FPT UNIVERSITY

SOFTWARE ENGINEERING PROGRAM

Program Educational Objectives

The objectives of the Software Engineering undergraduate program at FPT University are to educate students to become resourceful practioners of engineering who:

1. Are capable of working professionally in doing research, designing and developing software programs.
2. Function well in a diverse environment
3. Embrace lifelong learning
4. Be aware of environment and social responsibility.

Student Outcomes

(Adoption ABET student outcomes for engineering programs).

Program Description

(Based on the suggestion of ACM - Association for Computing Machinery)

A. Required courses (all students)	**: 92 (credits)**
Foreign Language (English/Vietnamese)	: 9
Soft Skills	: 6
Physical Education	: 6
Mathematics and Sciences	: 15
Technologies	: 16
Computer Science	: 15
Software Engineering	: 25
B. Specialize Electives	**: 18**
C. Free Electives	**: 6**
D. OJT (On-The-Job Training)	**: 10**

Course Description

No.	Course code	Course name	Credit	Description	
A	**Required Courses (For All Student)**				
I	**Foreign Language (English or Vietnamese)**				
		English	**9**	**English: Intelligent Business English, Pre-intermediate to Up-per intermediate**	
				Or TOEFL 500 (PBT)	
		Vietnamese	**9**	**Vietnamese Fundamentals**	
II	**Soft Skills**		**6**		
1	SSG102	Working in Groups	3	Content	This course will cover both classic and current theories of group communication that focus on "how groups work" and include practical information on group communication strategies and skills that emphasize "how to work in groups". Topics included: group development, group membership, group diversity, group leadership, group motivation, conflict and cohesion in groups, planning and conducting meetings and technology and virtual groups. Learning in the class will be facilitated through the use of vehicles such as textbook readings, class discussion, exercises/in-class activities, cases and lectures.
				Pre-requisite	EN051 or obtain 500+ TOEFL equivalent international certificates
				Textbook	Isa N.Engleberg and Dianna R.Wynn. (2010). Working in Groups: Communication Principles and Strategies (5th Edition). Boston, MA: Pearson/Allyn & Bacon.
2	SSC102	Business Communications	3	Content	The course stresses a balanced approach to communication by in written and oral essential form of business communication. It is also to give the learners opportunities to practice face to face communication, listening and non-verbal messages, presentation skills, job interview; technology, multicultural and global communication, business ethics and teamwork are integrated in content and applications throughout the course.
				Pre-requisite	EN051 or equivalent English qualification
				Textbook	Krizan, et al., 2008, Business Communication, 7th ed., Thomson South-Western.
III	**Physical Educations**		**6**		
	VOV112-VOV133	Viet Vo Dao	6		
IV	**Mathematics and Sciences**		**15**		
1	MAC101	Calculus	3	Content	This course cover the fundamental calculus concepts generally required in engineering, science and finance. Topics included: limits & derivatives of single variable function, integral of single variable function, sequence & series, limits & derivatives of multiple variable function, integral of multiple variable function. Students may be also introduced to the use computerized tools (for example Maxima) for calculus calculation. The course will expose students to a range of applications of calculus in science and technology; for example, application of optimization in finance and engineering. Many of the topics and applications are left for self-study and the skill of applying calculus in realistic problems will be assessed in examinations. A successful study of the course also involves regular use of course website (at the University course management system) and textbook website, including accessing up-to-date information and material of the course, receiving online supports from teachers and other students and practicing for assessment. The mathematics knowledge in this course provides the base for topics discussed in Probability & Statistics.

				Pre-requisite	
				Textbook	James Stewart, 2008, Essential Calculus, 6th ed., International Student Edition, Thomson Brooks/Cole.
2	MAA101	Linear Algeblra		Content	1. Linear systems, matrices, determinant, vectors, vector spaces, linear dependence/independence, basis, dimension. 2. Linear transformations, matrices of linear transformations, eigenvalues, eigenvectors, diagonalization.
				Pre-requisite	English EN051 or obtain 500+ TOEFL equivalent
				Textbook	Nicholson Keith, Linear Algebra with Applications, 6th edition
3	MAD111	Discrete mathematics 1	3	Content	This course is the first part of the coverage of mathematical foundation for computer science. Topics include: logic, mathematical reasoning and proof techniques, mathematical induction and recursion, set and maps, basic number theory, counting techniques, combinatorics, and discrete probability. The course will expose students to the large range of applications of the mathematical concepts in information technology; for example, application of number theory in cryptography and computer security. The mathematics in this course will provide the base for topics discussed in the second part: Discrete Mathematics 2.
				Pre-requisite	500+ TOEFL or equivalent English Certificate
				Textbook	Kenneth H.Rosen, *Discrete mathematics and its applications*, 6th ed., Mc.Graw Hill
4	MAD121	Discrete mathematics 2	3	Content	This is the continuance of Discrete mathematics 1. Topics include: Relations, Graphs, Trees, Boolean Algebra and Modeling Computation.
				Pre-requisite	MAD111
				Textbook	Kenneth H.Rosen, *Discrete mathematics and its applications*, 6th ed., Mc.Graw Hill
5	MAS291	Probability and Staticstics	3	Content	This course starts with an introduction to continuous probability and a review of discrete probability, then explores 5 major topics in statistics: descriptive statistics, parameter estimations, hypothesis testing, regressions & correlations and analysis of variances. For each topics in statistics, students will be exposed to the use of statistical tools (for example Excel with statistics add-on) for solving realistic problems. Emphasis on the application of probability and statistics (for example in software quality control) will be made in appropriate topics. The mathematics knowledge acquired in this course will provide students with tools and methods for data analyzing and decision making in their later career.
				Pre-requisite	MAA101
				Textbook	Montgomery D.C. & Runger G.C., Applied Statistics and Probability for Engineers, 4th (or 5th) ed., John Wiley & Sons.
V	**Technologies**		**16**		
1	PRO001	Programming with Alice	1	Content	This is the first programming course providing an introduction to computer programming for students with no previous programming experience. It makes computer science more accessible to students by eliminating the initial frustrations associated with learning how to program computers. Topics include: Getting started with Alice; Program Design and Implementation; Program: Putting Together the Pieces; Classes, Objects, Methods and Parameters; Interaction: Events and Event Handling; Functions and If/Else; Repetition: Definite and Conditional Loops, Recursion.
				Pre-requisite	500+ TOEFL or equivalent English Certificate

				Textbook	Wanda Dann, Stephen Cooper, and Randy Pausch, *Learning to Programming with Alice.*
2	PRF192	Programming Fundamentals (with C)	3	Content	This course gives students knowledge about basics of information theory, computer system and methods of software development. It focuses on function-oriented programming design, coding, testing and discipline in programming. Topics include: data types, control structures, functions, arrays, file structure and implementation, testing and debugging.
				Pre-requisite	500+ TOEFL or equivalent English Certificate Pref. CSI101
				Textbook	Evan Weaver, 2003, *Foundations of Programming Using C*, printed by FPT University in 2007.
3	PRO191	Object-Oriented Paradigm (C++)	3	Content	This course gives the introduction of object-oriented paradigm to students who have knowledge about function-oriented paradigm. It begins with the description of control structures, data types and the importance of data structures and array data processing. It then describes the object-oriented programming model focusing on the definition and the usage of class as the foundation of object-oriented design. Topics include: an overview of the principles of programming, algorithm analysis, sorting and searching techniques, and other issues of software engineering.
				Pre-requisite	PRF192
				Textbook	Evan Weaver, 2003, *Foundations of Object Oriented Programming Using C*++, printed by FPT University in 2007.
4	PRJ101	Core Java	3	Content	This course is composed of two parts: the first part is for overviewing JAVA technology and strengthening the basic knowledge and skills in java programming language, the second part is for developing distributed Java SE Platform applications. Topics include: Java fundamentals, Operators and Assignments, Modifiers, Converting and casting, Flow control, Assertion, Exception handling, Objects and Classes, Threats, I/O and Streams, Swing Components, Layout managers, Object Streams and RMI…
				Pre-requisite	PRO191
				Textbook	Phillip Heller, Simon Roberts, 2005, *Complete Java 2 Certification*, 5th ed.
5	PRJ201	Advanced Java	3	Content	This course includes two parts: the first part is for building web applications from JSP page and servlet technologies, the second part is for introducing to Enterprise Java Beans. It delves into Java technology, Java SE (6.0), Web, EJB in J2EE.
				Pre-requisite	PRJ101
				Textbook	David Bridgewater , 2005, *Sun Certified Web Component Developer*.
6	PRN291	.NET&C#	3	Content	This course gives students basic fundamentals of programming languages such as C# and the Microsoft technology platform .NET with .NET platform, .NET Framework, Data Access, ADO.NET, WinForms, WebForms, and WCF.
				Pre-requisite	PRO191, Pref. DIB201
				Textbook	Adrew Troelsen, 2007, *C# with .NET Platform 3.0 (e-book)*.
VI	**Computer Science**		**15**		

1	CSI101	Introduction to computer sciences	3	Content	This course gives students a general picture of the dynamic Information Technology and help them going on with further courses with a consistent level of knowledge. Topics include: history of computing, software tools, computer architecture, numbering systems, operating systems, networks, the Internet, database fundamentals, data & file structures, programming & software engineering, computing security, ethics and technology tendency.
				Pre-requisite	500+ TOEFL or equivalent English Certificate
				Textbook	Greg Anderson, David Ferro and Robert Hilton, 2005, *Connecting to Computer Science*, Thomson Course Technology.
2	OSG202	Operating Systems	3	Content	This course covers knowledge about Operating System, Process, Thread, Deadlock, Memory Management, Input/output, and File Systems
				Pre-requisite	CSI101
				Textbook	Andrew S. Tanenbaum, 2009 (2007), *Modern Operating Systems*, 3nd (or 2rd) ed., Pearson.
3	NWC202	Computer Network	3	Content	Gives students an introduction to computer networks, internet, TCP / IP: Data link layer, Network layer, Transport layer, Application layer, network security, and network management
				Pre-requisite	OSG201
				Textbook	James F.Kuose and Keith W.Ross, 2008, *Computer Network: A Top-down Approach*, Pearson.
4	CSD201	Data structures and Algorithms (C++)	3	Content	This course introduces the basic concepts of data structures and algorithms. Topics include: recursion, basis theory of object-oriented paradigm, basic data structures (stacks, queues, linked lists, hash tables, trees and graphs), and the basis of algorithm analysis.
				Pre-requisite	MAD121 or CSI101
				Textbook	Adam Drozdek, 2005, *Data structures and algorithms in C++,* 3rd ed., Thomson course technology.
5	DBI202	Introduction to Databases	3	Content	The theory of relational database model and relational database design; Database management systems; Queries and updates; Transactions and data securities; Introduction of some other databases.
				Pre-requisite	MAD121 or PRJ101
				Textbook	Jeffrey D. Ullman, Jennifer Widom, 2008, *First Course in Database Systems*,3rd ed., Pearson.
VII	**Software Engineering**		**25**		
1	SWE102	Introduction to Software Engineering	3	Content	This course gives general knowledge about the software engineering processes, software development life cycle, project management, change management, software requirements, software architecture design, software testing, software reuse, and modern software development methodologies.
				Pre-requisite	PRO191
				Textbook	Ian Sommerville, 2011, *Software Engineering*, 9th ed., Pearson
2	SWR301	Software Requirement	3	Content	This course helps students to practice on software system requirements and gives them different ways of writing software requirements specifications for a number of systems models that may be developed during the requirements engineering process. It focuses much on the activities involved in the requirements engineering process and explains how to specify functional and non-functional dependability requirements for critical systems.

				Pre-requisite	SWE102
				Textbook	Axel Van Lamsweerde, 2009, *Requirements Engineering: From System Goals to UML Models to Software Specifications (e-book),* John Wiley & Son.
3	SWQ391	SW Quality Assurance & Testing	3	Content	This course gives the general concepts of quality and quality assurance; the testing techniques to ensure that appropriate functionalities have been implemented correctly in the software system: black box or functional testing, clear box or structural testing, usage-based statistical testing; test activities, management, and related issues, such as testing sub-phases, team organization, testing process, people's roles and responsibilities, test automation, etc.; Other testing, verification and validation techniques; Defect prevention: objectives, benefits and techniques; Some practical quality assessment and improvement issues
				Pre-requisite	SWE102
				Textbook	Axel Van Lamsweerde, 2009, *Requirements Engineering: From System Goals to UML Models to Software Specifications (e-book),* John Wiley & Son.
4	SWD391	Software Architecture and Design	3	Content	This course covers a set of important software design methodologies, architectural styles, guidelines and tools of design. Java is used to explain design principles and present case studies.
				Pre-requisite	SWC201 or SWC202
				Textbook	Kai Qian, Xiang Fu, Lixin Tao, Chong-wei Xu, Jorge Diaz-Herrera, 2010, *Software Architecture and Design Illuminated.*
5	SWM301	Software Project Management	3	Content	This course provides practical lessons with many examples from the real-world using software tools to assist project management. It presents an understandable and integrated view of many concepts, skills, tools and techniques involved in information technology project management in general and in software development project management in particular. The course covers the following topics: Introduction to Project Management; The Project Management and Information Technology and Software Development Context; The Project Management Process Groups: A Case Study; Project Integration Management (Configuration Management); Project Scope Management; Project Time Management; Project Cost Management; Project Quality Management; Project Human Resource Management; Project Communications Management; Project Risk Management; Project Procurement Management; Project Management Cases.
				Pre-requisite	SWR301 and SWQ391
				Textbook	Kathy Schwalbe, *Information Technology Project Management*, 5th (6th) ed.
6	SWP49x	Capstone Project	10	Content	Developing a specific software based on the knowledge and skills studied in the course. It includes requirement development, analysis, implementation and quality assurance. Students should follow the scheduled program, focus on the quality, and manage projects using studied project management techniques themselves. The success of the project mainly bases on how students solve given problems.
				Pre-requisite	OJT, SWD391, SWM301 and 3 specialized elective courses
				Textbook	The Student's Guide of Capstone Project Document for the FPT University Students
B	**Specialize Electives**		**18**		
B1	**Information Systems**		**18**		

1	HCI201	Human-Computer Interaction	3	Content	This course provides general knowledge about human-computer interaction from various aspects such as principles of human-computer interaction psychology; evaluation of user interfaces; task analysis, user-centered design. Topics include: Provides an introduction to interaction design; How theory and research findings have been applied to interaction design; Comprehensive view of the various interface design; Data gathering, analysis, interpretation and presentation in Interaction Design; Techniques for establishing requirements, prototyping and design; Various approaches to evaluation design.
				Pre-requisite	SWE101
				Textbook	Helen Sharp, Yvonne Rogers and Jenney Preece, 2007, *Interaction design: beyond human-computer interaction*, 2nd ed., John Wiley & Sons.
2	ITE301	Ethics in Information Technology	3	Content	This course addresses issues related to ethics of IT professionals and IT users, intellectual property, safety and security, computer and Internet crime, information sharing, employees and employers, privacy, compliance.
				Pre-requisite	500+ TOEFL or equivalent English Certificate
				Textbook	George Reynolds, Ethics in information Technology, 3rd ed.
3	ACC191	Accounting Principles	3	Content	The course introduces the core principles of accounting and finance in a comprehensive and engaging way that is practical and easy to understand. It is relevant, up-to-date, interesting and a must read for anyone studying accounting and finance for the first time. With a user-friendly approach, the course takes students logically and clearly through the principles and techniques of accounting and finance, and provides a flexible study tool. Carefully structured into twelve chapters covering Financial Accounting, Management Accounting and Business Finance, the course is specifically designed for shorter, introductory finance and accounting courses.
				Pre-requisite	500+ TOEFL or equivalent English Certificate
				Textbook	Wild, Shaw, & Chiappetta, 2009, *Principles of Accounting*, 19th ed., McGraw Hill.
4	DBD301	Advanced DB Design and Implementation	3	Content	The course gives students knowledge of designing, deploying and managing database. It also introduces students the way using Oracle (version 10th) as a Database Management System. Topics include: Conceptual Database Design (review); Methodology – Logical Database Design for the Relational Model (review); Methodology – Physical Database Design for Relational Databases (review); Distributed DBMSs – Concepts and Design; Overview of Networking; Functions and Architectures of a Distributed DBMSs; Object-Oriented DBMSs; Concepts and Design; Weakness of Relational DBMSs; Storing Objects in a Relational Database; Issues in Object Oriented DBMSs; Advantages and Disadvantages of Object Oriented DBMSs; Object Data Standard ODMG 3.0; Object-Relational DBMSs; Security and Administration; Transaction Management; Query Processing; Introduce to Data mining and Data Warehousing.
				Pre-requisite	DBI201
				Textbook	Thomas Connoly and Carolyn Begg, *Database Systems A practical approach to design, implementation, and management*, 5th ed., Pearson Education.
5	PRX301	Web Development (XML)	3	Content	The course provides students with advantage knowledge in XML and JavaScript field. Topics include: XML, Namespace, Schema, XSL; JavaScript: Control Structures, Functions, Arrays, Objects; Dynamic HTML: Object Model and Collections, Event Model; Dynamic HTML: Filters and Transitions, Data Binding with Tabular Data Control; XML and Databases with DOM and SAX; Binding between XML Schema and Java Classes (JAXB); Streaming API for XML (StAX); XML and JSP application

				Pre-requisite	DBI201
				Textbook	H.M. Deitel, P.J. Deitel and T.R. Nieto, *E-Business & E-Commerce How To Program.*
	Choose one of two following courses				
6	ISC301	E-commerce	3	Content	This course explains what E-commerce is, how to implement and manage E-commerce, how to evaluate all issues related to E-commerce (opportunities, limitations, risks...) in the manager's perspective, allowing E-commerce becomes relevant and reliable for customers, partners and management agencies.
				Pre-requisite	Pref. ITA201
				Textbook	Efraim Turban, Jae Kyu Lee, Dave King, 2008, *Electronic Commerce: A Managerial Perspective*, 5th ed., Pearson Education.
	ISM301	Enterprise Resources Planning	3	Content	This course describes basic business function areas and explain how they are related. Illustrates how unintegrated information system fails to support business functions and business processes that cut across functional area boundaries. Demonstrates how an integrated information system can help a company prosper by improving business processes and providing business managers with accurate, consistent, and current data.
				Pre-requisite	Pref. ITA201
				Textbook	Ellen F. Monk, Bret J. Wagner, 2009*, Concepts in Enterprise Resource Planning*, 3rd ed., Ceangate Learning.
B2	**Embedded Systems**		**18**		
1	HCI201	Human-Computer Interaction	3	Content	This course provides general knowledge about human-computer interaction from various aspects such as principles of human-computer interaction psychology; evaluation of user interfaces; task analysis, user-centered design. Topics include: Provides an introduction to interaction design; How theory and research findings have been applied to interaction design; Comprehensive view of the various interface design; Data gathering, analysis, interpretation and presentation in Interaction Design; Techniques for establishing requirements, prototyping and design; Various approaches to evaluation design.
				Pre-requisite	SWE101
				Textbook	Helen Sharp, Yvonne Rogers and Jenney Preece, 2007, *Interaction design: beyond human-computer interaction*, 2nd ed., John Wiley & Sons.
2	ITE301	Ethics in Information Technology	3	Content	This course addresses issues related to ethics of IT professionals and IT users, intellectual property, safety and security, computer and Internet crime, information sharing, employees and employers, privacy, compliance.
				Pre-requisite	500+ TOEFL or equivalent English Certificate
				Textbook	George Reynolds, Ethics in information Technology, 3rd ed.
3	DGT201	Digital Fundamentals	3	Content	This course covers basic to advanced digital concepts with an emphasis on problem solving, troubleshooting, and applications. Topics include: Introductory concept of Digital Electronics, Number systems, Logic Gates, Boolean Algebra and Logic Simplification, Combinational Logic Analysis, Functions of Combinational Logic, Latches, Flip-Flops, and Timers, Counters, Shift Registers, Memory and Storage, and Computer Concepts.
				Pre-requisite	500+ TOEFL or equivalent English Certificate

				Textbook	Thomas L. Floyd, 2009, *Digital Fundamentals*, 10th ed., Prentice Hall.
4	ESH201	Embedded system hardware	3	Content	The basic theory of embedded system hardware, design process, and development tools. The concept of designing embedded system, especially the input and output of the embedded system.
				Pre-requisite	DGT201
				Textbook	Martin Bates, 2006, *Interfacing PIC Microcontrollers: Embedded Design by Interactive Simulation*.
5	ESS301	Embedded system software development	3	Content	Analyzing, designing and developing applications with suitable programming languages in the embedded environment of processor and limited memory.
				Pre-requisite	ESH201
				Textbook	David E. Simon, 2009, *An embedded software primer,* 19th ed.
	Choose one of two following courses				
6	DGT301	Digital Signal Processing	3	Content	Topics included in this course are: Discrete-Time Signals & Systems; Tools and Softwares for Digital Signal Processing; z-Transform; Frequency Analysis of Signals & Systems; Discrete Fourier Transform; Efficient Computation of DFT: Fast Fourier Transform; Implementation of Discrete-Time Systems; Design of Digital Filters; Sampling & Reconstruction of Signals; Multirate Digital Signal Processing; Power Spectrum Estimation; Introduction DS Processor & Realization of FIR filter on the hardware
				Pre-requisite	DGT201
				Textbook	John G. Proakis, Dimitris K Manolakis, 2007, *Digital Signal Processing: International Version*, 4th ed.
	PRM391	Mobile Programming	3	Content	This course providing enough basic knowledge of iOS programming for student to be able to developing useful apps as well as further self-studying more easily. This course also providing basic knowledge of Android and HTML5 programming, and developing Hybrid mobile apps for iOS and Android devices. This also covering problem solving and troubleshooting for mobile development.
				Pre-requisite	PRJ101, PRF191/PRF192, PRO191; or OJT and SWD391
				Textbook	Mobile Programming Coursebook, FPT Software, 2012
C	**Free Electives 6** **(Choose two of following courses)**				
1	ETR402	Software Entrepreneurship	3	Content	This course provides a wide knowledge of both entrepreneurship and business management, with experience of new founded software companies in the world.
				Pre-requisite	ITA201

				Textbook	e-course: Agitavi Research and Microsoft EMEA. *The Software Entrepreneurship for Students Curriculum,* 2007 (softcopy).
2	ITA201	IT Applications in Enterprise	3	Content	This course provides comprehensive and integrative coverage of essential new technologies, information system applications, and their impact on business models and managerial decision making with clarity and depth in an interactive manner. Topics include: the role of information systems (IS) in the global business today and IS-related organization, management and technology issues; Information Technology Infrastructure for an enterprise, important application systems of enterprises and their impact to business activities in the digital age; building and managing systems.
				Pre-requisite	SWE101
				Textbook	Ken Laudon and Jane Laudon, 2008, *Management Information Systems: Managing Digital Firm*, 11th ed.
3	MBS391	Wireless & Mobile system	3	Content	This course gives students necessary knowledge and skills to be able to plan, design, implement and manage wireless networks.
				Pre-requisite	ESH201
				Textbook	Dharma P Agrawal, Qing An Zeng, 2010, *Introduction to Wireless and Mobile Systems*, 3rd ed.,Cengate.
4	ESH391	Smart Cards	3	Content	This course provides generic solutions for programming smart cards, enabling the creation of working applications and systems. It gives ideas for practicing engineers and designers looking for implementing smart cards in their business. It is also a valuable reference for postgraduate students taking courses on embedded system and smart card design.
				Pre-requisite	ESH201
				Textbook	Wolfgang Rankl, Kenneth Cox, July 2007, *Smart Card Applications: Design models for using and programming smart cards.*
5	DBW301	Data Warehouse	3	Content	The course provides students with knowledge of Data Warehouse technologies. It also provides students with opportunities to work on Microsoft SQL Server's Data warehousing. Topics include: The need for Data Warehouse; Review formal definitions of a Data Warehouse; Data marts, metadata; Trends in Data Warehouse; Plan and Project management; Defining the business requirements; Requirement as the driving force for Data warehouse; The Architectural Components; Infrastructure as the Foundation for Data Warehousing; The Significant Role of Metadata; Dimensional Modeling; Data Extraction, Transformation, and Loading; Data Quality and Data Warehousing and the Web; Data Mining Basics; The Physical Design Process; Data Warehouse Deployment and Maintenance.
				Pre-requisite	DBI201
				Textbook	Paulraj Ponniah, May 2010, *Data Warehousing Fundamentals for IT Professionals*, 2nd ed.
6	PRC391	Cloud Computing	3	Content	This course covers basic concepts of cloud computing and introduces two strategic cloud computing services of Microsoft: Windows Azure and Office 365. At completion of this course, students shall be able to design, develop, and deploy basic applications in Windows Azure and Office 365.
				Pre-requisite	PRN291/PRN292
				Textbook	1) Windows Azure Course Book (Written by FPT Software) 2) Office 365 introduction and guidance for end users - Microsoft Office 365: Connect and collaborate virtually anywhere, anytime 3) SharePoint 2010 Development - Professional SharePoint 2010 Development

7	SWC201	Software Construction	3	Content	This course help students have knowledge about Developing software using the formal specifications at high level, Principles and techniques of software design at low level (program design)
				Pre-requisite	SWE101/SWE102
				Textbook	*Course SEG2106 website (University of Ottawa, Canada) Software Construction (Winter 2009).*
8	Courses implemented in Business School (if satisfied pre-requisite(s)) such as: ECO111: Basic Micro Economics ECO121: Basic Macro Economics MGT101: Introduction to Management MKT101: Marketing Principles OBE101: Organizational Behavior SSM101: Management Skills SSN301: Negotiation ENL111: Academic English 1 ENL112: Academic English 2				
D	**On-The-Job Training**				
	OJS201	OJT for Software Engineering Program	10		This course is consecutively during in 4-8 months in software company after students have been provided almost knowledge of IT in general, programming languages, and software life cycle as detailed in requirement, quality and testing. The student will join a real software development project. He or she has opportunity to practice and study more aspects related to software and can find out what filed will study and do in the degree completion period of the program.