Curriculum 2013-2014

Bachelor of Industrial Information Technology



Department of Computer Science and Technology Faculty of Science and Technology Uva Wellassa University

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Introduction

The computer science and Technology degree programme leads to Bachelor of Industrial Information Technology (BIIT) designed for four academic years according to the Sri Lankan Qualification Framework (SLQF) Level 6 as Bachelor of honors degree and under the Classification of Information System in Computing Degrees. The entry requirement of this course will be minimum at least three "S" passes in any streams of G.C.E Advance Level. The degree program comprises of theoretical knowledge and practical aspects focusing on catering the industrial demand while tracking on the University theme of value addition. The Curriculum furthermore modified by analyzing the industrial needs, guidelines of computing, IT, Management standard bodies such as ACM/AIS Curriculum guidelines. The Industrial Information Technology students will engage in an individual project based on the University Vision with the goal to add values to industrial, business process and to enhance knowledge in information technology applications. Our graduates typically find employment in private and the government sector and also become entrepreneurs. About two-third of our graduates are working at local and international leading IT companies and banks, and about one-third find jobs in the government sector and peruse their postgraduate degrees in domestic and foreign universities. The department has strong links with industry which enhance our teaching and research. Furthermore, our collaboration with industry provides opportunities to the students to find training placements and industry relevant projects

The aim of the degree programme to make well-rounded graduates who can solve business and management problem and make managerial decisions using IT. Graduates with strong IT skills who also understand business operations highly demand in the industry. The degree program further focuses on the practical application of computing to business and management problem solving. The graduates are given sound theory and practical knowledge to satisfy the industrial demand and able to contribute modern IT-based management and marketing research. The graduates can make development in the emerging business and management trend through IT. The business component of the curriculum provides graduates with the knowledge, competencies, and values necessary for fulfilling a productive career in business and also make them build their own IT or computing-related business.

The Industrial Information Technology Graduates should:

be problem solvers in IT and Management sector through the application of appropriate theories, principles

be competent in professional knowledge and skills in IT and Management

be effective project leaders, developers and managers in IT and Management sector.

possess good team working and interpersonal skills required to enable working closely with staff at all levels throughout an organization, including managers and IT specialists.

Have good report writing skills and the ability to communicate technical information and ideas clearly and concisely to non-technical people.

have managerial and entrepreneurial skills

The Documents Reffered

ACM/AIS Guidelines of Information System curriculum 2010

UGC Commission Circular 995

Curriculum Design Guideline Computer Society

Sri Lankan Quality Frame work-Initial and Updated Version (Credits, Training, Research Project)

Information System Benchmark (Draft By UGC Computing Standing Committee)

The Course Code Design

Digit	Categories	Courses	Seq No
0	Programs & Software	Advanced Database Management Systems (4,1)	1
		Operational Research (3,2)	1
T	Andıytıca	Quantitative Techniques (3,2)	2
		Principles of Management (1,1)	1
		Human Resource Management (2,2)	2
2	Managan	Project Management (3,2)	3
2	Wanagement	Change Management (4,1)	4
		Operations Management (4,1)	5
		Supply Chain Management (4,1)	6
3	Accounting & Economics	Fundamentals of Economics (1,2)	1
		Financial Accounting (2,1)	2
		Business Communication (2,2)	1
		Entrepreneurship (2,2)	2
	Business	Business Finance (3,1)	3
		Organizational Behavior (3,1)	4
4		Business Law (3,2)	5
		Business Strategy (4,1)	6
		e-Business (4,1)	7
		International Business (4,1)	8
		IPR & Commercialization	9
		Management Information Systems (3,1)	1
5	Information System	GIS for Business (4,1)	2
		Information Systems Security and Auditing (4,1)	3
6	Marketing and	Principles of Marketing (2,1)	1
6	Communication	Digital Marketing (4,1)	2
7	Images and Graphics	Digital Image Processing (4,1)	1
		Group Project (3,1)	1
	Project & Training	Industrial Training (4.2)	2
8		Individual Project (4,2)	3

The Course Outline of the Curriculum

Level 100

First Semester

Course Code	Subject	Credits	Type of credits
CST 102-2	Introduction to Computer Science & Technology	2	С
ESD 121-1	English Language-I	1	С
ESD 103-2	Information Technology	2	С
ESD 151-1/ ESD 161-1	Sinhala Language-I/ Tamil Language-I ¹	1	С
SCT 101-1/ SCT 121-1	Essential Mathematics/ Introductory Biology ²	1	С
IIT 121-3	Principles of Management	3	С
BGE 121-2	Ethics and Law basics	2	С
CST 103-3	Structured Programming	3	С
	Total	15	

Second Semester

Course Code	Subject	Credits	Type of credits
CST 104-3	Database Management Systems	3	С
IIT 131-3	Fundamentals of Economics	3	С
ESD 141-2	Quantitative Reasoning	2	С
ESD 111-1	Communication Skills - I	1	С
CST 111-2	Discrete Mathematics - I	2	С
ESD 122-1	English Language-II	1	С
ESD 152-1/	Sinhala Language-II /	1	C
ESD 162-1	Tamil Language-II ¹	Ŧ	C
CST 105-2	Fundamentals of Computer Networks	2	С
	Total	15	

Total Credits Level 100 = 30

¹ ESD 151-1, ESD152-1 Sinhala is compulsory for the students who having Tamil as first language

¹ESD 161-1, ESD162-1 Tamil is compulsory for the students who having Sinhala as first language

² SC101 Essential Mathematics Compulsory for all Non Mathematics (A/L) students and SC12-1 Introductory Biology Compulsory for Mathematics (A/L) students

<u>Level 200</u>

First Semester

Course Code	Subject	Credits	Type of credits
CST 221-3	Object Oriented Analysis & Design	3	С
CST 222-3	Object Oriented Programming	3	С
CST 271-1	Web Designing	1	С
ESD 221-1	English Language-III	1	С
IIT 261-3	Principles of Marketing	3	С
IIT 232-3	Financial Accounting	3	С
BGE 211-2	Aesthetic Studies	2	С
	Total	16	

Second Semester

Course Code	Subject	Credits	Type of credits
CST 252-2	Operating Systems Concepts and Designs	2	С
CST 224-3	Software Engineering	3	С
CST 226-3	Rapid Application Development	3	С
ESD 222-1	English Language-IV	1	С
IIT 242-3	Entrepreneurship	3	С
IIT 241-2	Business Communication	2	С
BGE 213-1	History	1	С
BGE 214-1	Geography	1	С
	Total	16	

Total Credits Level 200 = 32

<u>Level 300</u>

First Semester

Course Code	Subject	Credits	Type of credits
CST 362-2	Human Computer Interaction	2	С
IIT 343-2	Business Finance	2	С
IIT 344-3	Organizational Behavior	3	С
IIT 351-3	Management Information Systems	3	С
ESD 311-1	Communication Skills-II	1	С
IIT 312-3	Quantitative Techniques	3	С
IIT 322-3	Human Resource Management	3	С
	Total	17	

Second Semester

Course Code	Subject	Credits	Type of credits
CST 327-3	Web Development Technology	3	С
IIT 345-3	Business Law	3	С
IIT 311-3	Operational Research	3	С
IIT 323-2	Project Management	2	С
CST 393-2	Research Methodology and Scientific Writing	2	С
IIT 381-2	Group Project	2	С
CST 374-2	Multimedia & Hypermedia Technology	2	С
	Total	17	

Total Credits Level 300 = 34

Level 400

First Semester

Course Code	Subject	Credits	Type of credits
IIT 401-2	Advanced Database Management Systems	2	С
CST 466-2	Data Warehousing & Data Mining	2	0
CST 482-2	Software Localization	2	0
IIT 452-3	GIS for Business	3	С
CST 441-2	Middleware Architecture	2	0
IIT 424-2	Change Management	2	0
IIT 448-2	International Business	2	0
IIT 447-2	e-Business	2	0
IIT 446-3	Business Strategy	3	0
IIT 426-3	Supply Chain Management	3	0
IIT 425-3	Operations Management	3	0
IIT 453-3	Information Systems Security and Auditing	3	0
IIT 449-2	IPR and Commercialization	2	С
CST 435-3	System Administration and Maintenance	3	0
CST 434-2	Mobile Computing	2	0
CST 428-2	Software Quality Assurance	2	С
IIT 471-3	Digital Image Processing	3	0
IIT 462-3	Digital Marketing	3	0
	Total	16	out of 44

9(core) + 7(Optional) =16 (out of 44)

Second Semester

Course Code	Subject	Credits	Type of credits
IIT 482-6	Industrial Training ³	6 ⁴	С
IIT 483-8	Research Project ^₄	8	С
	Total	8+6 ⁴	

Total Credits Level 400 = 24+6⁴

Total Credits of the Degree Program BIIT=30+32+34+24+6⁴=120+6⁴

³ Non-GPA Course (Non GPA Courses are not considered for GPA Calculations)

⁴ Start on the beginning of Level 400 and evaluated in end of the Level 400

Note: The **minimum** number of students must be 10 for each optional subject.

Curriculum Development Team

This document present the revisions made to the curriculum of Industrial Information Technology (IIT) degree programme. These revisions include modifications to the credit distribution of broad general subjects, essential skills development subjects, and core subjects during all four years of study. Course contents for all the course units are included in this document. Following staff members have developed the modules for core subjects in the all four levels of IIT degree programme.

Course Units – First Year	Developed by
CST 102-2 Introduction to Computer Science and T	echnology Ms.M.Ramashini
IIT 121-3 Principles of Management	Dr.P.I.N.Fernando
CST 103-3 Structured Programming	Mr.S.T.C.I.Wimaladharma
SCT 101-1 Essential Mathematics	Dr.K.W.S.N.Kumari
SCT 121-1 Introductory Biology	Dr.E.P.S.K Ediriweera
CST 104-3 Database Management Systems	Mr. D.R.V.L.B. Thambawita
IIT 131-3 Fundamentals of Economics	Dr.P.T.H.Kumara
CST 111-2 Discrete Mathematics - I	Dr.K.W.S.N.Kumari
CST 105-2 Fundamentals of Computer Networks	Mr.I.K.K.B.Ihalagedara
Course Units – Second Year	Developed by
CST 222-3 Object Oriented Programming	Mr.S.T.C.I.Wimaladharma
CST 221-3 Object Oriented Analysis and Design	Mr.H.M.S.N.Ariyadasa
CST 271-1 Web Designing	Mr.H.M.S.N.Ariyadasa
IIT 261-3 Principles of Marketing	Dr.P.I.N.Fernando
IIT 232-3 Financial Accounting	Mr.K.M.M.C.B.Kulathunga
CST 252-2 Operating Systems Concepts and Designs	Ms.M.Ramashini
CST 224-3 Software Engineering	Ms.M.Ramashini
CST 226-3 Rapid Application Development	Mr.H.M.S.N.Ariyadasa
IIT 242-3 Entrepreneurship	Ms.W.M.P.G.C.Weerakoon
IIT 241-2 Business Communication	Dr.G.Jeyaseelan
Course Units – Third Year	Developed by
CST 362-2 Human Computer Interaction	Mr.H.M.S.N.Ariyadasa
IIT 343-2 Business Finance	Mr.K.M.M.C.B.Kulathunga
IIT 344-3 Organizational Behavior	Ms.J.Sutha
IIT 351-3 Management Information Systems	Ms.J.Sutha
IIT 312-3 Quantitative Techniques	Dr.K.W.S.N.Kumari
IIT 322-3 Human Resource Management	Ms.J.Sutha
CST 327-3 Web Development Technology	Mr.H.M.S.N.Ariyadasa
IIT 345-3 Business Law	Mr. Nisal Gunawardane
IIT 311-3 Operational Research	Dr.K.W.S.N.Kumari
IIT 323-2 Project Management	Mr.V.Senthooran
CST 393-2 Research Methodology and Scientific Wr	iting Dr.E.P.S.K. Ediriweera
IIT 381-2 Group Project	Mr.T.Kartheeswaran
CST 374-2 Multimedia and Hypermedia Technology	Mr.I.K.K.B.Ihalagedara

Course Units – Fourth Year	Developed by
IIT 401-2 Advanced Database Management Systems	Mr.T.Kartheeswaran
CST 466-2 Data Warehousing and Data Mining	Mr.T.Kartheeswaran
CST 482-2 Software Localization	MS.C.S.D.Ellepola
IIT 452-3 GIS for Business	Dr.E.P.S.K. Ediriweera
CST 441-2 Middleware Architecture	Ms.S.H.D.Senanayake
IIT 424-2 Change Management	Ms.F.Fasana
IIT 448-2 International Business	Ms. C.S.D. Ellapola
IIT 447-2 e-Business	Ms.J.Sutha
IIT 446-3 Business Strategy	Ms.J.Sutha
IIT 426-3 Supply Chain Management	Ms.J.Sutha
IIT 425-3 Operations Management	Ms. W.G.S.R. Wijesundara
IIT 453-3 Information Security and Auditing	Mr.H.M.S.N.Ariyadasa
IIT 449-2 IPR and Commercialization	Ms.F.Fasana
CST 428-2 Software Quality Assurance	Ms.S.H.D.Senanayake
CST 435-3 System Administration and Maintenance	Mr.I.K.K.B.Ihalagedara
CST 434-2 Mobile Computing	Ms.M.Ramashini
IIT 471-3 Digital Image Processing	Mr.T.Kartheeswaran
IIT 462-3 Digital Marketing	Prof Markus Blut
IIT482-6 Industrial Training	Dr.E.P.S.K. Ediriweera
IIT483-8 Individual Project	Dr.E.P.S.K. Ediriweera

Coordination and Compilation by

Mr.T.Kartheeswaran

Ms.R.M.I.S Ranasinghe

Department of Computer Science and Technology Faculty of Science and technology Uva Wellassa University

Credit Distribution Table

[@] The course **SCT101-1Essential Mathematics** compulsory for non-mathematics (A/L) students of Computer Science and Technology

[#] The course **SCT121-1 Introductory Biology** is compulsory for mathematics (A/L) students of Computer Science and Technology

ESD 151-1, ESD152-1 Sinhala is compulsory for the students who having Tamil as first language

ESD 161-1, ESD162-1 Tamil is compulsory for the students who having Sinhala as first language

	First year	Second Year
Semester 1	BGE/ESS = 6	ESS = 3
	ESD 121-1 English Language-I	ESD 221-1 English Language-III
	ESD 103-2 Information Technology	BGE 211-2 Aesthetic Studies
	ESD 151-1 Sinhala Language-I**	
	ESD 161-1 Tamil Language-I**	
	BGE 121-2 Ethics and Law basics	
	CST 102-2 Introduction to Computer	CST 222-3 Object Oriented
	Science and Technology	Programming
	IIT 121-3 Principles of Management	CST 221-3 Object Oriented Analysis
	CST 103-3 Structured Programming	and Design
	SCT 101-1 Essential Mathematics [@]	CST 271-1 Web Designing
	OR	IIT 261-3 Principles of Marketing
	SCT 121-1 Introductory Biology [#]	IIT 232-3 Financial Accounting
	Total credits = 6 + 9 = 15 Credits	Total credits = 3 + 13 = 16 Credits
Semester 2	BGE/ESS = 5	BGE/ESS = 3
	ESD 111-1 Communication Skills - I	ESD 222-1 English Language-IV
	ESD 141-2 Quantitative Reasoning	BGE 213-1 History
	ESD 122-1 English Language-II	BGE 214-1 Geography
	ESD 152-1 Sinhala Language-II**	
	ESD 162-1 Tamil Language-II**	
	CST 104-3 Database Management	CST 252-2 Operating Systems Concepts
	Systems	and Designs
	IIT 131-3 Fundamentals of	CST 224-3 Software Engineering
	Economics	CST 226-3 Rapid Application
	CST 111-2 Discrete Mathematics - I	Development
	CST 105-2 Fundamentals of Computer	IIT 242-3 Entrepreneurship
	Networks	IIT 241-2 Business Communication
	Total credits = 5 + 10 = 15 Credits	Total credits = 3 + 13 = 16 Credits

		Third year	Fourth Year	
Semester 1	ESS = 1			
	ESD 311-1	Communication Skills-II		
	CST 362-2	Human Computer	IIT 401-2	Advanced Database
		Interaction		Management Systems
	IIT 343-2	Business Finance	CST 466-2	Data Warehousing and Data
	IIT 344-3	Organizational Behavior		Mining*
	IIT 351-3	Management Information	CST 482-2	Software Localization*
		Systems	IIT 452-3	GIS for Business
	IIT 312-3	Quantitative Techniques	CST 441-2	Middleware Architecture*
	IIT 322-3	Human Resource	IIT 424-2	Change Management*
		Management	IIT 448-2	International Business*
		-	IIT 447-2	e-Business*
			IIT 446-3	Business Strategy*
			IIT 426-3	Supply Chain Management*
			IIT 425-3	Operations Management*
			IIT 453-3	Information Systems
				Security and Auditing*
			IIT 449-2	IPR and Commercialization
			CST 428-2	Software Quality
				Assurance
			CST 435-3	System Administration and
				Maintenance*
			CST 434-2	Mobile Computing*
			IIT 471-3	Digital Image Processing*
			IIT 462-3	Digital Marketing*
	Total credi	ts = 1+16 =17 credits	Total cred	its = 16 credits out of 44
Semester 2	CST 327-3	Web Development	IIT482-6 Ir	ndustrial Training * *
		Technology	IIT483-8 Ir	ndividual Project
	IIT 345-3	Business Law		
	IIT 311-3	Operational Research		
	IIT 323-2	Project Management		
	CST 393-2	Research Methodology		
		and Scientific Writing		
	IIT 381-2	Group Project		
	CST 374-2	Multimedia and		
		Hypermedia Technology		
	Total credi	ts = 17 credits	Total cred	its = 8+6 credits

* Optional Courses

** Non-GPA Course (Non GPA Courses are not considered for GPA Calculations)

Note: The minimum number of students must be 10 for each optional subject

Level – 100

First Semester

Course Code	CST 102-2		
Course Title	Introduction to Computer Science and Technology		
Objective:	To provide the fundamental aspects in Computer Science		
Learning outcomes:	 At the end of the course, the students will be able to describe the nature of computing explain the basics of Computer Science recognize solutions to problems by developing different techniques 		
Contents:	Introductions to operating systems and Its major functions, Interaction between human and computers, Machine language, Assembly language, High level languages ,Computational Representation of Information, Quantitative data -Binary, Octal , Decimal and Hexadecimal numeral system, Number base conversion, Digital Logic, Logic Gates, Boolean Algebra, Data representation standards, Qualitative data, ASCII, EBCDIC, Unicode, Computer Organization, Components of computer, Computer memory architecture, Servers, Translators, Compiler, Interpreter, Assembler, Software, Types of software, Introduction to system software, Introduction to application software, Introduction to system software, Problem Solving techniques, Need for logical analysis and thinking, Problem solving with pseudocode, Algorithms and flow charts (sequence, iteration (counting loops, while loops, file pointers), Conditional (if-then- else statements, case statements)), Execution pathway of a program, Program testing, Emerging technologies		
Recommended Texts:	 Brookshear, J.G, 2007, Computer Science: An Overview, 9th Edition, Business & Economics 		
Scheme of Evaluation:	Continuous Assessment End Semester Examination		
	60%	40%	
Methodology:	30 hours of theory		
Type of Credits:	Compulsory		
Prerequisites:	None		

CST 102-2 Introduction to Computer Science and Technology

IIT 121-3 Principles of Management

Course Code	IIT 121-3		
Course Title	Principles of Management		
Objective	To provide the knowledge related to the basic management concepts and theories		
Learning outcomes	 At the successful completion of the course, the student will be able to define the basic terms in management identify the need for planning, organizing, leading and controlling explain the role of a manager describe the basic management process and the related functions of an organization relate and discuss the basic management theories to a given situation discuss the ethical issues faced by the managers and social responsibility of organizations 		
Content	Introduction to management, Definitions, Functions of management, Management skills, The evolution of Management thinking, Business environment, Internal and external environment and corporate culture , Ethics and social responsibility ,Organizational Planning, Need for planning, relationship between Vision, Mission, Goals and Objectives, Decision Making Process, SWOT analysis, PESTEL analysis, Types of decisions ,Strategic management and human resources management of an organization ,Organizing, Traditional and modern organizational designs , Controlling, Need for controlling, Types of organizational controls,Leading, Motivation and theories of Motivation, Leadership and theories of leadership, Communication process and types of organizational communication process and types of		
Recommended Texts	 Daft, R.L, 2008, The new era of management, Cengage Learning Kreitner, R, 2008, Principles of Management, Cengage Learning James, A.F,Stoner, R Edward, F and Gilbert, D.A, 2006, Management, 6th edition, Prentice-hall of India Pvt Ltd Mukherjee,S and Basu, S.K, 2005, Organization & Management and Business Communication, 1st edition, New Age International Publishers Ltd 		
Scheme of Evaluation	Continuous Evaluation	End semester Evaluation	
	60%	40%	
Methodology	45 hours of theory		
Type of credits	Compulsory		
Prerequisites	None		

ESD 121-1 English Language-I

Uva Wellassa University, Faculty of Management		COURSE SYLLABUS	
Course Code	ESD 121-1		
Course Title	English Language – I		
Credits	1		
Status: Compulsory /Optional	Compulsory		
Degree Programme (s)	All		
Prerequisites, if any	Basic English Language Skills		
Time Allocation (hrs)	on (hrs) Lectures [15] Discussions [] Practical [] Field Work []		
ASSESSMENTS/EVALUATIONS			
Continuous Assessments:			
Oral Test	20%		
Grammar Assignment	20%		
Writing Assignment	Writing Assignment 20%		
End Semester Examination: 40%			
INTENDED LEARNING OUTCOMES			
By end the of this course, the students will be able to			
 Listen and respond to different types of questions in different contexts 			

- 2. Present short speeches on selected topics
- 3. Read and respond to simple electronic and other types of messages
- 4. Transfer information from dictionaries, manuals and glossaries
- 5. Engage in interactions via social media
- 6. Read and identify the general meaning of different types of simple texts
- 7. Identify and use different parts of speech

COURSE DESCRIPTION/CONTENT

This course hopes to provide a foundation to the English Language course offered by the University. It will focus on the four primary skills of reading, writing listening and speaking. The course hopes to familiarise the students with the different question types and well as the clause elements in simple sentences. The course will include basic activities in vocabulary development with a special focus on using technology for everyday communication.

SELECTED READINGS

Murphy, Raymond. (2001). Basic Grammar in Use. Cambridge: Cambridge University Press

Lynch, Tony. (2004). *Study Listening: A Course in Listening to Lectures and Note Taking*. Cambridge: Cambridge University Press

ESD 103-2 Information Technology

Course Code	ESD 103-2		
Course Title	Information Technology		
Objective:	To provide the necessary and essential information technology skills and knowledge.		
Learning outcomes:	 At the end of the course, the students will be able to describe the importance of information and how technology is being used to produce and share information. recognize the essential hardware components, existing varieties of operating systems and networking concepts describe the basic computer applications and Internet resources for study, work and recreation. 		
	 develop the skill to use the learning activities and other 	computer as a tool to accomplish data processing needs	
Contents: Recommended Texts:	 learning activities and other data processing needs What is information, Information sharing methods, Technology as a tool to produce and share information, What is a computer, Parts of a computer, input/output devices, Eras in computer development, Types of computers, Electricity and Computer, Storage devices, File Systems basics, Microprocessors, Motherboards, What is an Operating System, Importance of an Operating System, Commonly used Operating Systems, Main types of application software, word processing software, spread sheet applications, multimedia presentations, simple databases and their applications, what is a network, Types of networks, Network devices, Network structures, Components of a network, cables used in networking, Broadband and baseband transmission, MAC and IP addresses, Internet and Intranet,Microsoft Office, System Utilities 1. Bott, E and Carl, S , 2013, Microsoft Office Inside Out, 2013 Edition 2. Bible, H and Rosch, W.L, 2006, PC Hardware: A Beginner's Guide, 6th Edition 		
Scheme of Evaluation:	Continuous Assessment End Semester Examination		
	60%	40%	
Methodology:	15 hours of theory, 30 hours of practical		
Type of Credits:	Compulsory		
Prerequisites:	None		

CST 103-3 Structured Programming

Course Code	CST 103-3		
Course Title	Structured Programming		
Objective:	To provide the basic programming sk programming	ills and knowledge using structured	
Learning outcomes:	At the end of the course, the students will be able to - demonstrate the concepts of structured programming - describe the core concepts of programming - solve problems with the aid of programming language write programming using data types, and structures		
Contents:	Introduction to computer programming, Machine language and different translators (Assembler, Compiler and Interpreter), Program design techniques, Pseudocodes and top-down design (flow charts), Programming concepts, Data Types, Variables, Constants, Operators, Control structures, Functions, Library functions, User defined functions, Passing arguments by value and reference, Derived Data Types, Structures, One dimensional and multidimensional arrays, String, Pointers, Dynamic memory allocation and referencing, I/O operations, Input/ Output streams and file handling. Testing, Exception handling, and debugging		
Recommended Texts:	 Deitel, P and Deitel, H.M, 2009, C: How to Program, 6th Edition Kernighan, B.W, Ritchie, D.M and Ritchie D, 1988, The C Programming Language, 2nd Edition, Prentice Hall Kelley, A and Pohl, I, 2001, C by Dissection: The Essentials of C Programming ,4th Edition, Addison and Wesley Griffiths, D and Griffiths, D, 2012, Head First C, First Edition, O Reilly 		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	30 hours of theory, 30 hours of practical		
Type of Credits:	Compulsory		
Prerequisites:	None		

ESD 151-1 Sinhala Language-I

Uva Wellassa University, Faculty of Management			CO	URSE SYLLABUS
Course Code	ESS 151-1			
Course Title	Sinhala Language-I			
Credits	1			
Status: Compulsory /Optional	Compulsory for Tamil	speaking	students	
Degree Programme(s)	All			
Prerequisites, if any	Nil			
Time Allocation (hrs.)	Lectures [15]	Practical [15]	
ASSESSMENTS/EVALUATIONS				
Continuous Assessments:				
Assignments		20%		
Student presentations		20%		
Spot test		20%		
End Semester Examination:	40%			
INTENDED LEARNING OUTCOMES				

On successful completion of the Sinhala Language course students will develop the Sinhala language, Reading, Writing, Listening, and Speaking forms to use in different situations of their lives.

COURSE DESCRIPTION/CONTENT

Reading: Identify the Sinhala alphabet including Vowels and consonants. Read simple text in Sinhala, and understand meaning. Identify main ideas of a given primary reading context.

Writing: understand vocabulary and use basic tenses to convey meaning. Nouns, pronouns, conjunctions, punctuation, plural forms, guided writing.

Listening: understand general conversations of day to day life, Main ideas of News reading. Handling communication in general.

Speaking: provide appropriate answers to general conversations. Conducting introductory speeches. Provide appropriate responses to ordinary questions. Express opinions on familiar topics with a reasonable degree of accuracy.

SELECTED READINGS

- 1. Dissanayake J.B. (1993) Say it in Sinhala/ Lake House, Colombo.
- 2. Department of Official Languages, (2006) Tamil made Easy, Department of Official Languages, Rajagiriya, Sri Lanka.
- 3. Dissanayake J.B. (2003) Let's Learn Sinhala 1(Vowels And Consonants)), Sridevi Printers(Pvt) Ltd, Dehiwala
- 4. Dissanayake J.B (2003) Let's Learn Sinhala2(Vowels and their Strokes)), Sridevi Printers(Pvt) Ltd, Dehiwala
- 5. Dissanayake J.B. (2003) Let's Learn Sinhala 4(Special Letters and Strokes) Sridevi Printers(Pvt) Ltd, Dehiwala

ESD 161-1 Tamil Language-I

Uva Wellassa University, Faculty of Management COURSE SYLLABUS			COURSE SYLLABUS
Course Code	ESD 161-1		
Course Title	Tamil Language-I		
Credits	1		
Status: Compulsory /Optional	Compulsory for Sinh	ala Speaking	Students
Degree Program (s)	All		
Prerequisites if any	N/A		
Time Allocation (hrs)	Lectures [10] Discussions [] Practical [10] Field Work []		
ASSESSMENTS/EVALUATIONS			
Continuous Assessments:			
Writing Assignments		30%	
Oral/Speech	30%		
End Semester Examination:	End Semester Examination: 40%		
INTENDED LEARNING OUTCOMES			

By the end of this course students will be able to

- 1. make themselves understood in basic everyday communicative situations
- 2. speak in Tamil
- 3. have listening and oral proficiency in Tamil language

COURSE DESCRIPTION/ CONTENT

Speaking : Make and respond to basic statement related to personal information, ask questions in order to find out about a limited range of personal information day to day communication, use words and phrases to describe people and object, express basic like and dislikes.

Listening: Understand a limited range of short, basic, supported, class room instruction, question which ask for personal information and recognized the sound of letters and pronunciation of words, phrases.

Writing: Write Tamil latters, family words to identify people, places and spell some familiar high – frequency words accurately during guided writing activities.

Reading: Recognize, identify, sound and name the letters of the alphabet and pronouns familiar words and sentence. Understand the meaning of very simple familiar phrases or sentences on familiar general and curricular topic by rereading them.

SELECTED READINGS

Geir J.W, S. Suseenthiraraja and W.S. Karunathilake, (1999): *Vivahara Demala Basha Praveshaya*, University of Kelaniya, Kelaniya, Sri Lanka.

Department of Official languages, (2006):Tamil Made Easy, Department of Official Languages, Rajagiriya, Sri Lanka

BGE 121-2 Ethics and Law basics

Uva Wellassa University, Faculty of Management		COURSE SYLLABUS	
Course Code	BGE 121 -2		
Course Title	Ethics and Law		
Credits	2		
Status: Compulsory /Optional	Compulsory		
Degree Programme (S)	All degree programmes		
Prerequisites if any	None		
Time Allocation (hrs)	Lectures [] Discussions [05] Practical [25] Field Work []		
ASSESSMENTS & EVALUATION			
Continuous Assessments 60%			
Written Exam 40%			
INTENDED LEARNING OUTCOMES			

To provide an overall understanding and conceptual explanations of the fundamentals of ethics and Law in order to develop the ability of the student to assimilate ethical framework, legal theories, concepts and data in any working environment.

COURSE DESCRIPTION/CONTENT

Introduction to Ethics, Ethics in religious context, Ethics in social context, Ethics in global context

Introduction to Laws of Sri Lanka, Constitutional law, Constitutional developments, sovereignty/ franchise/ election, fundamental rights, Administrative law: judicial control writs, law of delict/ tort, law of contracts, dispute resolution mechanisms, environmental industrial law

SELECTED READINGS

- Buddha Jayanthi Tripitaka Series Volume 1-40, Government of Ceylon.
- The Bible- revised Standard Version (1971), Harper Collins Publishers, Glasgow.
- Pickthall M, the glorious Qur'an- text and Explanatory translation, Taj Complny, Karachi.
- Cooray L.J.M. (1992), An Introduction to the Laws of Sri Lanka, Colombo, Lake House Investments
- Democratic Socialist Republic of Sri Lanaka (2007), Government Constitution of Sri Lanka

SCT 101-1 Essential Mathematics

Course Code	SCT 101-1				
Course Title	Essential Mathematics				
Objective:	To provide the basic knowledge of ma	To provide the basic knowledge of mathematics.			
Learning outcomes:	At the end of the course, the students will be able to - use mathematical concepts - define and identify the abstract concepts in mathematics				
Contents:	Functions, composition of functions, Exponential and logarithmic functions, Trigonometry, Inequalities, Permutation and combination, Binomial Theorem, Coordinate geometry, Set theory and applications				
Recommended Texts:	 Backhouse J.K , Houldsworth S.P.T & Cooper BED, 1987 , Pure Mathematics 2, Longman Safier, F,2002 , Pre Calculus, Tata McGraw-Hill Cummings 				
Scheme of Evaluation:	¹¹ Continuous Assessment End Semester Examination				
	60% 40%				
Methodology:	15 hours of theory				
Type of Credits:	Compulsory				
Prerequisites:	None				

SCT 121-1 Introductory Biology

Course Code	SCT 121-1				
Course Title	Introductory Biology				
Objective:	To provide the background knowledge for further study in advanced biology courses.				
Learning outcomes:	 At the end of the course, the students will be able to describe the basic components of biological macromolecules explain both the chemical and molecular composition of a cell demonstrate an understanding of the fundamental properties of living systems , by explaining the properties of its components 				
Contents:	The nature of living systems, Structure and function of biological macromolecules, Basics of cellular structure and functions, Cell growth and development, Fundamentals of Mendelian Genetics, Introduction to diversity of life (Viruses, Prokaryotes, Eukaryotes)				
Recommended Texts:	 Reece, J.B. et al, 2010, Campbell Biology, 9th Edition, Benjamin Cummings 				
Scheme of Evaluation:	Continuous Assessment End Semester Examination				
	60% 40%				
Methodology:	15 hours of theory				
Type of Credits:	Compulsory				
Prerequisites:	None				

Second Semester

CST 104-3 Database Management Systems

Course Code	CST 104-3			
Course Title	Database Management Systems			
Objective:	To provide fundamentals aspects of database management systems to use it practically			
Learning outcomes:	 At the end of the course, the students will be able to describe fundamental concepts of relational database management systems design databases for real world scenarios using ER model implement databases for real world applications using a SQL I represent relationships using relational algebra write queries using SQL make normalized tables 			
Contents:	Introduction to database , Databases and Database Users, Database System Concepts and Architecture ,The Relational Data Model and Relational Database Constraints, Basic SQL, Complex Queries, Triggers, Views, Schema Modification, The Relational Algebra and Relational Calculus, Conceptual Modeling and Database Design, Data Modeling Using the Entity-Relationship (ER) Model, The Enhanced Entity-Relationship (EER) Model, Relational Database Design by ER and EER-to-Relational Mapping, Database Design Theory and Normalization, Basics of Functional Dependencies and Normalization for Relational Databases, Relational Database Design Algorithms and Further Dependencies			
Recommended Texts:	 Ramez, E, Shamkant and Navathe, B , 2011, Fundamentals of Database Systems, 6th Edition Silberschatz, A, Korth, H.F and Sudarshan, S , 2008, Database System Concepts, 6th Edition 			
Scheme of Evaluation:	Continuous Assessment End Semester Examination			
	60%	40%		
Methodology:	30 hours of theory, 30 hours of practical			
Type of Credits:	Compulsory			
Prerequisites:	None			

ESD 141-2 Quantitative Reasoning

Uva Wellassa University, Faculty of Management				
Course Code	ESD 141-2			
Course Title	Quantitative Reasoning			
Credits	2			
Status: Compulsory /Optional	Compulsory			
Degree Programme (s)	All			
Prerequisites, if any	N/A			
Time Allocation (hrs.)	Lectures [-] Discussions [-] Practical [30] Field Work [-] Workshop [-]			
ASSESSMENTS/EVALUATIONS				
Continuous Assessments: 60%				
End Semester Examination: 40%				
INTENDED LEARNING OUTCOMES				

At the end of this course student will be able to,

- develop an intuitive sense of numbers and understand their scale and meaning through comparisons, stories, and pictures
- use graphical, symbolic, and numerical methods to analyze, organize, and interpret natural phenomenon
- calculate and interpret measure of Central Tendency, Dispersion, Skewness, kurtosis, for a given data set
- discriminate between association and causation, and identify the types of evidence used to establish causation
- think critically about the limitations of science and quantitative analysis
- communicate with integrity and persuasion to a wide variety of audiences about quantitative information, statistical analysis, and scientific findings
- use SPSS/ MINITAB software to solve the statistical tools and methodology which are learned under Quantitative Reasoning

COURSE DESCRIPTION/CONTENT

Course overview, different type of number, basic numeracy and measurement, exploratory data analysis and visualization, measures of central tendency, variability, skewness and kurtosis, cross-tabulations and χ^2 tests, scatterplots, correlation analysis, cause and effect, confounding variables

SELECTED READINGS

R. R. Johnson, P. Kuby, Elementary Statistics, 10th edition (Thomson), 2007

A.G. Bluman , Elementary Statistics, 6th edition (McGraw Hill), 2007

IIT 131-3 Fundamental of Economics

Course Code	IIT 131-3				
Course Title	Fundamentals of Economics				
Objective:	To provide an overall understanding and conceptual explanations of the fundamentals of economics related to information technology.				
Learning outcomes:	 At the end of the course, the students will be able to identify the limitations and problems of production, distribution and consumption. explain the importance of operating market structure in decision making describe how to apply economic thinking in working environment 				
Contents:	Introduction, Basic economic problems, Production possibility frontiers, Economics of Information Technology, Demand, Supply, Equilibrium, Elasticity, Efficiency, Production, Production functions, Short run, Long run, Market structure, Perfect competition, Monopoly, Oligopoly, Introduction to macroeconomics employment, Unemployment, Inflation, Business cycles, Intellectual property and Information Technology, Economic growth, Technology diffusion				
Recommended Texts:	 Varian, H.R, Farrell, J & Shapiro, C, 2005, The Economics of Information Technology, Cambridge University Press, ISBN 978- 0521605212 Petersen, H.C, Lewis, W.C and Jain, S.K, 2005, Managerial Economics, Prentice Hall of India Private Limited, New Delhi, ISBN 978-8177583861 Dornbusch, R, Fischer, S & Startz, S, 2004, Macroeconomics, Mc- Graw Hill, United States, ISBN 978-0070594074 				
Scheme of Evaluation:	Continuous Assessment End Semester Examination				
	60% 40%				
Methodology:	45 hours of theory				
Type of Credits:	Compulsory				
Prerequisites:	None				

CST 105-2 Fundamentals of Computer Networks

Course Code	CST 105-2		
Course Title	Fundamentals of Computer Networks		
Objective:	To provide sound knowledge on Com	nputer Networks Fundamentals	
Learning outcomes:	 At the end of the course, the students will be able to describe the principles and fundamentals of data communications and networking analyze the characteristics of transmission media describe communication techniques define the characteristics of ISO-OSI layers Identify the Network devices 		
Contents:	Overview of Communication and Networks, Principles of computer networks, Data Communication Fundamentals, Transmission Media Characteristics, Digital Data Communication Techniques ,ISO-OSI Layers, Wide Area Network (WAN), Local Area Network (LAN), Topologies,Network Devices and Internetworking, Introduction to Internet, Client Server Application, Medium, Ports, Type of Cables		
Recommended Texts:	 Stallings, W, 2013, Data and Computer Communications, 10th Edition Tanenbaum , A.S, 2010 , Computer Networks, 5th Edition 		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	30 hours of theory		
Type of Credits:	Compulsory		
Prerequisites:	None		

ESD 111-1 Communication Skills – I

Uva Wellassa University, Faculty of Management		COURSE SYLLABUS		
Course Code	ESD 111-1			
Course Title	Communication Skills-I			
Credits	1			
Status: Compulsory /Optional	Compulsory for all students			
Degree Programme (s)	All			
Prerequisites, if any	N/A			
Time Allocation (hrs.)	Lectures [-] Discussions [-] Practical [30] Field Work [-] Workshop [-]			
ASSESSMENTS/EVALUATIONS				
Continuous Assessments: 30% Interpersonal Communication (Group Presentation) 30% Public Speech (Pair/Small Group) 30%				
INTENDED LEARNING OUTCOMES				
Duthe and of this course, it is even	Duthe and of this source, it is supported that the student will be able to.			

By the end of this course, it is expected that the student will be able to:

- 1. Communicate effectively both verbally and non-verbally in different communication settings.
- 2. Eliminate barriers of communication.
- 3. Enhance the level of communication skills.

COURSE DESCRIPTION/CONTENT

The course will provide an introduction to Communication Skills and the process of communication, Communication Barriers, Nonverbal and Verbal Communication, Interpersonal Communication, Public Speaking, Effective Listening Skills.

SELECTED READINGS

As Other See Us: Body Movement and the Art of Successful Communication, Allen Goldman. Routledge, 2004

The Art of Public Speaking , Lucas, S.E. (2004) 8th ed. Mcgrew Hill

Human Communication in everyday Life: Explanation and application. Wrench, J.S, Mccroskey, J.C. & Richmond, V.P. (2008) Boston, MA: Pearson

CST 111-2 Discrete Mathematics – I

Course Code	CST 111-2				
Course Title	Discrete Mathematics-I				
Objective:	To provide theoretical concepts and applic backbones of computer science	ations in calculus and algebra that are			
Learning outcomes:	 At the end of the course, the students will be able to describe basic concepts in algebra describe theoretical concepts in calculus apply calculus concepts into the real world problems solve real world problems using differentiation and integration extend their qualities of critical thinking 				
Contents:	Vectors, Matrices, Introduction to Fourier transformations and polynomial expansion, Limits, Functions and sequences, Convergence of sequences, Series, Convergence of series, Power series, Taylor series, Derivatives, Anti- derivatives, Integration, Real world application of differentiation and integration				
Recommended Texts:	 Wrede R and Spiegel R, 2012, Advance Calculus, 2nd Edition, McGraw Hill Publishing Co. Himonas, H and Howard, A ,2003, Calculus ideas and applications Bronson and Richard, 1989, schaum's outline of theory and problems of matrix operations, McGraw Hill Publishing Co. Rosen, K.H, 2012, Discrete Mathematics and Its Applications, 7th Edition, McGraw Hill Publishing Co. 				
Scheme of Evaluation:	Continuous Assessment	End Semester Examination			
	60% 40%				
Methodology:	30 hours of theory				
Type of Credits:	Compulsory				
Prerequisites:	None				

ESD 122-1 English Language-II

Uva Wellassa University, Faculty of Management		COURSE SYLLABUS		
ESD 122-1				
English Language– I	II			
1				
Compulsory				
All				
Skills gained by English Language– Level 01				
Lectures [15] Discussions [] Practical [] Field Work []				
ASSESSMENT/EVALUATIONS				
Continuous Assessments:				
2	0%			
2	20%			
2	20%			
End Semester Examination: 40%				
INTENDED LEARNING OUTCOMES				
	Management ESD 122-1 English Language→ 1 Compulsory All Skills gained by Eng Lectures [15] Discu ASSESSMENT/EVA 2 2 2 4 NTENDED LEARNING	Management ESD 122-1 English Language— II 1 Compulsory All Skills gained by English Langu Lectures [15] Dis⊂ussions [] I ASSESSMENT/EVALUATIONS 20% 20% 20% 20% 40% NTENDED LEARNING OUTCOM		

By end the of this course, the students will be able to

- 1. Listen and respond to short phone conversations.
- 2. Give their opinion on a particular issue.
- 3. Describe, in a 3-5 minute talk, a past experience or event and briefly explain how it affected life, thinking or feeling.
- 4. Scan and skim for main ideas and supporting information in a variety of small academic texts.
- 5. Make short notes from a written sources; on-line and/or other.
- 6. Transfer information from tables or graphs and convey the information in a paragraph.
- 7. Identify the functions of parts of speech and different types of phrase

COURSE DESCRIPTION/CONTENT

This course will be a continuation of the English course of the last semester. It will focus on the skills of reading, writing, listening & speaking while giving more emphasis to grammar and vocabulary.

SELECTED READINGS

Lynch, Tony. (2004). *Study Listening: A Course in Listening Lectures and Note Taking*. Cambridge: Cambridge University Press

Guffy, Mary Ellen. (2001). Essentials of Business Communication. Ohio: South-Western College Publishing

ESD 152-1 Sinhala Language-II

		CIIC			COURSE SYLLABUS	
Course Code	ESD 152-1	L				
Course Title	Sinhala Language-II					
Credits	1					
Status: Compulsory /Optional	Compulso	Compulsory for Tamil speaking students				
Degree Programme (s)	All					
Prerequisites, if any	ESD 151-1	L				
Time Allocation (hrs)	Lectures [[15]	Practica	l[15]]	
	ASSESSN	IENT/I	VALUATION	S		
Continuous Assessments:						
A ssignments			20%	20%		
Student presentations			20%			
Spot test			20%			
End Semester Examination:			40%			
	INTENDED I	LEARN	ING OUTCOM	NES		
At the end of the successful comple	etion of Sinl	nala co	ourse, Studen	ts are e	expected to have ability in Read	
academic text in Sinhala, and under	stand mear	ning.				
Identify main aspects of given acade	emic discipli	ines in	Sinhala Whe	n neces	ssary.	
	COURSE DE	SCRIP	TION/CONTE	NT		
Reading: Identify main ideas of a given intermediate reading context. Understand the formal and						
informal expressions of daily readings. Ability to read variety of contextual readings.						
Writing: handle all basic tenses, identify the first person, second person and third person categorical and						
grammatical writing. Use of adverbs, adjectives, feminine, and articles.						
Listening: understanding academic conversations. Identifying main concepts of academic use of						
language.						
Speaking: Pronunciation. Handling presentations on given topics. Express of personal views. Managing						
language in formal contexts (debates).						
	SELE	CTED F	READINGS			
1. Dissanayake J.B. (1993) Say it in Sinhala/ Lake House, Colombo.						
2. Department of Official Languages, (2006) Tamil made Easy, Department of Official Languages,						
Rajagiriya, Sri Lanka.						
3. Kumarthunga Munidasa (2000)Vyakarana vivaranaya.Godage Colombo						
4. National educational institute (2000) Lechana reethiya						
 Dissanayake J.B. (2003) Let's Learn Sinhala 4(Special Letters and Strokes) Sridevi Printers(Pvt) Ltd, Dehiwala 						
ESD 162-1 Tamil Language-II

Uva Wellassa University, Faculty of Management		COURSE SYLLABUS	
Course Code	ESD 162-1		
Course Title	Tamil Language-II		
Credits	1		
Status: Compulsory /Optional	Compulsory for Sinhala spe	aking students	
Degree Programme (s)	All		
Prerequisites, if any	N/A		
Time Allocation (hrs)	Lectures [10]Discussions []Practical [10]Field Work []		
ASSESSMENT/EVALUATIONS			
Continuous Assessments:			
1. Written assignments	20%		
2. Mid semester exam	20%		
3. Oral/ Speech	20%		
End Semester Examination:	40%		
INTENDED LEARNING OUTCOMES			

By the end of this course students will be able to

- 1. improve reading and writing skills
- 2. grow students' ability to understand Tamil language and express themselves on it

COURSE DESCRIPTION/CONTENT

Reading: Read and follow, with support, familiar instructions for classroom activities, begin to read, with support, very short simple texts with confidents and enjoyment, understand the meaning of very short, simple texts.

Writing: Write, with support, a sequence of short sentences in a paragraph. Use simple present, past and future forms to describe actions and narrate simple events. Use adjectives, adverbs and conjunctions.

Speaking: Describe basic present and past actions on a limited range of general and curricular topics. Communicate meaning clearly using phrases and simple sentences and link comments to what others say at sentence.

Listing: Understand and recognize some specific information and detail of short, supported talk on an increasing range of general topics.

SELECTED READINGS

1. Geir J.W, S. Suseenthiraraja and W.S. Karunathilake, (1999): *Vivahara Demala Basha Praveshaya*, University of Kelaniya, Kelaniya, Sri Lanka

2. Department of Official languages, (2006): *Tamil Made Easy, Department of Official Languages*, Rajagiriya, Sri Lanka

Level – 200

Department of Computer Science & Technology

First Semester

CST 221-3 Object Oriented Analysis and Design

Course Code	CST 221-3		
Course Title	Object Oriented Analysis and Design		
Objective:	To provide the object-oriented appro and software solutions	ach to analyze and design systems	
Learning outcomes:	 At the end of the course, the students will be able to describe object oriented analysis and design (OOAD) concepts develop OOAD documents for a given problem using UML demonstrate the importance of modeling in software development life cycle employ the UML notation to create effective and efficient system designs apply OOAD concepts to colve problems 		
Contents:	Introduction to object oriented concepts, Introduction to Object Oriented Analysis (OOA), Introduction to UML, System Development Life Cycle (SDLC), Process models, Rational Unified Process (RUP), Creating use case diagrams, Identifying classes, Visualizing a class, Associations, Inheritance and generalization, Class diagrams and object diagrams, Package diagrams, Understanding aggregations and compositions, Interfaces and realizations, Design of an object oriented system, The process of object oriented design, Object reusability and design patterns, State diagrams, Sequence diagrams, Communication diagrams, Activity diagrams, Component diagrams,		
Recommended Texts:	 Joseph , S.S , 2004, Teach Yourself UML in 24 Hours, 3rd Edition, Pearson Education Ian ,S, 2011 ,Software Engineering, 9th Edition, Addison Wesley Jeffrey, L.W, Lonnie, D .B , 2007 , Systems Analysis and Design Methods, 7th Edition, Tata McGraw-Hill 		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	30 hours of theory ,30 hours of practical		
Type of Credits:	Compulsory		
Prerequisites:	None		

CST 222-3 Object Oriented Programming

Course Code	CST 222-3		
Course Title	Object Oriented Programming		
Objective:	To provide the knowledge to use the programming	principles of object orientation in	
Learning outcomes:	 At the end of the course, the students will be able to describe the key features of the Object Oriented Programming language apply essential object-oriented programming concepts and techniques in programming apply the exceptions to handle run time errors 		
Contents:	Primitive data types, Casts and conversions, Control structures, Operators, Instance variables and instance methods, Superclass, Subclass, Inheritance, Polymorphism, Encapsulation, Dynamic method binding, Access specifiers, Packages, Method overloading and overriding, Set (mutator), Get (accessor), Predicate methods Constructors, Overloaded constructors, Abstract class, Concrete class, Standard Streams, Keyboard Input, File I/O Using Streams, Buffered Streams, Writing text files, Creating Threads, Advantages of using Threads, Thread States, Thread Problems, Synchronization, Exception handling		
Recommended Texts:	 Deitel, H.M and Deitel, P.J, 2011, Java: How to program, 9th Edition, Deitel and Associates Sierra, K, Bates, B, 2005, Head First Java, 2nd Edition, O Reilly' 		
Scheme of Evaluation:	Continuous Assessment End Semester Examination		
	60%	40%	
Methodology:	30 hours of theory, 30 hours of practical		
Type of Credits:	Compulsory		
Prerequisites:	None		

CST 271-1 Web Designing

Course Code	CST 271-1		
Course Topic	Web Designing		
Objective:	To provide knowledge, skills and project-based experience needed basic web design and development		
Learning outcomes:	At the end of the course, the students will be able to - design, create, and maintain simple web pages and websites - evaluate critically the website quality - apply web design standards when creating web pages		
contents.	Internet and world wide web, WWW concepts and how it works, Static vs. dynamic web pages, Browsing and browser software, Web browsers, Cross browser compatibility and web page validation, Web development tools, Basic web design concepts, Designing and planning web pages, Web programming for front end, Control style and layout of web pages with CSS, Program behavior of web pages with Scripts, Use of other techniques in web design.		
Recommended Texts:	 Thoriq, F, 2013, Responsive Web Design by Example, Packt Publishing. Jason, B, 2010. The Principles of Beautiful Web Design. Second Edition, SitePoint. Deitel, H.M, Deitel, P.J and Tem, R.N, 2004, Internet & World Wide Web: How to program 		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	30 hours of practical		
Type of Credits:	Compulsory		
Prerequisites:	None		

ESD 221-1 English Language-III

Uva Wellassa University, Faculty of Management			COURSE SYLLABUS	
Course Code	ESD 221-1			
Course Title	English Language	e— III		
Credits	1			
Status: Compulsory /Optional	Compulsory	Compulsory		
Degree Programme (S)	All	All		
Prerequisites if any	Skills gained by English Language Level 1 & 2			
Time Allocation (hrs)	Lectures [15] Discussions []Practical [] Field Work []			
ASSESSMENTS & EVALUATION				
Continuous Assessments:				
Grammar assignments 20%				
presentation 20%				
Writing Assignment 20%				
End Semester Examination: 40%				
INTENDED LEARNING OUTCOMES				

By the end of the course students will be able to

- 1. Listen and identify the key points
- 2. Agree or disagree on a particular point of view
- 3. Compare and contrast situations, people
- 4. Identify directly and indirectly stated information
- 5. Identify discourse markers in written and spoken discourse

COURSE DESCRIPTION/CONTENT

The course will be the first of the advanced courses in English where it hopes to focus on the complex areas of English language learning.

SELECTED READINGS

<u>Glendinning</u>, Eric H. & Holmström, <u>Beverly. (2004). Study Reading:</u> A Course in Reading Skills for Academic Purposes. Cambridge: Cambridge University Press.

IIT 261-3 Principles of Marketing

Course Code	IIT 261-3		
Course Title	Principles of Marketing		
Objective:	To provide the knowledge on market	ing concepts	
Learning outcomes:	 At the end of the course, the students will be able to impart the knowledge base of students on current marketing concepts and techniques to maximize the customer satisfaction demonstrate the marketing management as a main function in general management prepare a comprehensive marketing atmosphere by practical involvement with industrial sector to add value to the national economy 		
Contents:	Defining marketing and marketing process, Managing profitable customer relationships,Company and marketing strategy,Marketing environment,Market place with consumer, Managing marketing information,Consumer markets and business markets,Customer driven market strategy,Building relationship with customer,Segmentation,Targeting and positioning,Marketing mix,Marketing ethics and social responsibility		
Recommended Texts:	 Philip,K, Armstring,G,2005, Principles of marketing, 11th Edition, Prentice hall of India Sugandhi, R.K, 2002, Business to Business Marketing 1st Edition, New Age International Publishers 		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	30 hours of Theory 15 hours of Practical		
Type of Credits:	Compulsory		
Prerequisites:	None		

IIT 232-3 Financial Accounting

Course Code	IIT 232-3		
Course Title	Financial Accounting		
Objective:	To provide knowledge on basic theoretical and practical aspect of financial Accounting		
Learning outcomes:	At the end of the course, the student - explain the role of accoun of stakeholders' in a busin - apply the double entry sys - explain the regulatory fran- - interpret the financial infor- statements of different ty	ts will be able to ting in satisfying the information needs ness entity stem in recording transactions. mework of financial accounting prmation provided through financial pes of business entities.	
Contents:	Introduction to Accounting, Sta information needs, Accounting as accounting, Accounting equation, equation, Recording transactions process, Accounting input ,proce Recording transactions using d Preparation of Trail Balance , reporting, Conceptual framework Concepts, Introduction to Sri Lanka financial statements of sole trader Financial position, Adjusting Manufacturing account , Introdu Accounting treatment of capital an appropriation account, partners' of Introduction to accounting for limit	keholders of a business and their s an information system, Branches of Rationale behind the accounting in accounting equation Accounting ess and output Original Entry Books, louble entry book keeping system Regulatory framework for financial k for financial reporting, Accounting a Accounting Standards ,Preparation of s: The Income statement, Statement of entries to Financial statements, ction to accounting for Partnerships, and distribution of profits, Profit and loss current accounts and capital accounts ted liability companies	
Recommended Texts:	 Wood, F, Sangster, A, 2005, Business Accounting 1, Prentice-Hall, Pearson Education Limited Benedict, A, Elliott, B, 2008, Financial Accounting: An Introduction 2nd Edition 		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	45 hours theory		
Type of Credits:	Compulsory		

BGE 211-2 Aesthetic Studies

Uva Wellassa University, Faculty	of Management		COURSE SYLLABUS	
Course Code	BGE 211 - 2			
Course Title	Aesthetic Studies			
Credits	2			
Status: Compulsory /Optional	Compulsory for all studen	ts		
Degree Programme (S)	All			
Prerequisites if any				
Time Allocation (hrs)	Lectures [15] Discussions [-]Practical [30] Field Work [-]			
A	SSESSMENTS & EVALUATIO	Ν		
Continuous Assessments:				
Presentations (Group)	sentations (Group) 30%			
Writing Assignment (Group)	Vriting Assignment (Group) 30%			
End Semester Examination:	End Semester Examination: 40%			
INTENDED LEARNING OUTCOMES				
By the end of the course, it is expected that the student will be able to:				

- 1. Develop critical philosophical aesthetic thinking skills
- 2. Develop Understanding the important influence of context upon one's judgments and opinions

COURSE DESCRIPTION/CONTENT

The course will provide an introduction to Aesthetic Studies, philosophy of art and aesthetic, philosophy of music, dance, photography, philosophy of art and architecture. The nature of beauty, the relation between art and reality, creativity, art and criticism, art and life,

SELECTED READINGS

Piaget, Jean. The Psychology of Intelligence. New York: Harcourt, Brace & Company, 1950.

Lipman, Mattew, and Ann M. Sharp. Growing up with Philosophy. Philadelphia: Temple University Press, 1978.

Second Semester

Course Code	CST 252-2		
Course Title	Operating Systems Concepts and Des	signs	
Objective:	To provide the knowledge in basic op	erating systems concepts and design	
Learning outcomes:	At the end of the course, the stude - demonstrate various sche - define deadlock, preventi - compare and contrast var - explain the concepts of fil - perform administrative ta	ents will be able to eduling algorithms. on and avoidance algorithms. ious memory management schemes. e systems and management. sks on Linux Servers.	
Contents:	Operating systems overview, Ob operating system, Operating syst calls, System programs, System concept, Process scheduling, process communication, Threads Multithreading models, Thread synchronization, Critical section, F CPU scheduling and deadlocks, Sto contiguous memory allocation, S architecture examples, Virtual replacement, Allocation, Thrash examples, I/O Systems, Mass stora and management, File system sto structure, Sharing and protection, F structure, Directory structure, management, I/O systems, Case System administration, Rec administrator, Setting up a LINUX system, Setting up local network virtual Operating System.	ojectives and functions, Evolution of em structure and operations, System boot, Process management, Process Operations on processes, Inter- overview, Multicore programming, and SMP management, Process Race condition, Semaphores, Monitors, orage management, Main memory and Segmentation, Paging, 32 and 64 bit memory, Demand paging, Page ning, Allocating kernel memory, OS age structure overview, Disk scheduling trage, File concepts, Directory and disk File system implementation, File system Allocation methods, Free space study, Linux System basic concepts, quirements for Linux system K multifunction server, Domain name services, Virtualization basic concepts,	
Recommended Texts:	1. Abraham, S, Peter, B, Galvin a	nd Greg,G ,2012 , Operating System	
	 Concepts, 9th Edition, John Wiley and Sons Inc. Andrew S. Tanenbaum and Herbert Bos ,2014, Modern Operating Systems, 4th Edition 		
Scheme of Evaluation	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	30 hours of theory		
Type of Credits:	Compulsory		
Prerequisites:	None		

CST 252-2 Operating Systems Concepts and Designs

Course Code	CST 224-3		
Course Title	Software Engineering		
Objective:	To provide the knowledge to apply the concepts and get familiar with the artifacts associated with a typical software development process		
Learning outcomes: Contents:	At the end of the course, the student - apply the software engineerin quality software products - recognize artifacts in software - explain the software quality a engineering paradigm - estimate the quality of the sort Introduction to software, Software	s will be able to ag principles and techniques in developing e design process ssurance process used within the software <u>ftware using quality assurance process</u> are Engineering Paradigm, Verification,	
	Validation, Life Cycle Models, Syste Business Process Engineering Ov Functional and Non-Functional Requirement Engineering Process, Software Process, Data, Function Analysis and Data Dictionary, Syst Design Process and Concepts, Mod Design, Data Design, User Interfa System Design, Real Time Executive And Control System. Taxonomy Of Testing Boundary Conditions, Struct On Data Flow Mechanisms, Blac Integration, Validation and Syst Implementation Techniques Measu Function Point Models, COCOMO M Value Analysis, Error Tracking, Softw Evolution Dynamics, Software M Scheduling, Risk Management, CAS	em Engineering, Computer Based System, rerview, Product Engineering Overview, requirements, Software Document, Feasibility Studies, Prototyping in the hal and Behavioral Models, Structured tems Engineering and Analysis Concepts, ular Design, Design Heuristic, Architectural ace Design, Real Time Software Design, ves, Data Acquisition System, Monitoring Software Testing, Types Of software Test, tural Testing, Test Coverage Criteria Based k box , white box, Regression, Unit , stem Testing, Debugging , Software res, ZIPF's Law, Software Cost Estimation, lodel, Delphi Method, Scheduling, Earned ware Configuration Management, Program Maintenance, Project Planning, Project E Tools	
Recommended Texts:	 Sommerville, I, 2011, Software Engineering, 9th Edition, Addison Wesley Daniel, G, 2004, Software Quality Assurance: From Theory to 		
	Implementation, Pearson Education India		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	45 hours of theory		
Type of Credits:	Compulsory		
Prerequisites:	None		

CST 224-3 Software Engineering

CST 226-3 Rapid Application Development

Course Code	CST 226-3		
Course Title	Rapid Application Development		
Objective:	To provide theoretical knowledge and	d practical experience in Rapid	
	Application Development (RAD)		
Learning outcomes:	At the end of the course, the students	s will be able to	
	 define the concept of rapid de 	evelopment	
	 apply prototyping in RAD cont 	text	
	 use RAD tools and techniques 	in rapid development environment	
Contents:	Introduction to RAD, Rapid development considerations, RAD teams,		
	Software prototyping, GUI and web application development using RAD		
	tools, Web frameworks for rapid development, Use of hibernate ORM in		
	rapid development environment, Content Management Systems (CMSs)		
	for rapid development, Best practices of RAD		
Recommended Texts:	1. Steve, M, 1996, Rapid development, WP Publishers & Distributors (P)		
	Ltd.		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	30 hours of theory , 30 hours of practical		
Type of Credits:	Compulsory		
Prerequisites:	None		

ESD 222-1 English Language-IV

Uva Wellassa University, Faculty of Management		COURSE SYLLABUS		
Course Code	ESD 222-1			
Course Title	English Language–IV	/		
Credits	1			
Status: Compulsory /Optional	Compulsory			
Degree Programme	All			
Prerequisites	Skills gained by English Language Level 1, Level 2 & Level 3			
Time Allocation (hrs)	Lectures [15] Discussions [] Practical [] Field Work []			
ASSESSMENT/EVALUATIONS				
Continuous Assessments:				
Grammar assignments 20%				
Academic presentations	20%			
Writing Assignment	g Assignment 20%			
End Semester Examination 40%				
INTENDED LEARNING OUTCOMES				

By the end of the course students will be able to

- 1. Listen & summarise academic and public lectures
- 2. Listen, identify and respond to differences in accent
- 3. Read and identify the different rhetorical patterns
- 4. Read and summarise a text verbally
- 5. Write a summary of a spoken discourse or written extract

COURSE DESCRIPTION/CONTENT

This course will focus on the basic foundations of academic English. This is meant to prepare students to continue their academic activities confidently in the English medium

SELECTED READINGS

Yadugiri, M.A.(2006). *Making Sense of English: A Textbook of Sounds, Words and Grammar*. Delhi: Viva Books Private Limited.

IIT 242-3 Entrepreneurship

Course Code	IIT 242-3		
Course Title	Entrepreneurship		
Objective:	To provide the knowledge on the elements of entrepreneurship as an introductory course mainly. Specifically, it is expected to advocate the students about the role of entrepreneurship in economic development, emphasize the role of marketing elements in entrepreneurial ventures, advocating the students about entrepreneurial life cycle of the venture and the role of an entrepreneur during the phases of development and introducing business planning basics and emphasize the need of planning.		
Learning outcomes:	 At the end of the course, the students will be able to identify the characteristics of an entrepreneur, demonstrate the interrelationship between opportunity, creativity and innovation and their roles in entrepreneurship, develop a mind map for opportunity identification in service and product ventures, To determine the competitive factors of a business, identify the nature of organizational life cycle and role of an entrepreneur in each stage and identify the growth and diversification strategies needed for revival of a business. 		
Contents:	Introduction to entrepreneurship, Opportunity, creativity and innovation, Corporate entrepreneurship, Production and service ventures and capturing opportunities, Product development process, Marketing and new venture development, Competitor analysis and implications for market research, Organizing new ventures and capturing business opportunities, Venture development path and Feasibility planning, Strategies that capture business opportunities, Internationalization of business ventures, Venture life cycle and entrepreneurial role during transition stages, Growth and diversification as		
Recommended Texts:	 Holt, D.H ,1992, Entrepreneurship: New venture creation. Prentice Hall. Kuratko, D.F and Hodgetts, R.H, 2003, Entrepreneurship: Theory, Process and Practice, 6th Edition. South Western Collage Publications. Dollinger Mark J,2004, Entrepreneurship: Strategies and Resources. Prentice Hall. Ed Paulson & Marcia Layton, 2000, The Complete Idiot's Guide to Starting Your Own Business, 3rd Edition. Prentice Hall. 		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	45 hours of theory		
Type of Credits:	Compulsory		
Prerequisites:	None		

IIT 241-2 Business	Communication
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Course Code	IIT 241-2	
Course Topic	Business Communication	
Objective	To equip the students with knowledge and skills in the basic concepts, theories,	
	practices and issues of business commu	nication, business linguistics and business
	discourse	
Learning outcomes	At the successful completion of the cours	se, the student will be able to;
	 Define the basic terms in busines 	ss communication
	 Identify and apply planning, orga 	anizing, controlling and leading in business
	communication, language and di	scourse structure
	 Explain the role of a business cor 	nmunicator
	- Describe basic communication	theories, process, models, patterns and
	functions	
	 Perform business communication 	n skills
	 Discuss the problems, challeng 	ges and barriers faced by the business
	communicators of organizations	
Content	Introduction to business communication	n, Definitions, Theories, Models, Patterns,
	Functions and skills, Business Commun	ication Skills, Speaking, Writing, Reading
	and listening and non-verbal communi	cation ,Business communication context,
	Internal and external and corporate an	d cultural, The problems, challenges and
	barriers in business communication, Org	anizational communication, efficient and
	effective communication of vision, mission, goals and objectives, Decision Making	
	Process and analysis, Leading, Motivational and Leadership communication,	
	process and types of organizational com	munication. The evolution of modern pure
	business communication and applied and	a constructed business discourse.
Recommended Texts	L. LESIKAL, RY FIGUREY, IVI. BASIC BUSITIESS COMMUNICATION: SKIIIS FOR	
	McGraw Hill/Invin	
	NICGraw-Hill/Irwin	P. Business Communication Today (2012)
	2. Bovee, C/ Thin, J/ Schatzman, B.Business Communication Today. (2012) 7th ed Deerson Edu	
	7 Li eu redisoli Euu. 2 Locikar B. Business Communication: Making Connections In A. Digital	
	World	ation. Making connections in A Digital
	4 Thill I V & Bovee G I (1993) Excellence in Business Communication
	McGraw Hill, New York / Others	11th ed TMH
	5 Bowman, LP, & Branchaw, P.P.	(1987) Business Communications: From
	Process to Product. Dryden Press	S. Chicago.
	6. Merrier. Patricia (2000) The Basi	cs: Business Communication. Published by
	South-Western Educational Pub.	ISBN 13: 9790538722956
	7. Francesca Bargiela-Chiappini (2009) The Handbook of Business Discourse	
	Edinburgh University Press.	
Scheme of Evaluation	Continuous Evaluation	End semester Evaluation
	60%	40%
Methodology	30 hours of theory	
Type of credits	Compulsory	
Prerequisites	None	

BGE 213-1 History

Uva Wellassa University, Faculty of Management			COURSE SYLLABUS	
Course Code	BGE 213-1			
Course Title	History			
Credits	1	1		
Status: Compulsory /Optional	Compulsory			
Degree Programme (s)	All			
Prerequisites, if any	N/A			
Time Allocation (hrs)	Lectures [15] Discussions [] Practical [] Field Work []			
ASSESSMENTS/EVALUATIONS				
Continuous Assessments:				
Assignment		30%		
Class Room Test/Presentation		30%		
End Semester Examination: 40%				
I	INTENDED LEARNING OUTCOMES			

This Course is designed generally based on the disciplines of Agriculture, Science and Technology and Management with the objective of giving an understanding of the historical background of Sri Lanka. At the completion of this course students will understand the historical value of the agricultural and technological achievements and socio-economic development (Ancient Agricultural methods, Irrigation technology, Science and technological achievement and Political Economics etc.)

COURSE DESCRIPTION/CONTENT

Introduction to History, Historical background of Sri Lanka, Ancient Agricultural methods (Slash – and – burn, Wet – rice cultivation, Mixed home gardens and monocarp cultivation, Cattle Husbandry and Fisheries, Traditional *Kem* Practices). Development of Plantation Industry, Development of Scientific concepts, Technological Development and Manufacturing Industries, Irrigation Development and its Technology

The Political Economy in ancient Sri Lanka, Crisis of the Sixteen Century, Trade and Agriculture under the Portuguese and Dutch, Economic and Social Changes in early 19th Century, Constitutional Development and Economic Changes, Economic and Social Changes in early 20th Century, In the Donoughmore Era, 1931-47, The Political Economy and Policy after 1948

SELECTED READINGS

Silva De K. M. A (2005): *History of Sri Lanka*, Vijithayapa Colombo.

Siriweera, W. I, (2004): *History of Sri Lanka*, Dayawansa Jayakody Colombo.

Selected Articles

BGE 214-1 Geography

UvaWellassa University, Faculty of Management			
Course Code	BGE 214-1		
Course Title	Geography		
Credits	1		
Status: Compulsory /Optional	onal Compulsory		
Degree Program (s)	All		
Prerequisites if any	N/A		
Time Allocation (hrs)	Lectures [15] Discussions [] Practical [] Field Work []		
ASSESSMENTS/ EVALUATIONS			
Continuous Assessments:	20%		
Quizzes	40%		
Continuous Assessment			
End Semester Examination	End Semester Examination 40%		
INTENDED LEARNING OUTCOMES			

After completing this course, the student will be able to

1. proficient in basic concepts in climate, natural resources, Morphological foundation distribution of minerals location of human activities, globalization and its impact and distribution and inter relationship.

COURSE DESCRIPTION/ CONTENT

Introduction to Geography, The basic concept in geography, Geography and society, Geography and development, Geological and morphological foundation, Climatological foundation, Natural resources and their distribution, Major environmental issues, Environmental conservation, Population distribution and its implications, Factors of location of human activities, Globalization and its impact tools and techniques of spatial distribution and interrelationship.

SELECTED READINGS

Fellman, G & Malikowski, G. (2005): *Human Geography: Landscape of Human Activities*, (8th edition), The McGraw-Hill, Companies, New York.

Gabler, R.E., Sajer, R.J., Brazier, S and Damiel, W. (1976): *Essentials of physical Geography*, (2nd Edition), Saunders college publishing, New York.

Peet, R. (1998): *Modern Geographical Thought*. Blackwell Publishers, Oxford.

Robert, B.P., Binns, T., Jenifer, A.E., and David, S. (1999): Geography of Development, Pentice Hall, London.

Strahler, A.H., & Strahler, A. (2003): *Physical Geography: Science and Systems of the Human Environment*, (2nd Edition), John Wiley and Sons, New York.

Level – 300

First Semester

CST 362-2 Human Computer Interaction

Course Code	CST 362-2		
Course Title	Human Computer Interaction		
Objective:	To provide a detailed understanding of and prostings of interface design for a	of the underpinning theories, principles	
Learning outcomes:	 At the end of the course, the students will be able to describe theories relevant to HCI apply principles and practices of HCI in designing user interfaces define importance and role of usability and evaluation in systems design recognize issues relating to user diversity, different types of systems, interaction styles, devices and environments 		
Contents:	Contexts for HCI, Processes for user-centered development, Interaction design basics, Principles of graphical user interfaces, Elements of visual design, Task analysis, Paper prototyping, Help and documentation, User interface standards, Approaches and characteristics of the design process, Usability and Accessibility Guidelines, Techniques for data gathering, Prototyping techniques, Evaluation without users, Evaluation with users. Internationalization		
Recommended Texts:	 Yvonne,R and Hoboken,N.J, 2011, Interaction design: beyond human-computer interaction, Wiley Dix,A, 2004, Human-computer Interaction, Pearson/Prentice-Hall Shneiderman, B, and Plaisant, B, 2010, Designing the User Interface: Strategies for Effective Human-computer Interaction, Addison- Wesley 		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	30 hours of theory		
Type of Credits:	Compulsory		
Prerequisites:	None		

IIT 343-2 Business Finance

Course Code	IIT 343-2		
Course Topic	Business Finance		
Objective:	To provide students with a solid understanding of strategic issues in business finance		
Learning outcomes:	At the end of the course, the studer	nts will be able to	
	- define basic terms of Business Finance		
	- demonstrate the role that fir	nance plays in the firms and markets today.	
	 express the key financial issuing 	es faced by modern-day business	
	organizations.		
	 equip with conceptual and a financial desiring 	nalytical skills necessary to make sound	
	tinancial decisions	ants need to have an understanding financial	
	concepts.	and need to have an understanding mancial	
Contents:	Introduction to Business Finance; Financial Management and Financial manager, Forms of Business organizations, Investment environment, Business Plan, What should go into a business plan?, Focus on cash flow, Financial Planning, Time Value of Money, Introduction to TVM, Future Value and Compounding, Present value and Discounting, Future and Present Values of Multiple Cash Flows, Annuities and Perpetuities, Loan types and Ioan amortization, Financial Preparation for Business Ventures, Introduction to Budgetary Planning, Operational budgets, Financial budgets, Analysis and Interpretation of Financial Statements, Horizontal Analysis, Vertical Analysis, Common-Size Statements, Trend Percentages, Ratio Analysis, Long Term Financial Planning and Growth, Introduction to Capital Budgeting, NPV and other investment criteria, Project Analysis and Evaluation, Working Capital Management, Policies, Estimating Working Capital Needs, Cash and		
Recommended Texts:	1. Pandey I.M. Financial management, 2004, 9 th Edition, Vicas Publishing house		
	of New delhi.		
	2. Stephen A. Ross, Randolph W. Westerfield and Bradford D. Jordan ,2006,		
	Fundamentals of Corporate Finance, 7 ^{er} Edition, McGraw-Hill/Irwin of New York.		
Scheme of Evaluation:	Continuous Assocraments Einel Even		
	60%	40%	
Niethodology:	30 hours of theory		
Type of Credits:	Compulsory		
Prerequisites:	None		

Course Code	IIT 344-3		
Course Title	Organizational Behavior		
Objective:	To provide the sound knowledge of human behavior in the workplace from an individual, group, and organizational perspective and to obtain frameworks and tools to effectively analyze and approach various organizational situations.		
Learning outcomes:	 At the end of the course, the students will be able to demostrate complex business environment requiring intellectual abilities to organize work define and communicate sound decisions react successfully to unanticipated events as a individually and group 		
Contents:	Introduction to Organizational behavior, The individual- diversity, attitude and job satisfaction, Personality, Perception and individual decision making, The group- group behaviour, Team work, Communication, Leadership, Power and politics, Conflict and negotiation, The organization system- organizational culture and organizational change and stress management.		
Recommended Texts:	 Robbins & Judge,2013, Organizational Behavior, 15th edition, Prentice-Hall Publishing. George, J.M & Jones, G.R, 2007, Understanding and managing organizational behaviour,5th edn,Prentice Hall, Upper Saddle River, NJ. 		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	30 hours of theory, 30 hours of practical		
Type of Credits:	Compulsory		
Prerequisites:	None		

IIT 344-3 Organizational Behavior

Course Code	IIT 351-3		
Course Title	Management Information System		
Objective:	To provide the knowledge to explore the various different ways in which information technology relates to organizational objectives and goals in an organizational context, given the increasing inter-relationship between these two in today's global world.		
Learning outcomes:	 At the end of the course, the students will be able to demonstrate the fundamental principles of MIS associated with the strategic adoption and implementation for the businesses. apply the evaluation of information systems to the organizational development. comprehend the significant managerial aspects of treating information as an organizational resource and its increasing impact on today's organization. 		
Contents:	Information Systems Defined, Organizational Information Systems and Their Impact, Electronic Commerce, Strategic Information Systems Planning, Value Creation with Information Systems, Appropriating IT- Enabled Value Over Time, Information System Trends and Security, Privacy, and Ethics		
Recommended Texts:	 Laudon, K. C. & Laudon, J. P., 2010, Management Information Systems, 11th Edition, Pearson 		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	30 hours of theory, 30 hours of practical		
Type of Credits:	Optional		
Prerequisites:	None		

IIT 351-3 Management Information Systems

ESD 311-1 Communication Skills-II

Uva Wellassa University, Faculty of Management		COURSE SYLLABUS	
Course Code	ESD 311-1		
Course Title	Communication Skills-II		
Credits	1		
Status: Compulsory /Optional	Compulsory for all students		
Degree Programme (s)	All		
Prerequisites, if any	Pass ESD 111-1		
Time Allocation (hrs)	Lectures [-] Discussions [-] Practical [30] Field Work [-] Workshop [-]		
ASSESSMENTS/EVALUATIONS			
Continuous Assessments:			
Business Presentations (Group)			
Interview Skills (Group)	30%		
End Semester Examination:	40%		
	INTENDED LEARNING OUT	COMES	

By the end of this course, it is expected that the student will be able to:

- 1. Develop presentation skills required for the world of work.
- 2. Develop confidence in facing interviews and business meetings.

COURSE DESCRIPTION/CONTENT

The course will provide an introduction to Effective presentation skills, Delivering Business and Academic Presentations, Interview skills.

SELECTED READINGS

Effective Communication in Organizations, Fielding, M. (1997) 2nd ed. Kenywyn : Juta+Co Interpersonal Communication & Human Relationships, Knapp, Vangelisti & Caughlin, 2014, Pearson

IIT 312-3 Quantitative Techniques

Course Code	IIT 312-3		
Course Title	Quantitative Techniques		
Objective:	To provide the knowledge of a variety of statistical and quantitative techniques applicable to a wide range of computer industry		
Learning outcomes:	 At the end of the course, the students will be able to select the quantitative technique or model appropriate in problem solving and decision making situations. interpret results and the impacts they have upon the problems being studied. decide the appropriate course of action based on the quantitative analysis performed. integrate the quantitative methods learned for making decisions within an organization. explain decisions based on quantitative elements. 		
Contents:	 Basic principles of quantitative analysis, Development of a quantitative model, Concepts of applied probability and its application, Probability distributions, Population and sample estimation, Confidence interval and hypothesis testing, , Simple and multiple regression analysis, One-way (CRD) and Two-way (RCBD) ANOVA, Time Series Analysis 		
Recommended Texts:	 Neter, J, Kuter, M.H, Nachtsheim, C.J and Wasserman, W, 1996, Applied Linear Statistical Models, 4th edition, McGraw-Hill Bluman, A.G, 2007, Experimental Design, 6th edition, John Wiley 		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	30 hours of theory , 30 hours of practical		
Type of Credits:	Compulsory		
Prerequisites:	None		

IIT 322	2-3 Human	Resource	Management
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Course Code	IIT 322-3	
Course Title	Human Resource Management	
Objective:	To introduce students to the management, including the bu management and its practices and effectively manage human resource	fundamentals of human resource usiness case for human resource an overview of the skills necessary to s.
Learning outcomes:	 At the end of the course, the students will be able to develop a clear and meaningful understanding of human resource management theory, functions and practices define the role and value of strategic human resource management in the success of modern organizations apply human resource management concepts and skills across a variety of contexts, situations and incidents 	
Contents:	Definitions, Understanding Human Resource Management, Functions of HRM, Scope and importance of HRM, Evolution of HRM, Human Resource Department and the Manger, Staffing organizations- HR planning, job analysis and design, recruitment and selection, Human Resource Development, Performance evaluation, Rewarding.	
Recommended Texts:	 Boholander, Snell ,2012, Managing Human Resources, 10th edition, Thomson USA. Ivancevich, John,M,2013, Human Resource Management, 10th edition, Tata McGraw-Hill, New Delhi. 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	45 hours of theory	
Type of Credits:	Compulsory	
Prerequisites:	None	

Second Semester

CST 327-3 Web Development Technology

Course Code	CST 327-3	
Course Title	Web Development Technology	
Objective:	To provide a better understanding of how front page design and server side scripting with databases together to produce dynamic pages in World Wide Web	
Learning outcomes:	 At the end of the course, the students will be able to apply the basics of the server side scripting describe how web pages are developed deliver web pages including OOP concepts develop dynamic pages in web development 	
Contents:	Introduction server side scripting, data types, Identifiers, Variables, Constant, Expressions, String interpolation, Control structures, Functions and arrays, Object-oriented Concepts, Error and exception handling, Working with databases, Creating enhanced features with additional libraries and technologies, Securing the web site, Session and cookies	
Recommended Texts:	 Gilmore, W. J, 2010, Beginning PHP and MySQL: from novice to professional, New York: Apress 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	30 hours of theory ,30 hours practical	
Type of Credits:	Compulsory	
Prerequisites:	None	

IT 345-3 Business Law

Course Code:	IIT 345-3		
Course Title:	Business Law		
Objective:	To outline the laws applicable in business context including special remedies,		
Learning outcomes:	At the end of the course, the students	will be able to	
	- describe the meaning of comm	ercial law & activities and areas of	
	commercial law		
	 describe the source law and its 	application	
	- Identify a contract & main elements of contact law		
	 describe the agency relationship and law relating to agencies. 		
	- identify the form and subject matter of sale of goods contracts.		
	- discuss the importance of intellectual property law and its applications		
	- discuss the importance of Internet, e – commerce, computer crime and		
	e- commerce related legislation	ıs.	
Contents:	Introduction to Business Law Meaning of commercial law Application of		
	English Law to a business organization. Sources of Law and Legal system of		
	Sri Lanka. Fundamental concepts relating to Law Categories of Law Legal		
	System and Judiciary System in Sri Lanka. Contract Law and Agency Law.		
	Define a contract and main elements, Explain terms of contract, Outline		
	illegality and its effects, Methods of discharge a contract, Creation of Agency,		
	Type of agents (duties and responsibilities), Authority delegation of an agent,		
	Termination of agency relationship, Sale of Goods, Form and subject matter		
	of sale of goods, explain conditions and warranties, remedies available to		
	buyer and seller, rights of unpaid seller. Intellectual Property Law, Concept		
	behind intellectual property law, Evolution of intellectual property law in Sri		
	Lanka, analyses international intellectual property law. Law relating to		
	Internet, e- commerce and computer crime, Define computer/technical in		
	electronic related regulations Law governing computer crime		
Recommended Texts:	4 Brody David Fliot (1988) " Business & Its Legal Environment" D C Heath		
	Company		
	5 Weerssooriva W (2010) A Text book of commercial Law (Business Law)		
	Latest Edition. The Postgraduate Institute of Management		
Scheme of Evaluation:	Continuous Assessment End Semester Examination		
	60%	40%	
Methodology:	30 hours of theory		
Type of Credits:	Compulsory		
Prerequisites:	None		

IIT 311-3 Operational Research

Course Code	IIT 311-3	
Course Title	Operational Research	
Objective:	To solve the real life problems and obtaining the right solution requires understanding and modeling the operation research problems correctly and applying appropriate optimization tools and skills to solve the mathematical models.	
Learning outcomes:	 At the end of this course, student will be able to understand the characteristics of different types of decision-making environments formulate a real-world problem as a mathematical programming model understand the theoretical workings of the graphical and simplex method for linear programming perform sensitivity analysis to determine the direction and magnitude of change of a model's optimal solution as the data change solve specialized linear programming problems like the transportation and assignment problems solve network models like the shortest path, minimum spanning tree, and maximum row problems implement and solve the different models in LINDO 	
Contents:	Linear programming model (graphical method and simplex method), Duality and sensitivity analysis, Transportation and assignment, Network models and algorithms, Real life application with LINDO	
Recommended Texts:	 Wayne L Winston, 2004, Operations Research: Applications and Algorithms, 4th edition, Indian University David G. Luenberger, 1997, Linear and Nonlinear Programming 	
Scheme of	Continuous Assessment	End Semester Examination
Evaluation:	60%	40%
Methodology:	30 hours of theory , 30 hours of practical	
Type of Credits:	Compulsory	
Prerequisites:	None	

IIT 323-2 Project Management

Course Code	IIT 323-2		
Course Title	Project Management		
Course Objective:	To provide the knowledge of key components of project management and address the characteristics, techniques and problems associated with initiating, planning, executing, controlling and closing IT projects successfully.		
Learning outcomes.	 develop a project plan utilize work breakdown structures (WBS) in a project application. critically recognize the issues in realistic project scenario apply IT project management knowledge, techniques and tools to 		
	 solve realistic problems related to IT projects recognize the importance of project management soft skills needed in project managers explore new ways to suitably integrate project management knowledge, techniques, tools and soft skills in enhancing IT project success 		
Contents:	Fundamentals of Project Management, Project Planning and Scheduling, Technical Communication, Project Leadership Team and Stakeholder Management, Project Integration and Quality Management, Project Risk Management, Project Procurement and Cost Management, Time and Stress management, Negotiation and conflict management, Contracting and procurement planning, Earned Value Management for Project Managers, budget, project Integration management, Case studies		
Recommended Texts:	 Kathy Schwalbe,2007,Information Technology Project Management, 5th Edition 		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	30 hours theory		
Type of Credits:	Compulsory		
Prerequisites:	none		

CST 393-2 Research Methodology and Scientific Writing

Course Code	CST 393-2	
Course Title	Research Methodology and Scientific Writing	
Objective:	 To provide students with the tools and skills required to understand research terminology and assess published research To identify the types of methods best suited for investigating different types of problems and questions To develop research questions that are based on and build upon a critical appraisal of existing research To design a research proposal To begin initial preparations for embarking on a new research project 	
Learning outcomes:	 At the end of the course, the students will be able to understand research terminology be aware of the ethical principles of research, ethical challenges and approval processes describe different type of research methods identify the components of a literature review process critically analyze published research 	
Contents:	Introduction to Research Methodology, Overview of the Research Process, Development of Research Topics/Questions, Formulating testable Hypothesis, Literature review, Research Designs and Experiments, Methods of data collection, Processing and analysis of data, Report generation (content, style and grammar, reference and citations), Ethical issues in conducting research. Scientific Writing: Overview of scientific communication, Principles of Clear Scientific Writing, Writing reports and peer-review papers, The peer-review process and publishing, Poster and Oral presentation, Research Proposals	
Recommended Texts:	1. Zobel,J , 2014, Writing for Computer Science, 3 rd Edition, Springer	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	30 hours of theory	
Type of Credits:	Compulsory	
Prerequisites:	None	

IIT 381-2 Group Project

Course Code	IIT 381-2	
Course Title	Group Project	
Objective	Provide an opportunity to enhance knowledge, experience in information	
	technology applications in industry.	
Learning outcomes	At the successful completion of the course, the student will be able to	
	 identify computer-based solutions for a given problem. 	
	- select the best solution from the identified set of solutions.	
	 implement a system for a proposed solution. 	
	- define the use of Level1 and Level2 courses through the project	
	 build Team spirit and synergy 	
Content	A group of students (with limited number) works to implement a system	
	for a given case study or to solve a real word problem. The work includes	
	planning, designing and implementation of the system. An academic staff	
	is assigned as a supervisor with the mutual interest of the project.	
	Students are responsible for organizing themselves and their work, with	
	advice from their supervisor with whom they should meet on a regular	
	basis, as agreed with the supervisor	
Recommended Texts	1. Robson, C, 2007, How to do a Research Project: A Guide for	
	Undergraduate Students, First Edition, Wiley-Blackwell	
	2. Group Project Guidelines	
	3. Sample Report Format	
Scheme of Evaluation	Continuous Evaluation	End Semester Evaluation
	60%	40%
Methodology	Oral Presentation , Report Evaluation	
Type of credits	Compulsory	
Prerequisites	None	

CST 374-2 Multimedia and Hypermedia Technology

Course Code:	CST 374-2	
Course Title:	Multimedia and Hypermedia Technology	
Objective:	To provide the basic knowledge in the area of Multimedia and Hypermedia Technology and its applications.	
Learning outcomes:	 At the end of the course, the students will be able to describe most of the concepts and applications of the multimedia and hypermedia technology the multimedia authoring tools 	
Contents:	Introduction to Multimedia and Hypermedia, Multimedia Fundamentals ,Vector Graphics, Bitmapped Images, Compression methods, Color, Video, Video on demand, Animation, Sound, Hypermedia, Visual Design, Networks, Multimedia authoring tools (practical), Latest trends and applications in multimedia	
Recommended Texts:	 Gross,T , 2010,Plone 3 Multimedia, Packt Publishing Ltd, United Kindom Chapman,N, Chapman,J 2009, Digital Multimedia,3rd edn, John Wiley & Sons, Ltd, USA 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	30 hours of theory	
Type of Credits:	Compulsory	
Prerequisites:	None	
Level – 400

Department of Computer Science & Technology

First Semester

IIT 401-2 Advanced Database Management Systems

Course Code	IIT 401-2	
Course Title	Advance Database Management Sys	tems
Objective:	To provide advance knowledge Data Concepts	base Management System Advance
Learning outcomes:	 At the end of the course, the students will be able to define Indexing and index structures map query into query tree and graph perform query optimization apply transactions management in databases ensure concurrency control in databases 	
Contents:	Indexing, File Structure, Primary ,Secondary B+ trees , Introduction to OODBMS, Object and Classes , Class hierarchy , Comparison of Data Models, Query Tree , Query Graph, query Optimization, Cost Estimation in Query Execution, Transactions Scheduling ,Deadlock , Concurrency Control, Recoverability, Serializable Schedule, Locking Methods , Time Stamping,	
Recommended Texts:	 Raghu Ramakrishnan, 2003, Database Management Systems, , 3rd Edition, McGraw-Hill Elmasri, Navathe, Somayajulu, and Gupta, 2006, Fundamentals of Database Systems, 4th Edition, Pearson Education 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	30 hours of theory	
Type of Credits:	Compulsory	
Prerequisites:	None	

Course Code	CST 466 -2	
Course Title	Data Warehousing and Data Mining	
Objective:	To provide the knowledge on data, design aspects on data management and mining	
Learning outcomes:	At the end of the course, the student	s will be able to
	 describe and demonstrate dat 	a processing
	 recognize data models 	
	 define and apply data mining techniques 	
	 recognize the hidden pattern from the datasets 	
	 identify the design aspects of 	Data Warehousing
	 design large-scale data wareh 	ouses
Contents:	History , Data Warehouse, OLAP technology , Data types , Multidimensional	
	Data Mode, Preprocessing, Mining Primitives, Query Language, Graphical	
	User Interfaces, Architectures, Data Generalization, Characterizations,	
	Class Companisons, Classification methods, Dayesian Classification, Naive	
	Single Dimensional Boolean Asso	in trees, ANN, SVIVI, Apriori Algorithm,
	Bules Descriptive Mining of Com	nley Data Objects Spatial Databases
	Multimedia Databases study of	Government and Companies Data
	warehouses	Sovenment and companies bata
Recommended Texts:	1. Dunham, M.H, 2004 , Data Mining: Introductory and Advanced Topics,	
	Pearson Education	
	2 Anabary Cand Murry D 2002 Data Warehousing in the real world	
	2. Analiory, 5 and Warry, 5, 2005, Data Warehousing III the real world,	
Scheme of Evaluation	Pearson Education	
	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	30 hours of theory	
Type of Credits:	Compulsory	
Prerequisites:	None	

CST 466-2 Data Warehousing and Data Mining

CST 482-2 Software Localization

Course Code	CST 482-2	
Course Title	Software Localization	
Objective:	To provide necessary knowledge to taken to attention to cultural adaptation.	translate and localize software with special
Learning outcomes:	At the end of the course, the students will be able to - define and understand what is localization - define and describe the impact of culture and language on global	
	 software design apply software localization best practices when developing new or existing applications define and describe the importance of quality in localization 	
Contents:	Introduction to localization, Machine Translation, Control Languages, Process of graphic localization, Website localization, Cultural customization for the web, Role of software localization in organizational competitiveness and success., What is quality in localization, Technical problems in localization	
Recommended Texts:	1. Microsoft ,2002, Developing International Software, 2 nd Ed., Microsoft	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	30 hours of theory	
Type of Credits:	Optional	
Prerequisites:	None	

IIT 452-3 GIS for Business

Course Code	IIT 452-3	
Course Title	GIS for Business	
Objective:	To provide key topics of GIS as they a	are used in business settings
Learning outcomes:	 At the end of the course, the students will be able to define the underlying principles and functions of GIS demonstrate spatial analysis and modeling in business contexts identifying the steps in developing and implementing a GIS system analyze real world cases involving GIS and spatial analysis consider the ethical, legal, and security implications of GIS utilize spatial data to create maps for business decision making understand the management, planning, and strategy challenges for uses GIS in organizations 	
Contents:	Geographic information and its importance in organizations, Basics of GIS and maps, Decision-making with GIS, Spatial and non-spatial data: sources, accuracy, availability, costs, Spatial analysis and modeling, Investment in and value of GIS, GIS software and how to use it effectively, Case applications of GIS and spatial data in businesses, Management of GIS in organizations, Ethical issues, The future of geographic information and spatial decision making.	
Recommended Texts:	 Paul V. Bolstad, 2012, GIS Fundamentals: A First Text on Geographic Information Systems 4th Edition, Eider Press, ISBN-13: 978- 0971764736 Pick, J. B., 2008, Geo-Business: GIS in the digital organization. New York, NY: John Wiley and Sons. ISBN 978-0-471-72998-3. 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	30 hours of theory , 30 hours practical	
Type of Credits:	Optional	
Prerequisites:	None	

CST 441-2 Middleware Architecture

Course Code	CST 441-2	
Course Title	Middleware Architecture	
Objective:	To provide the fundamental concepts behind Middleware and Middleware technologies with their features to apply in computer based solutions	
Learning outcomes:	 At the end of the course, the students will be able to discuss the role and importance of middleware, and capture the essence of distributed object technology compare and Contrast the different Middleware Architectures available develop simple distributed applications list the differences between component and distributed object technologies 	
Contents:	Review of object oriented programming, Introduction to middleware architectures, Overview of network and distributed computing, Distributed objects, Remote Procedure Call (RPC), Remote Method Invocation (RMI), The Common Object Request Broker Architecture (CORBA), MW design patterns, SOA and web services, Application of middleware, Current trends in middleware	
Recommended Texts:	 Judith,M,. M, 2002 , The Complete Book of Middleware, : AUERBACH Britton,C, 2004 , IT architectures and middleware: strategies for building large, integrated systems, Boston: Addison-Wesley 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	30 hours of theory	
Type of Credits:	Optional	
Prerequisites:	None	

IIT 424-2 Change Management

Course Code:	IIT 424-2	
Course Topic:	Change Management	
Objective:	To provide the fundamental knwolege to identify the need of change by investigating and committing to skills and best practices associated with inspiring action and minimizing resistance to enhance the organizational success	
Learning Outcomes:	 At the end of this course, students will be able to, diagnose the need for change and create the necessary sense of urgency of change develop a change vision and goals and communicate them effectively in workplace implement change and ensure its continued success assess and manage resistance of change in working environment 	
Contents:	Introduction to change management, Perspectives on organizational change, Models of change, Current approaches to organizational development and change, Resistance to organizational change, Roles of change agents and leadership, Implementation and institutionalization of organizational change, Organizing for change, Strategies, Organizational culture and change, Evaluation of change	
Recommended Texts:	 Radha R Sharma, 2008, Change Management; Concepts and application, 2nd edition, Tata McGraw-Hill Education Robert A Paton and James McCalman, 2008, Change Management; A guide to effective implementation, 3rd edition, SAGE Publications Inc. 	
Scheme of Evaluations:	Continues Assessment	End Exam
	60%	40%
Methodology:	30 hours of theory	
Type of Credits:	Optional	
Prerequisites:	None	

Course Code:	IIT 448-2	
Course Title:	International Business	
Objective:	To Provide students with an overview and analysis in the field of international business	
Learning outcomes:	At the end of the course, the students will be able to	
	 demonstrate how the international business environment 	
	influences the operations of a bu	siness organization.
	- define the relationship between	important factors in
	international business	
	- illustrate the importance of national policies, cultures and business systems	
	with respect to international business	
	- develop basic strategic plans for international expansion and the associated	
	organizational changes.	
Contents:	Introduction to International Business and Globalization, Definitions, Internal drivers for international business, Companies doing international business, International business and trade, Foreign Direct Investment, The impact of technological changes, Changing demographics in the world economy, Globalization vs. localization, International Trade & Competitiveness : Theories of international trade, National Competitiveness, Theory of Competitive Advantage of Nations, Sri Lanka's Global Competitiveness International Trade Barriers, The International Monetary System and Foreign Currency Exchange :Tariff Barriers and Non-Tariff Barriers, World Trade Organisation (WTO) and other Associated Institutions, Exchange Rate Determination, The Foreign Market & Transactions, Financial Crises Culture And International Business: Components of Culture, Language and Non-Verbal Communication, Important Views and Models of Culture, Entry modes and strategies for International Business; Market selection and modes of market entry, Role of Strategy in International Business, Types of International Strategy Constant Strategy Pick Model	
Recommended Texts:	1. Cavusgil, S.T. Knight, G., Riesenberger, J.R. (2008). International Business:	
	Strategy, Management and the N	lew Realities. Upper Saddle River:
	Pearson/Prentice Hall.	
	2. Hill C (2012) International Busine	ss: Competing in the Global Marketplace
	(9th ed) McGraw Hill Education	
	3. John Daniels Lee Radebaugh Dan	iel Sullivan (2010) International Business.
	13 edn., Prentice Hall.	· · · · · · · · · · · · · · · · · · ·
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	30 hours of theory	
Type of Credits:	Optional	
Prerequisites:	None	

IIT 448-2 International Business

IIT 447-2 e-Business

Course Code	IIT 447-2	
Course Title	e-Business	
Objective:	To provide a foundation to prepare challenges and to play leading roles business system.	e students, to face future IT and systems s in the application and management of e-
Learning outcomes:	 At the end of the course the students should be able to demonstrate an understanding of e-business models apply selected e-business model theory to develop a business case demonstrate a critical understanding of e-business service provision demonstrate an appreciation of how businesses can use e-business to gain advantage 	
Contents:	Introduction to e-business, Models of e-business, Applying e-business design, Construction the e-business architecture, enterprise APPs, integrating processes to build relationships, Customer relationship management, Transforming customer contacts in to revenue, Selling-chain management, Building the e-business back born, Enterprise resource planning, Implementing supply chain management, Business intelligence, Developing the e-business design- strategy formulation, Translating e-business strategy in to action.	
Recommended Texts:	 Amjad Umar, 2003, E-business and distributed system handbook, Nge solutions inc. Ravi Kalakota Marcia Robinson, 2000, E-business 2.0 road map for success, Pearson education. Thomas Steohr, 2002, Managing e-business projects, Springer. 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	15 houres of theory, 30 hours of practical	
Type of Credits:	Compulsory	
Prerequisites:	None	

IIT 446-3 Business Strategy

Course Code	IIT 446-3	
Course Title	Business Strategy	
Objective:	To expose students to the application and use of strategic management concepts and models within the context of strategic planning process.	
Learning outcomes:	 At the end of the course the students should should be able to define strategy, discuss the participants in the strategic management process, and analyze various types of industry structures. select and apply appropriate strategic management tools to diagnose internal and external factors facing organizations. define and classify types of competitive advantage and explain associated best practices for creating and maintaining advantages. explain the most commonly used corporate strategies and analyze alternatives for creating long term value. 	
Contents:	Strategic management and its process, Environment scanning and industry analysis, Internal scanning and organizational analysis, strategic direction, strategy formulation, Business level strategy, Corporate level strategy and functional level strategy, Strategy choice, Strategy implementation, Evaluation and control	
Recommended Texts:	 Jeffrey S Harrison ,2003, Strategic management of resources and relationships, published by John Wiley & sons, Inc. Michael A. Hitt, R. Duane Ireland & Rebort E. Hoskisson , Strategic management- competitiveness & globalization , 5th edition, published by Thomson south- western. Thomas, L. Wheelen & Davis, J. Hunger (2003). Concepts in strategic management and business policy, 8th edition. USA: Person education 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	45 hours of theory	
Type of Credits:	Optional	
Prerequisites:	None	

IIT 426-3 Supply Chain Management

Course Code	IIT 426-3	
Course Title	Supply Chain Management	
Objective:	To develop an understanding of ba management and how they interre the firm.	sic drivers and the overall supply chain late and interface with other functions in
Learning outcomes:	 At the end of the course the students should should be able to obtain the knowledge of supply chain and its drivers explore opportunities for cost reduction through Supply Chain efficiency, optimization and improve revenue streams. 	
Contents:	Building a strategic framework to analyze supply chain- Understanding the supply chain, Supply chain performance, Supply chain drivers and matrix, Designing supply chain network, Planning, Demanding and supply in supply chain management- demand forecasting and aggregate planning, Planning and managing inventories in supply chain, Designing and planning transportation network, Managing cross- functions drivers in supply chain.	
necommended reads.	 Sum Chopra, 2007, Supply Chain Management, S. Petiton, Pearson education India. Ron Basu, J and Nevan Wright ,2010, Total Supply Chain Management, Routledge. 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	45 hours of theory	
Type of Credits:	Optional	
Prerequisites:	None	

IIT 425-3 Operations Management

Course Code	IIT 425-3	
Course Title	Operations Management	
Objective:	To provide the basic knowledge on o theories and models in professional i	perations management and apply the ndustries
Learning outcomes:	 At the end of the course, the students will be able to understand the basic theories, concepts and applications in operations management. understand the operations management process in organizations. understand the importance of quality management, concepts and techniques of inventory management actively participate in system designing in professional industries 	
Contents:	Introduction to Operations management, Work system designing, Product and process selection, Capacity planning, Forecasting, Total quality management, Quality management tools, Lean manufacturing systems, Inventory management, Aggregate planning, MRP and ERP, Inventory control models, Just in time method, Project management, Principles of theory of constraints and bottleneck management	
Recommended Texts:	 Stevenson W.J.,2005,Operations Management,8th edition, McGraw Hills Irwin Richard B.C, Nicholas J.A,Jacobs F.R, 2005, Operations Management for competitive advantage, 9th edition, McGraw Hills Irwin. Reid R.D,Sanders N.R,2002, Operations Management, John Wiley and Sons,Inc 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	45 hours of theory	
Type of Credits:	Optional	
Prerequisites:	None	

IIT 453-3 Information Systems Security and Auditing

Course Code	CST 453-3	
Course Title	Information Systems Security and Auditing	
Objective:	To provide basic principles and practices in information systems security for secure application development and application of tools and techniques to audit information systems security	
Learning outcomes:	 At the end of the course, the students will be able to state the basic concepts in information systems security state the basic concepts and general techniques in security auditing and risk assessment explain concepts related to various cryptographic tools determine appropriate mechanisms for protecting information systems 	
Contents:	Introduction to Information Security, Need for Security, Security Technology, Cipher Methods, Cryptographic Algorithms, Cryptographic tools, User Authentication, Access Control, Database and Cloud Security, Software Security, Malicious Software, Protocols for Secure Communication, Attacks on Cryptosystems, Implementing Information Security, Information Security Maintenance, Introduction to Auditing & Security Concepts, Security Policy, Risk Management, Disaster Recovery, Vulnerability Scanning, Auditing Network Perimeters, Human factors, Legal and ethical issues in Information Systems security	
Recommended Texts:	 Stallings, W. and Brown, L. (2015). Computer security. Boston: Pearson. Whitman, M. and Mattord, H. (2012). Principles of information security. Boston, MA: Course Technology 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	45 hours of theory	
Type of Credits:	Optional	
Prerequisites:	None	

IIT 449-2 IPR and Commercialization

Course Code	IIT 449-2	
Course Topic	IPR and Commercialization	
Objective:	To provide the students an understanding on the legal ways of protecting their valuable business ideas and their individual intellectual properties.	
Learning outcomes:	 At the successful completion of the course the students would be able to; identify the available legal coverage for protecting their business ideas and apply for intellectual property explain the nature of new product development and the process identify the concepts of commercialization and its process explain the stages of product life cycle and its features 	
Contents:	Introduction to IPR, Copyrights and work protected by copyrights, Application procedures for copyrights, Rights of an author and transferring the rights, Industrial designs and wok protected by industrial design rights; Patent, Work protected by patent rights and rights of a patent holder, Application procedure for patents, International classification on patent and transferring and assigning rights; Trademark, Admissibility of trademarks and rights of the designer, Application procedure for trademarks and transferring and assigning the rights; Introduction to commercialization, Commercialization process of innovation. New Product development, Product Life Cycle	
Recommended Texts:	 M.Sandirigama ,2012,Intellectual Property: A Quck gide for Scientists and Technologists,Science Education Unit, University of Perdenya 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	Case Study – 20%, Quiz – 20%, Group Assignment – 20%	
Type of Credits:	Compulsory	
Prerequisites:	None	

CST 435-3 System Administration and Maintenance

Course Code:	CST 435-3	
Course Title:	System Administration and Maintenance	
Objective:	To provide the best practice of System Administration and Maintenance	
Learning outcomes:	 At the end of the course, the students will be able to describe setup and basic network architecture, configure and maintain of servers and client computers define the system security, server backups and documentation learn best practice in system administration including security policies and communication strategies with users 	
Contents:	Introduction to System Administration and Maintenance ,Data center standards, Basic network architecture, Linux/Unix Operating Systems, Server/client installation, server /client configuration, server/client maintenance, Server services, Client services, Network monitoring and monitoring tools, Administrative Activities, Server management, Security management, User and group management, Backup management, Disaster recovery, Automation management, User support and education, ,Administrative Domains, Support domains, Introduction to virtualization and cloud computing, Shell Scripting The system administrator code of ethics	
Recommended Texts:	 Limoncelli, T.A,Hogan,C.J & Chalup, S.R, 2007, The Practice of System & Network Administration, 2nd edn, Addison-Wesley, USA Frisch, A, 2002, Essential System Administration, 3rd edn, O'Reilly,USA Nemeth,E, Snyder,G,Hein,TR & Whaley,B , 2001, Unix and Linux System Administration Handbook, 4thedn,Prentice Hall,USA Nelson,S , 2010,Pro Data Backup & Recovery , Apress 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	45 hours of theory	
Type of Credits:	Optional	
Prerequisites:	None	

CST 434-2 Mobile Computing

Course Code	CST 434-2	
Course Title	Mobile Computing	
Objective:	To provide the knowledge to apply the concepts and get familiar with the basic concepts of mobile computing	
Learning outcomes:	 At the end of the course, the students will be able to define the basics of mobile telecommunication system choose the required functionality at each layer for given application identify solution for each functionality at each layer 	
Contents:	Introduction to Mobile Computing, Applications, Characteristics, Structure, MAC Protocols, Wireless MAC Issues, Fixed Assignment Schemes, Random Assignment Schemes, Reservation Based Schemes. Overview on Mobile IP, Features, Mechanism, route Optimization, Architecture of TCP/IP, Adaptation of TCP Window and Improvement in TCP Performance. Overview on GSM, GPRS and UMTS. Mobile Ad-Hoc Basic Concepts, Characteristics, Applications, Design Issues, Routing, Essential of Traditional Routing Protocols, Popular Routing Protocols and VANET, Security. Operating Systems for mobile device, Special Constrains and Requirements , Commercial Mobile Operating Systems, Overview on Software Development Kit, MCommerce, Security Issues	
Recommended Texts.	 Agaivar, D.P. Qing and Zeng, A. 2005 Introduction to Wireless and Mobile systems, Thomson Asia Pvt Ltd Hansmann, U, Merk, L, Nicklons , M, S and Stober, T , 2003 Principles of Mobile Computing, Springer 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	30 hours of theory	
Type of Credits:	Optional	
Prerequisites:	None	

CST 428-2 Software Quality Assurance

Course Code	CST 428-2	
Course Title	Software Quality Assurance	
Objective:	To guide students to apply the concepts and get familiar with the artifacts associated with a typical software quality assurance process	
Learning outcomes:	 At the end of the course, the students will be able to define software quality factors and software quality assurance components in the project life cycle describe the basics of software testing, test generation, assessment and enhancement discuss about various testing types, methods and levels of testing apply test automation tools in QA process 	
Contents:	Introduction to software quality assurance, Testing overview (What is testing?, Who does testing?, When to start testing?, When to stop testing?, Difference between verification and validation, Testing types, Testing methods, Levels of testing, Development and quality plans, Introduction to test automation tools	
Recommended Texts:	 Galin,D, 2004, Software quality assurance: from theory to implementation, Harlow, Essex: Pearson/Addison Wesley Lewis, William,E and Raton,B, 2008, Software testing and continuous quality improvement, FL: Auerbach Publications 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	30 hours of theory	
Type of Credits:	Compulsory	
Prerequisites:	None	

Course Code	IIT 471-3	
Course Title	Digital Image Processing	
Objective:	To provide the knowledge on Images and its representation, Types and manipulations.	
Learning outcomes:	At the end of the course, the students will be able to - describe Image representation - perform Basic Operation on images perform Enhancement in images using filters	
	 perform Extraction and Processing the Region of Interest (ROI) 	
Contents:	Human vision, resolution, vector, raster images, Color models (RGB, Grey Scale, Black and White), Image sampling, Quantization, threshold, Image representation, Image files types, Image Enhancement, Intensity Transformations and Spatial Filtering, Histogram, Filters (mean, median, etc.) Smoothing, Color image enhancement, Noise distributions ,connected components, Fourier Transform, Image Restoration & Reconstruction, Image deformation and geometric transformations, Restoration techniques, Noise characterization, Noise restoration filters, Adaptive filters, Linear, Position invariant degradations, Morphological Image Processing, Structuring Elements, Image Segmentation, Edge detection, Edge linking ,Object detection , Region growing, Region splitting and Merging , Watershed method, Color Image Processing , Image Compression, Medical Image Processing ECG,MRI ,CTScan, Images Analysis	
Recommended Texts:	1. Gonzalez ,R.C and Woods,R.E ,2007, Digital Image Processing, 3 rd Edition,	
	 Gonzalez ,R.C , Woods,R.E and Eddins ,S.L , 2009 Digital Image Processing using MATLAB' 2nd Edition, Gatesmark Publishing 	
Scheme of Evaluation:	Continuous Assessment	End Semester Examination
	60%	40%
Methodology:	30 hours of theory ,30 hours of practical	
Type of Credits:	Compulsory	
Prerequisites:	None	

IIT 471-3 Digital Image Processing

IIT 462-3 Digital Marketing

Course Code	IIT 462-3		
Course Title	Digital Marketing		
Objective:	To provide the knowledge on e-marketing and advertisement types and manipulations.		
Learning outcomes:	At the end of the course, the students will be able to		
	 explain the circumstances, which have led to the rapid expansion of e Marketing. 		
	- recognizing the wide range of activities, which encompass e Marketing.		
	- explain how e-marketing links with mainstream marketing		
	 recognizing how consumer behavior may vary in an e-marketing environment 		
	- evaluate which e-marketing methods an organization should use.		
	 evaluate the advantages and disadvantages of different e-marketing methods. 		
	- discuss the ethical and legal issues associated with e-marketing		
	- discuss the international aspects of e-marketing activities.		
	 evaluate e- marketing strategies 		
Contents:	"Traditional" marketing and Introduction to e-marketing, Web site essentials –		
	site design, e-models and e-mix ,e-customers and e-CRM ,e-tools for markrting		
	and Traffic Building, E-business, Overview of international, Ethical and Legal		
	issues, E-planning, Evaluation ,E-marketing ,Managerial considerations, SEO,		
	Affiliate marketing, Advertisement in social media , Animation design, Digitizing.		
	Using Google for marketing, Data Driven Marketing and Sales for Maximum		
	Return, Pay per Click Advertising (PPC) – Acquiring the Right Leads for Less,		
	Blogging		
Recommended Texts:	1. Chaffey, Dave and Paul Russell Smith, 2012, eMarketing excellence:		
	Planning and optimizing your digital marketing, Routledge,		
Scheme of Evaluation:	Continuous Assessment	End Semester Examination	
	60%	40%	
Methodology:	30 hours of theory and 30 hours of practical		
Type of Credits:	Optional		
Prerequisites:	None		

Second Semester

IIT 482-6 Industrial Training

Course Code	IIT 482-6		
Course Title	Industrial Training		
Objective	To provide an opportunity to enhance knowledge, experience in information technology applications in industry.		
Learning outcomes	 At the successful completion of the course, the student will be able to integrate academic theory with practical experience in a professional field of interest clarify career goals develop content specific and transferable skills establish mentoring relationships with professionals in a career field of interest build a professional network 		
Content	At the end of the 4th year 1st semester, the students will be assigned to a selected industry in Sri Lanka. Students are required to physically present in the selected industry for work, Ensure that the student has a supervisor who can provide information about company policies, expectations, key contacts, and consistent feedback, Schedule a possible site visit from the intern Coordinator during the semester, Students must keep touch with the intern Coordinator through Virtual Learning Environment		
Recommended Texts	1. Industril Traingng Diary		
Scheme of Evaluation	Continuous Evaluation	End Semester Evaluation	
	60%	40%	
Methodology	Oral Presentation, Onsite Evaluation, Supervisor Feedback, activity Dairy		
Type of credits	Compulsory		
Prerequisites	None		

Course Code	IIT483-8		
Course Title	Research Project		
Objective	To provide insight into understanding and applying the scientific method, including forming hypotheses, designing experiments to test hypotheses, and collecting, analyzing, interpreting, and reporting data. To improve the ability to think critically, analyze, synthesize, and use information to solve problems.		
Learning outcomes	 At the successful completion of the course, the student will be able to demonstrate understanding of the importance and process of research in computer sciences identify a problem where a computer-based solution can be provided and formulating a research question perform literature search, critique and review; and write a detailed and critical account of current knowledge of a selected topic perform acknowledgment, citations, referencing in an acceptable manner define plagiarism and importance of avoiding it demonstrate understanding of ethical issues and principles plan and manage an innovative computer science and business research project, within given constraints, using knowledge and skills developed during the course apply problem-solving methodologies to generate, evaluate and justify innovative solutions clearly communicate information, ideas, issues, problems and solutions 		
Contont	This research project will involve the investigation of a computer science or any		
Content	other problem or phenomenon using computer-based, experimental procedures or literature-based computational or statistical methods, under the theme of value addition to national resources base. Research results will be critically analyzed, evaluated and presented, both orally and in the form of a written project report. An academic staff is assigned as a supervisor with the mutual interest of the project. Students are responsible for organizing themselves and their work, with advice from their supervisor with whom they should meet on a regular basis, as agreed with the supervisor		
Recommended Texts	1. Booth, W.C, Colomb, G.G and Williams, J.M., 2003, The Craft of Research.		
	 University of Chicago Press, ISBN: 0226065680 Williams, J.M, 2007, The Elements of Style. Coyote Canyon Press, ISBN- 0:0979660742 Zobel, J. (2007) writing for computer science, Springer, ISBN 978-1-4471- 6639-9 		
Scheme of Evaluation	Continuous Evaluation	End Semester Evaluation	
	60%	40%	
Methodology	Project Proposal, Progress Report, Oral Presentation, Thesis Evaluation		
Type of credits	Compulsory		

IIT 483-8 Research Project

Prerequisites

Printed by: Department of Computer Science and Technology, Uva Wellsassa University, Badulla, Sri Lanka.