CSC Major Elective Course Detail

For Students Admitted in 2007-08

Content

1.   Undergraduate Student Handbook

CSC Major Programme

Students are required to complete a minimum of 74 units of Major courses as follows (Note):

(i)	Required Courses: CSC1130, 1140, 2100, 2110, 2800, 3100, 3120, 3130, 3150, 3160, 3170, 3180, 3250, 3420, 4010, 4020, ELT1111, ERG2020, 2040, MAT2310	59 units
(ii)	Elective Courses: CSC1020, 3210, 3220, 3230, 3260, 3270, 3280, 3290, 4120, 4130, 4140, 4160, 4260, 4430, 5110, 5120, 5150, 5160, 5170, 5180, 5210, 5230, 5240, 5250, 5280, 5310, 5320, 5330, 5340, 5350, 5360, 5390, 5420, 5430, 5460, 5470, CEG3430, 3470, 3480, 3490, 5010, 5020, 5270, 5330, IEG3050#, 4180#, SEG3420#, 3430#, 3490#; and any one course from (DSE3020, 4070, 4150, 4210, 4250, MKT4080)	15 units

Total: 74 units

Recommended course pattern

Term 1	Units	Term 2	Units	Term 3	Units
CSC1130	3	CSC1140	1	CSC3130	3
CSC2110	3	CSC2100	3	CSC3150	3
ERG2020	3	CSC2800	3	CSC3160	3
MAT2310	3	ERG2040	3	CSC3180	3
		ELT1111	3	Elective	3
	12		13		15
Term 4	**Units**	**Term 5**	**Units**	**Term 6**	**Units**
CSC3100	3	CSC3250	2	CSC4020	4
CSC3120	3	CSC4010	4	Electives	3
CSC3170	3	Electives	6		
CSC3420	3				
Elective	3				
	15		12		7

Note:

Major courses at 3000 and above level will be included in the calculation of the Major GPA for honours

classification. Courses with "#" and ERG3910, 3920 are to be included in the Major GPA as well.

2.   Major Elective Course Detail

CSC Coures

Course Code	CSC3210
Course Title	PRINCIPLES OF MULTIAGENT SYSTEMS
Unit	3
Course Detail	This course discusses the principles of multiagent systems. Topics include interactions, coordination, organizations and communications in multiagent systems; agent actions and behaviours; artificial minds and task distribution. Prerequisite: CSC1110 or 1120 or 1130.

Course Code	CSC3220
Course Title	ALGORITHMS FOR BIOINFORMATICS
Unit	3
Course Detail	First, introducing basic knowledge of DNA, genes, genomes, proteins, RNA, replication, transcription and translation. Then, introducing basic algorithms, such as dynamic programming, tree/graph searching and matching, context free grammar, etc, and applications to bioinformatics for sequence comparison, alignment and motifs; gene recognition and microarray; phylogenetic trees, protein structure and motif recognition.

Course Code	CSC3230
Course Title	FUNDAMENTALS OF ARTIFICIAL INTELLIGENCE
Unit	3
Course Detail	Basic concepts and techniques of artificial intelligence. Knowledge representation: predicate logic and inference, semantic networks, scripts and frames, and object-oriented representation. Searching: such as A*, hill-climbing, minimax and alpha-beta pruning. Planning: the frame problem and the STRIPS formalism, representation schemes and planning strategies. Neural networks: learning algorithms, neural architecture and applications. Natural language processing. Knowledge acquisition and expert systems: properties, techniques and tools of expert systems. Prerequisite: CSC2100.

Course Code	CSC3260
Course Title	PRINCIPLES OF COMPUTER GRAPHICS
Unit	3
Course Detail	Fundamental computer graphics techniques and algorithms will be introduced. Topics to be covered include: graphics hardware and interaction devices, transformation of coordination systems, scan conversion algorithms, hidden surface algorithms, illumination models and shading, rendering, texture mapping, computer animation and visualization. Prerequisite: CSC2100 or 2520.

Course Code	CSC3270
Course Title	ADVANCED PROGRAMMING LABORATORY
Unit	2
Course Detail	The course will mainly focus on programming exercises for advanced data structures and algorithms. Topics include dynamic programming, computational geometry, number theory, simulation, combinatorial problems, optimization techniques, graph theory, etc. Prerequisite: CSC2100. Corequisite: CSC3160.

Course Code	CSC3280
Course Title	INTRODUCTION TO MULTIMEDIA SYSTEMS
Unit	3
Course Detail	This course covers the design and implementation of modern multimedia systems. Topics include multimedia systems design, multimedia data representation, multimedia hardware and software, multimedia communication and networking, multimedia programming and multimedia information systems.

Course Code	CSC3290
Course Title	COMPUTATIONAL PHOTOGRAPHY
Unit	3
Course Detail	Computational Photography is an emerging new field created by the convergence of computer graphics, computer vision and conventional photography. Its main purpose is to overcome the limitations of the traditional camera by using computational techniques to produce a richer, more vivid, perhaps more perceptually meaningful representation of our visual world. The content of this course is to study ways in which samples from the real world (images and video) can be used to generate compelling computer imagery. We will learn how to acquire, represent, and render scenes from digitized photographs. The following topics will be covered: cameras, image formation and models; image manipulation (warping, morphing, mosaicing, matting, compositing); data-driven synthesis; visual perception; high dynamic range imaging and tone mapping; image-based lighting; non-photorealistic rendering; and other applications in photography. Prerequisite: CSC2100.

Course Code	CSC4120
Course Title	PRINCIPLES OF COMPUTER GAME SOFTWARE
Unit	3
Course Detail	This course aims at establishing the principles, techniques and tools in the design and development of computer game software with focus on the real time performance consideration. Topics include: stages in computer game development, concept of game engine, rendering considerations, physics effects, artificial intelligence (AI), audio effects, scripting and environment for game project development. Prerequisite: CSC2100 or 2520. Prerequisite/Corequisite: CSC3260 or 3550.

Course Code	CSC4130
Course Title	INTRODUCTION TO SYSTEM ADMINISTRATION LABORATORY
Unit	1
Course Detail	(Not for Computer Science Minors.) The purpose of this course is to introduce the basic knowledge of system administration. Sample laboratory work include system installation, system upgrade, resource configuration and security setup. Prerequisites: CSC3150 or CEG3150, and CSC4430 or CEG4430.

Course Code	CSC4140
Course Title	OPEN-SOURCE SOFTWARE PROJECT DEVELOPMENT
Unit	3
Course Detail	This course is to introduce techniques in developing software projects. Topics include leveraging the web server, the database server, and the scripting languages, such as the LAMP (Linux, Apache, MySQL, PHP) platform, to develop software projects, advanced debugging techniques, and performance tuning techniques. Also, this course will introduce the knowledge on software licensing, such as the GNU public license (GPL) and the Berkeley Software Distribution (BSD) license. Last but not least, this course emphasizes in arousing the creativity and fun in developing software projects. Prerequisite: CSC2100.

Course Code	CSC4160
Course Title	DISTRIBUTED AND PARALLEL COMPUTING
Unit	3
Course Detail	This course introduces concepts, models and implementations related to distributed and parallel computing. Topics include parallel and distributed system architectures, concurrent languages, synchronization and concurrency control techniques, and applications in distributed databases.

Course Code	CSC4260
Course Title	CURRENT TOPICS IN COMPUTING TECHNIQUES
Unit	3
Course Detail	This course aims at providing the students with the latest knowledge of advancements in pure or applied computer science. Topics covered in this course will vary from year to year, subject to the availability and speciality of the teachers.

Course Code	CSC4430
Course Title	DATA COMMUNICATION AND COMPUTER NETWORKS
Unit	3
Course Detail	This course is designed to present a systematic approach to the study of data communication and computer networks. The ISO OSI seven layered protocols are accepted as the framework for the course. Physical layer includes digital data transmission, data encoding and data communication techniques. Medium access sublayer includes ALOHA control protocols, IEEE 802 local area network protocols and fiber optic network protocols. Data link layer design issues, error detection and correction, sliding window protocols, network layer design issues, routing algorithms and internetworking. Transport layer and session layer design issues and examples on application layer protocols.

Course Code	CSC5110
Course Title	ADV TOP IN SOFTWARE ENGINEERING
Unit	3
Course Detail	Formal and advanced quantitative approaches in software engineering. Formal specifications: algebraic and model-based specifications, reasoning and proving, formal refinements and transformations from specifications to programmes. Software security: encryption theory and systems, viruses and other software attacks, controls and protections. Software reliability: models, theory and applications.

Course Code	CSC5120
Course Title	ADV TOPICS IN DATABASE SYSTEMS
Unit	3
Course Detail	(Not for students who have taken SEG5010.) This course will introduce to students advanced topics in database systems including advanced data structures, concurrency control, deadlock resolutions, recovery schemes, distributed database systems, multimedia database indexing techniques and data mining. Prerequisite: CSC3170.

Course Code	CSC5150
Course Title	LEARNING TH. AND COMPUT. FINANCE
Unit	3
Course Detail	This course aims to introduce the computational learning theory for applications to various areas of finance. This course consists of two parts. The first part gives an introduction of basic mathematical methods in finance. The second part deals with nonlinear computing models, Bayesian Ying-Yang unified learning theory, other computational learning techniques and their applications to FOREX or stock forecasting, portfolio optimization and programmed trading.

Course Code	CSC5160
Course Title	TOPICS IN ALGORITHMS
Unit	3
Course Detail	This course will introduce to students topics in algorithms. The detailed contents may be changed from year to year depending on the current development and teacher specialty.

Course Code	CSC5170
Course Title	THEORY OF COMPUTATION COMPLEXITY
Unit	3
Course Detail	Deterministic and non-deterministic Turing machine, Church's thesis, uncomputability and intractability, NP-completeness, polynomial time hierarchy, probabilistic computation, predicate calculus and incompleteness.

Course Code	CSC5180
Course Title	TECHNIQUES FOR DATA MINING
Unit	3
Course Detail	Data mining provides useful tools for the analysis, understanding and extraction of useful information from huge databases. These techniques are used in business, finance, medicine and engineering. This course will introduce the techniques used in data mining. Topics will include clustering, classification, estimation, forecasting, statistical analysis and visualization tools.

Course Code	CSC5210
Course Title	ADV TOPICS IN COMP GRAP & VISUAL
Unit	3
Course Detail	Provide in-depth treatment of the following advanced computer graphics and visualization topics: radiosity rendering and global illumination, procedure texturing and modelling, image-based rendering, stereo imaging, real-time volume graphics and interactive visualization. Prerequisite: CSC3260 or its equivalent.

Course Code	CSC5230
Course Title	ADV TOPICS IN COMPILER CONS'TION
Unit	3
Course Detail	Advanced topics in compiler construction, including code optimization, partial evaluation, supercompilers, compilation techniques for multiparadigm languages, concurrent compilers, etc.

Course Code	CSC5240
Course Title	COMB SEARCH & OPT W/ CONSTRAINTS
Unit	3
Course Detail	Students will be exposed to various constraint-based combinatorial search and optimization techniques that arise in artificial intelligence, operations research, etc. Topics include, but are not limited to, local propagation, consistency algorithms, Boolean constraint solving, numerical constraint solving, linear programming, search, and their applications.

Course Code	CSC5250
Course Title	INFO RETRIEVAL & SEARCH ENGINES
Unit	3
Course Detail	This course surveys the current research in information retrieval for the Internet and related topics. This course will focus on the theoretical development of information retrieval systems for multimedia contents as well as practical design and implementation issues associated with Internet search engines. Topics include probabilistic retrieval, relevance feedback, indexing of multimedia data and applications in e-commerce.

Course Code	CSC5280
Course Title	IMAGE PROCESSING & COMP VISION
Unit	3
Course Detail	Image processing: enhancement technique, image compression, segmentation, morphology, color image processing and restoration. Computer vision: representation, decision models, structural methods and image understanding.

Course Code	CSC5310
Course Title	TOPICS IN BIOMETRICS
Unit	3
Course Detail	This course introduces the fundamentals of biometrics --- the technology for secure identification and personal verification. The course is designed with a balance between the basic theoretical background and practical application. It examines pattern recognition, discriminant analysis, classification methods and other techniques used in designing and implementing biometric systems. In particular, the course investigates several key biometric features, e.g., face related processing, fingerprint analysis, handwriting verifications, speaker recognition, etc.

Course Code	CSC5320
Course Title	TOPICS IN GRAPH ALGORITHMS
Unit	3
Course Detail	A course on graph theory and graph algorithms with emphasis on the algorithmic aspects of graph theory. The course will cover classical topics such as search techniques, connectivity, colouring, matching and covering, network flows, planarity, traversability, perfect graphs and NP-completeness of graph problems. It will also cover recent advances in graph minors and fixed-parameter tractability of graph problems. Prerequisite: CSC3160 or its equivalent.

Course Code	CSC5330
Course Title	ADV ALGORITHMS FOR BIOINFOR
Unit	3
Course Detail	This course introduces the computational issues and algorithms in bioinformatics. Topics include algorithms for pairwise sequence comparison and alignment for DNA and protein sequences, multiple sequence alignment, analysis and prediction of protein secondary structure, etc. Techniques such as dynamic programming, Hidden Markov models, neural networks and their applications in bioinformatics will also be covered.

Course Code	CSC5340
Course Title	ADV TOPICS IN DIST SOFTWARE SYS
Unit	3
Course Detail	This course will provide knowledge of basic architectural features of distributed systems, including client-server systems, network systems, middleware systems and their main advantages, challenges, design issues and current solutions. Current object-oriented distributed system and software platforms (CORBA, DCOM, and Java/RMI) will be studied in detail. Topics include: distributed systems characteristics and design issues, distributed software engineering, communication and remote procedure calls, building distributed systems, generosity and interoperability, naming and trading services, concurrent processes and threads, transactions and distributed transactions, reliability and availability, and security problems and solutions. Laboratory of a series of distributed system projects will be assigned and conducted.

Course Code	CSC5350
Course Title	GAME THEORY IN COMPUTER SCIENCE
Unit	3
Course Detail	This course aims at introducing the theory and application of game theory in the context of Computer Science, in particular, decision making in multiagent systems. The course first focuses on rational behaviour of agents in strategic games and the existence of pure and mixed strategy Nash equilibrium. Then extensive games with and without perfect information, including bargaining games and repeated games will be introduced. The concepts of subgame perfect equilibrium and sequential equilibrium will be discussed. Finally, the course covers coalitional games and the concepts of cores and kernels.

Course Code	CSC5360
Course Title	GRID COMPUTING
Unit	3
Course Detail	This course is designed to give a broad overview of the concepts, technologies and open research areas of Grid computing along with the state-of-the-art in Grid software. Topics include architecture, programming, resource management, information infrastructure, security, data management, Grid middleware and tools, Web services, Grid services, current applications and research.

Course Code	CSC5390
Course Title	ADV TOPICS IN GPU PROGRAMMING
Unit	3
Course Detail	The evolution of consumer graphics hardwares leads to the introduction of parallel, programmable GPUs (Graphics Processing Units). The strong parallel computational power of GPUs not only supports real-time and realistic rendering, but also the cost-effective platform for scientific computing, such as physical simulation, numerical analysis, evolutionary computation, image processing, and computer vision, etc. This course introduces the evolution of shading language and GPU, the basic concept in GPU programming, and the recent advanced usage of GPU in computer graphics and general-purpose computing. Topics covered include: shader programming, procedural texture and modelling, programmable graphics pipeline, modern shading language, GPGPU (general-purpose computing on GPU), limitations of GPU, and case studies of advanced usages of GPU. Prerequisite: CSC3260 or equivalent.

Course Code	CSC5420
Course Title	COMP SYS PERFORMANCE EVALUATION
Unit	3
Course Detail	Computer system performance evaluation through analytical and simulation studies. Brief overview of queueing theory, computational algorithms, sequential and parallel simulation techniques. Performance evaluation in distributed resource allocation, computer interconnection architecture, multiprocessing and multithreads computation, parallel I/O architectures, distributed database concurrency control protocols, multiple access protocols in communication network, and parallel programming models, etc. Students are expected to have knowledge in probability, stochastic processes and computer architecture.

Course Code	CSC5430
Course Title	AUTONO. AGENTS & MULTIAGENT SYS.
Unit	3
Course Detail	Characteristics of autonomous agents. Agent architectures: BELIEF-DESIRE-INTENTION architecture, purely reactive architectures and hybrid architecture. Multiagent systems: speech acts theory, agent communication and agent cooperation protocols. Agent-oriented programming. Distributed hierarchical planning. Distributed rational decision making: protocols and strategies, Nash equilibrium and Pareto optimality, auctions, voting, Clarke tax, OCSM-contracts. Argumentation and negotiation. Prerequisite: CSC2110.

Course Code	CSC5460
Course Title	VIRTUAL & AUGMENTED REALITY
Unit	3
Course Detail	This course introduces the fundamental and advanced research topics in virtual and augmented reality (VR/AR), including VR/AR tools and metaphors, multi-sensory interactions, geometric and behavior modeling, touch-enabled interfaces, real-time immersive navigation, human factors in VR/AR, augmented reality systems, internet-based VR/AR applications. The web-basedvirtual reality interfaces plus other graphics engines build up the developing tools for testing the alternative ideas/solutions for the advanced VR/AR research and real-time applications. Prerequisite: CSC3260 or its equivalent.

Course Code	CSC5470
Course Title	COMPUTER AND NETWORK SECURITY
Unit	3
Course Detail	(Not for students who have taken IEG5240.) Issues of computer and network security. Security protocols. Firewalls. Computer viruses. Audit trails. System security threats. Applications of cryptography. Prerequisite: CSC4430 or CEG4430 or IEG3310 or its equivalent.

<u>CEG Coures</u>

Course Code	CEG3430
Course Title	EMBEDDED SYSTEMS
Unit	3
Course Detail	Introduction to microprocessor system developing methods such as memory and input/output interfacing techniques. Use of interrupts, timers and analogue to digital conversion methods for hardware system building will also be discussed. Introduction to logic system design methodologies including the use of programming logic devices and hardware description languages. Prerequisite: CEG2400.

Course Code	CEG3470
Course Title	DIGITAL CIRCUITS
Unit	3
Course Detail	This course examines the issues involved in designing and analysing digital circuits in CMOS technology. Topics include fabrication process, usage of SPICE, transfer characteristics, noise margin, loading effect, propagation delay, fanout analysis, transient current, power dissipation, bistable circuits and memories. A brief introduction to VLSI circuits is also included. Prerequisites: ERG2020 and ELE2110.

Course Code	CEG3480
Course Title	DIGITAL SYSTEMS DESIGN
Unit	3
Course Detail	Advanced interfacing techniques such as the use of sensors and actuators for signal analysis and control. High speed digital system design issues such as power consumption, signal delay, signal transmission and noise handling. Prerequisite: CEG2400.

Course Code	CEG3490
Course Title	VLSI DESIGN
Unit	3
Course Detail	This course teaches techniques in designing and analysing VLSI circuits. Topics include design rules, layout fundamentals, switch-level simulation, charge sharing, static and dynamic logics, propagation-delay estimates, power considerations, data-path organization, clocking schemes, synchronizers, asynchronous circuits, pads, systolic computation, silicon compiler, high-level synthesis and hardware description languages. Students will design complete IC's using both simple hand-layout programmes and CAD tools. Prerequisite: CEG3470.

Course Code	CEG5010
Course Title	RECONFIGURABLE COMPUTING
Unit	3
Course Detail	This course is concerned with the design of reconfigurable computing systems using hardware description languages. Topics covered include field programmable gate array architectures (FPGA), computer arithmetic, high-speed digital logic, interfacing and case studies. Emphasis will be on how to design high-performance digital systems at the algorithmic, system and logic level. Each student is required to implement and test a digital design of moderate complexity. Prerequisite: CEG3480.

Course Code	CEG5020
Course Title	FAULT-TOLERANT COMPUTING
Unit	3
Course Detail	Fault tolerance used to be a requirement of computer systems in specialized applications such as spacecraft control and telephone switching. With the advancement of hardware and software technology and the increasing complexity of computer systems, fault tolerance has become a necessity for a wide range of industrial, commercial and even personal applications. Models and methods are used in the analysis and design of fault-tolerant and highly reliable computer systems will be taught in this course. The topics to be covered by this course include fault/error modelling, reliability analysis, various redundancy techniques, fault-tolerant system design methods, case studies of fault-tolerant systems, and current research issues. Prerequisite: CEG3420 or CSC3420.

Course Code	CEG5270
Course Title	CAD FOR PHY DES OF DIGITAL SYS
Unit	3
Course Detail	This course aims to present the fundamental concepts and algorithms applied in design automation (CAD) of VLSI circuits. The scope will include various areas in physical design of digital systems, including circuit partitioning, FPGA technology mapping, floorplanning, placement, routing, compaction and interconnect optimization. Prerequisites: CSC2100 and ERG2020.

Course Code	CEG5330
Course Title	LOGIC SYNTHESIS & TESTING
Unit	3
Course Detail	This introductory course aims at building fundamental background and practical techniques for digital logic design automation and hardware testing conscious design issues. Some academic (Berkeley ESPRESSO/SIS) and industry tools will be introduced. The topics range from the classic to recent techniques on representation, manipulation and optimization of Boolean logic, minimization/manipulation of 2-level Sum-of-Product (SOP) form, large multi-level Boolean network synthesis, technology mapping, delay analysis, sequential logic synthesis, state minimization, retiming resynthesis, verification, advanced applications using Ordered Binary Decision Diagrams (OBDD's), hardware fault testing, and notions of design for testability. Prerequisites: CSC2100 and ERG2020.

IEG Coures

Course Code	IEG3050
Course Title	SIMULATION AND STATISTICAL ANALYSIS
Unit	3
Course Detail	System simulation, data analysis, statistical inference, regression, correlation and variance analysis, sensitivity analysis, variation reduction and importance sampling techniques for rare events. Workload representation and traffic generation. Experimental design. Basic queueing theory (Little's Law, M/M/1 and variations). Operational laws. Case studies on client-server systems.

Course Code	IEG4180
Course Title	NETWORK SOFTWARE DESIGN AND PROGRAMMING
Unit	3
Course Detail	This is a project-oriented course that teaches the development of network applications. Subject areas include object-oriented programming (C++ and Java); message-driven programming (windows); client-server systems design; interprocess communication; sockets: blocking and nonblocking I/O; multithreaded process; iterative and concurrent server designs; system-throughput bottlenecks; multimedia over network. Case studies: FTP, RPC, Web.

SEG Coures

Course Code	SEG3420
Course Title	FILE STRUCTURES AND PROCESSING
Unit	3
Course Detail	Role of files in data processing. Data organization on secondary storage. Choice of storage media. Blocking and buffering. Design of file parameters and performance computation of file processing. Record clustering and record partitioning. File organizations and access methods for sequential, indexed and direct file organizations. VSAM files. Static and dynamic hashed files. Hybrid files. Prerequisite: SEG3460 or with the approval of the course instructor.

Course Code	SEG3430
Course Title	INFORMATION SYSTEMS ANALYSIS AND DESIGN
Unit	3
Course Detail	Information system development life cycle; user requirement analysis; feasibility study; cost/benefit analysis; systems analysis tools such as data flow diagrams and process specification tools. Real time systems analysis. Transformation from analysis to design. Structured chart. System design quality heuristics such as coupling and cohesion. System design packaging and design optimization: CASE (Computer-Aided Software Engineering) Tools. Prerequisite: SEG3460 or with the approval of the course instructor.

Course Code	SEG3490
Course Title	INFORMATION SYSTEMS MANAGEMENT
Unit	3
Course Detail	In-depth discussion of the challenges, techniques and technologies associated with the management of IT in a competitive environment. The linkage of IT to business strategy and business process re-engineering. Type of information systems: MIS, DSS, TPS. Development process. Information system planning. Systems project management and control. IT acquisition, budgeting and deployment. Performance evaluation and auditing. Operations management. Privacy and security. Prerequisite: SEG3430 or with the approval of the course instructor.

<u>DSE Coures</u>

Course Code	DSE3020
Course Title	COMPUTER SIMULATION IN MANAGEMENT
Unit	3
Course Detail	This course teaches the use of simulation as an analysis and decision-making tool in business management environment. Various managerial issues, such as production planning and control, will be investigated to improve the operational efficiency by using computer simulation. A computer simulation software package will be used to build a "logical model" of business management process. Topics include concept of simulation, learning of the simulation software package (model design and building, execution, output analysis), random numbergenerator, model verification/validation, and the relevant management concepts. Prerequisites: DSE2010 and 2030.

Course Code	DSE4070
Course Title	DATA AND KNOWLEDGE MANAGEMENT
Unit	3
Course Detail	This course focuses on business data and knowledge modelling and management. We will examine the selection, representation, organization, and retrieval of data and knowledge. Topics such as data integrity, DBMS, data warehousing, knowledge acquisition and sharing, and knowledge management are covered.

Course Code	DSE4150
Course Title	ELECTRONIC COMMERCE
Unit	3
Course Detail	This course focuses on introducing Internet technology and its use in electronic business. Topics include eAdvertisement, eMarketing, B2C applications, B2B applications, mobile commerce, collaborative commerce, Internet management and security, electronic payment system, implementation, ethics, and electronic commerce development in Hong Kong and worldwide. Some new technologies and case studies may also be introduced in this course. Prerequisite: DSE2050 or permission from instructor.

Course Code	DSE4210
Course Title	DECISION SUPPORT AND KNOWLEDGE MANAGEMENT SYSTEMS
Unit	3
Course Detail	This course introduces students to the concepts and skills essential for the analysis, evaluation, design, and development of knowledge-based systems for enhancing decision performance. It will cover topics such as problem solving methods and strategies, development of computer-based decision models, knowledge acquisition, knowledge representation, design of knowledge-based intelligent systems, application of knowledge discovery and data mining techniques, such as neural network, genetic algorithms, and rule inductions.

MKT Coures

Course Code	MKT4080
Course Title	INTERNET MARKETING
Unit	3
Course Detail	The Internet is having a profound effect on the conduct of marketing as we move towards the new millennium. The Internet presents a fundamentally different environment for marketing, and new paradigms will have to be developed to take account of marketing activities in the electronic age. This course focuses primarily on the impact of the Internet on marketing, Internet marketing research, consumer behaviour on the Internet, and marketing strategies in the Internet age. Prerequisite: MKT2010.