

Continuing from ENGL 110, this course aims to further enhance students' reading and writing skills at an intermediate level. The students will read various interesting texts on different topics and themes related to real situations. All the texts will

enhance students' reading competence through guided and independent reading activities for both academic work and pleasure. In addition to the reading skills, the students will develop skills in writing longer essays which include descriptive essays, narrative essays, cause-effect essays, problem-solution essays, compare and contrast essays, opinion essays, persuasive essays, and summaries of reading texts. To make this course more fun and productive, a variety of approaches and interactive practice activities will be employed in class. Those include student-centered, communicative, cooperative learning, task-based and project-based approaches, and lots of communicative and interactive practice activities. The students are also required to do assignments and projects individually, in pairs, and/or in groups.

**BIS 201**

**Computer Programming I**

This course is designed for those who have little or no programming background to learn the fundamental concepts and terminology of software application development and develop skills in designing, writing small applications by using Net technology. This course will teach how to create a simple application based on a small business application concept, and get an explanation of common solutions to different problems you might encounter as you begin writing and compiling code. In addition, the course also includes such topics as naming conventions, data type conversions, the if Decision statement, the conditional operator, several different types of iteration statements, declare and utilize arrays and debugging in action. Moreover, it provides student an understanding of small business application concept such as Stock System, Loan Schedule Calculation, etc... with GUI on Windows Application Platform.

**HFT 201**

**Health Education and Fitness**

Health Education course will introduce students to basic knowledge on health education, health behavior, reproductive health, tropical diseases, sexual transmitted diseases, chronic disease, alcohol, tobacco, and domestic violence will be imparted. With this knowledge, students will have opportunity to explore the concept of health education / health promotion and health determinant factors affecting to public health.

**BUS201**

**Math for Business**

This course is covered the mathematical processes and techniques currently used in the fields of business and finance. It provides common business practices such as mark-up, markdown, and cash discounts showing students how these tools work in small business or personal finance. The course includes a review of basic business and financial math skills with particular emphasis on percentages, interest, discounts, arithmetic of payroll, bank statements, reconciliation, trade and cash discounts, establishing retail prices, consumer credit, simple interest, compound interest, annuities, business and consumer loans.

**STAT 201**

**Introduction to Statistics & Its Application**

This course is designed for students who have never taken statistics before. We begin with the elementary concept of statistics, continue to descriptive statistics and end with inferential statistics. Students will learn how to present qualitative and quantitative data, both by using graphs and summary values. They also learn basic probability theory in order to understand the concept of inferential statistics. The two kinds of inferences, confidence intervals and test hypotheses are included at the end of the course.

**POL 202**

**ASEAN Governments, Politics and Economics**

The course is designed to provide students with the fundamental understanding of the functional and institutional of ASEAN. Snapshots of facts and figure of ASEAN

(country profile/ country bio-data) will be provided to students for familiarizing themselves with local government structure, economic trends, relevant policy and challenges. Country bio-data identifies the characteristics and personality of each national government and their respective interest in the Association. The complexity of regional politics and economics integration will be addressed to assess the institutional function of the Association. In this course covers such topics as (1) the structure of ASEAN national governments; (2) ASEAN Economic Trends-Agreements/Mechanisms (AIA, AFTA, Market and Monetary Procedure/Harmonization); (3) perspectives of ASEAN Countries: in term of economics, politics and security; (4) ASEAN Charter; (5) ASEAN Political Security Community; (6) ASEAN Economic Community; (7) ASEAN Social and Cultural Community; (8) Cambodia and ASEAN.

**ECON 210     Introduction to Economics: Basic Concepts**

Economics is one of the most challenges in social science studies. The context of this subject itself lies within the rational boundary of how people would interact differently to the particular economics circumstances to attain appropriate decision makings. At the micro level, this subject will provide a clear insight of how household would make his or her decision among other alternatives to reach a better off situation while confronting with limited resources. At the macro level, this subject will provide a clear focus of how a whole economics entity's roles would play to maintain balance of payment. The international trade, inflation, the costs of inflation, and unemployment are also covered in this course.

**BIS 210        Multimedia and Web Design**

Multimedia and Web Design course introduces students to basic web design using HTML (Hypertext Markup Language) and CSS (Cascading Style Sheets). The course does not require any prior knowledge of HTML or web design. Throughout the course, students are introduced to planning and designing effective web pages, implementing web pages by writing HTML and CSS code, (Cascading Style Sheets), Bootstrap and JavaScript, jQuery and/or Ajax. Throughout the course, students are introduced to planning and designing effective web pages; implementing web pages by writing enhancing web pages with the use of difference design techniques (page layout techniques, text formatting, graphics, images and multimedia) and producing a functional multi-page website.

**PHIL 210       Logic and Critical Thinking**

Students will be introduced to the basic methods and principles of logic. Students will study and apply various methods to test arguments, and apply the principles of logic, through various exercises, puzzles, and problem solving, to develop critical thinking skills. Students will study assorted forms of false reasoning and examine possible applications of this study in academic and non-academic life.

**ARIL 210       Academic Research: Information Literacy**

The goal of the course is to instill students with information literacy (IL) skills. By the end of the course, it is expected that students will be able “to locate, evaluate and use” information of any type, in any media effectively. Moreover, IL will enable students to communicate their work in a scholarly manner within academic ethic principles. They will understand what plagiarism is and will cite their sources properly when they use someone else's ideas or work. The information literacy skills are fundamental skills for learning. They not only provide students with the tools to engage in academic performance proactively and productively, but also inspire students to continue learning throughout their lives. In order to enable students to really earn the IL skills, instructors will walk students through all the necessary steps of research and writing.



- BIS 212      Introduction to Database**  
Introduction to Database is designed to provide students with fundamental principles and concepts of database systems that store and structure an organization's data, and drive its business functions. Students will learn to analyze data and perform data modeling and normalization to design an effective database, using relevant theories and concepts of relational database systems.
- ACCT 212      Financial Accounting II**  
The Course is designed in unit I to provide students a complete knowledge in recording the assets, liabilities and other transactions which cause the change in financial positions and the net income of a business organization. The students will be able to understand the accounting principles and concepts which are appropriated to the business environment such as inflation and to value the internal control in each accounting steps will be stressed. Through practices and reviews, students will be able to prepare bank reconciliation, the recording of the non-cash expenses as well as the recording of the different type of business formation in accordance with the rule and regulations of the taxation office.  
In unit II, all the accounting issues which primarily affect corporations as well as the way that individual and corporations use accounting information to measure taxable income and to determine the amount of income tax owed will be known. The statement of the cash flows, which is one of the four major financial statements, and the techniques by which investors analyze financial statements, will be shown.
- PSYC 212      Personal Growth and Development**  
This course is designed to teach discipline, good behaviors, positive attitude, self-respect and self-confidence at the university as well as in the society. It will also teach study skills and time management for success in college as well as in life. Buddhist as well as western philosophies and thoughts are essential parts of this course. Students can learn how to value life and develop virtues, molding themselves after great heroes. The way to obtain the "positive mental attitudes" is taught through this course.
- PHIL 212      Introduction to Ethics and Good Governance**  
This course examines the basic concepts and principles of ethical thought, including issues of morality and self-interest, right and wrong, actions, character, consequences, motive, and their relationship to issues of law, religion, and society. Students will analyze writings by well-known philosophers regarding ethics and the good society.
- HIST 230      History of Cambodia**  
This is a social science course that students have to fulfill before going on to their specific major course. It will be a discussion of the civil war and its consequences especially the post dark period of year 1975-79 in Cambodia. There will also be a discussion of renovation and reform after the year 1993. The changes in Khmer culture, society and economics will be discussed based on general opinions and public media. Political structure, foreign policy, gender issues, human rights, rural development, and education are also included. In addition, this course is included the community learning program that provide a chance to students to work on community-based learning. This project is for students to understand and learn about the community, its historical concept and its needs.

- BIS 301      Data Communication and Networking**  
This course is designed to offer a fundamental concept of Data Communication, how networks are connected between LAN, WLAN, & WAN, and basic routing and switching configuration. It covers the theory, hardware and software, and protocols used in computer networks. The focus will be on basic data communication principles, local area networks, wide area networks, IP addressing, network services, wireless network, network layer, network devices configuration, troubleshooting, and responsibility of IT technician in workplace.
- BIS 310      Computer Programming II**  
This course equips students with resources for design, production, and evaluation of web applications and strategies for locating these resources. Students gain hands-on experience in web application production, including: client-side markup and programming, server-side programming for data processing, code versioning, accessing web services, and related authentication techniques. It is designed to take you through the web framework's Model-View-Controller (MVC) design mode that can help to produce the best outcome with this new framework for building a Web Applications which is based on business application model such as Accounting Application, Stock Management Application, etc. To strengthen student's ability in coding, it also provides an understanding of the core constructs of the computer programming language including Database System (Client/Server) for medium business with MSSQL Server, Data Structure that related business model. It also covers how to create report and secure system with multiple capability.
- ENBC 311      Technical Writing for Business**  
This course is designed for students who wish to improve their accuracy, appropriacy, and fluency in letter, essay, and thesis writing. Students in this course will be briefly revised the basic grammatical rules before they actually come to the writing focus. Another basic focus of this course is to provide students opportunities for practices in writing. For individual advancement, students are regularly and additionally given homework and assignment to do and research at home and at their convenient time.
- BIS 315      Introduction to IoT**  
This course will describe the Internet of Things (IoT) concept, solutions, the technology used to build these solutions, market around the IoT, and basic concept of circuitry. By applying software solutions to the IoT devices, it will help student to expand her/his creativities into different industries and create innovative solutions for those industries. This course will divide into three modules: 1. Basic understanding of circuitry, 2. Exploration of the hardware environment such as Arduino/Raspberry, sensors, motors, and relays, and 3. Programing language such as Python and C.
- BIS 320      Introduction to Cloud Computing**  
This course will provide student a series of current cloud computing technologies, including technologies for Software as a Service, Platform as a Service, Infrastructure as a Service, Virtualization, and cloud-based business model. For different types of the cloud technologies, practical solutions such as Google, Amazon, Microsoft, Salesforce.com, etc. solutions as well as theoretical solutions are introduced. A numbers of case studies will be provided and most of the course will be covered by the student presentations.
- MKT 320      Marketing Principles**  
The strength and well-being of an organization is intimately tied to its ability to recruit, satisfy, and even delight customers. While customer-focus and market

orientation are important and increasingly practiced throughout organizations, the marketing function is most especially responsible for ensuring customer satisfaction. The purpose of this course is to introduce students to marketing concepts, ideas and applications which are useful to organizations.

**BIS 325      Database Management System**

This course enables students to install and use Microsoft's SQL Server/Oracle, backup, recover data, monitor, tune up administer security database and apply DBMS concept to create business application.

**BIS 330      Network Operating System**

This course introduces foundation knowledge of network systems and Windows server environment. It describes major server roles, features, and storage as network services and how to configure and install those services. Some of the major server roles, software deployment, virtualization, and securing windows server are the main concentration in this course. Students are required to present selected server roles with demonstration as their final project. This course requires Computer Lab, Server & Network Hardware, Microsoft Windows Server 2012 or later and Windows 7 or later.

**FIN 375      Fiscal Legislation & Taxation (Cambodia taxes accounting)**

The course will consist of the materials pertaining to the concept of taxation, the classification of various taxes, and the concept of equity in taxation. This will lead to the tax structure. The U.S. tax structure and the Cambodian tax structure will be explained, including the notion of Income, and Income Tax, which does not exist in Cambodia. The determination of income using Singapore definition and U.S. definition will be explored. Further reading on Singapore individual income and corporate income will enhance further understanding of income for tax purposes. The purposes of fiscal legislation will be examined in general terms under general aspect of the matter. The second part of the course will cover Cambodian taxation, which consisted of salary tax, tax on profit and VAT tax.

**BIS 401      Network System Administration**

This course provides the knowledge and practical skills necessary to design, build, monitor, maintain and administrator Windows server infrastructure. It focuses on configuring, troubleshooting and managing name resolution, user & group management, Active Directory Domain Service (AD DS), Group Policy, Servers Replication, and Backup.

**BIS 402      Website Development and Application**

In this course, the student will learn the basic principles of web design and web development using the most popular open source framework—Angular from Google. The student also learns how to mockup, design layout and construct web site layout using Bootstrap framework for making sure the website looks beauty and responsive to any device screen.

**BIS 403      Object Oriented Programming**

This course is designed as an entry level programming course for students who have prior programming experience. This course introduces the concepts of object-oriented programming to students with a background in the procedural paradigm and how are these supported in C#. It then moves on to introduce the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design; encapsulation and information-hiding; separation of behavior and implementation; classes, subclasses, and inheritance;

polymorphism; class hierarchies. This part will also examine how to process runtime exceptions, and dive into the details of working with strongly typed interfaces.

**BIS 404**

**Mobile Application**

This course will teach students how to build a hybrid mobile app using Ionic Framework, it enables student to use one codebase (written in HTML, JS and CSS) to build and ship apps as normal (progressive) web apps as well as real native mobile apps for iOS and Android. Student can also learn basic coding using Google angular that allows student to develop mobile app powered by TypeScript including learn how to mockup mobile app layout with exciting design software and explore Ionic framework components.

**BIS 405**

**E-Commerce Design**

This course introduces the business concept of a B2B E-Commerce Web Application. It describes several steps of business logics and planning that are required for an E-Commerce. The technology that will be used for designing this Web Site is Single Page Application with AngularJS. This application will be using Web API as its back bone for Data Management. At the end of the term, students should have a working E-Commerce project ready for hosting.

**BIS 406**

**Computer Network Security**

This course aims to build an understanding of Security Layers, Operating System Security, Network Security, Cyber Security, and other Security Software. This course will also provide students with the knowledge and skills to envision, design, and deploy web access, remote access and Email protection solutions using Microsoft or Open Source software as a tool, enabling them to identify the requirements and make the appropriate design decisions that will come up during the deployment process, and providing hands-on experience.

**BIS 407**

**Advanced Mobile Application**

This advanced mobile application course will teach students on how to develop hybrid mobile app by using web technology, including HTML, CSS and JavaScript. Students also learn how to implement and develop backend web service for storing, retrieving and managing data, instead of storing data inside a phone local storage. This course also includes learning how to development API using Postman that allows mobile app to communicate with web service. Moreover, students also learn how to configure Google mobile notification service for real time message sync.

**BIS 408**

**Management Information System**

This course provides an emphasis on management and technical concepts fundamental to business applications and management control of information systems. The coverage includes management information, hardware, software, and decision support systems which aid in planning, organizing and controlling business activities. In order to have a good outcome of the course, student needs to complete these pre-requisite courses: 1. Introduction to Database, 2. Financial Accounting II, 3. Management Principles.

**BIS 409**

**Systems Analysis & Design**

This course covers the system development life-cycle (SDLC) phases, with respect to the Waterfall Approach; it also describes the Prototype Approach for developing software systems. Object-Oriented (OO) analysis and design concepts are also introduced. However, focus is on the following topics: project-planning activities include elements, resources, risk, project documentation, and a number of tools e.g. Gantt Charts and PERT. Succeeding as a System Analyst includes interpersonal skills, management skills, analytical skills and technical skills. System Analysis

Techniques covers requirement analysis; system investigation, process analysis, data analysis; documentation: graphical tools, e.g. DFDs, E-R models, decision tables and trees, non-graphical tools, e.g. structured English, data dictionaries; the concept of logical modeling and the transition to design. Business/system specifications are also included.

**BIS 489**

**Senior Project or Exit Exam**

Students will be responsible for planning an integrated business project and writing a report. This includes doing customer and industry data collecting and analysis and creating business application.