Students Handbook
B.Sc in ITMS
Academic Year 2007/2008

Management Information System Unit
Faculty of Management and Commerce
South Eastern University of Sri Lanka
University Park
P.O. Box No. 01
Oluvil-32360
Sri Lanka

Faculty Mission

"The mission of the Faculty of Management & Commerce is to provide a quality education in business studies which blends the best of relevant theory and practice with an innovative approach to teaching , learning and research giving due consideration to the changing environment, the real demands of business world, and the contemporary development needs of south eastern Region and the country as a whole"

Message from Vice Chancellor

It provides me profound pleasure to welcome the 1st batch of undergraduates of the new degree programme in Bachelor of Science in Information Technology for Management Studies (BSc. in ITMS), enrolled for the academic year 2008/2009 that has come to record the historic events in the academic development of this university under the Faculty of Management and Commerce with the main objectives of providing new and more opportunities to learn job oriented new programme and live peacefully in this world of competition.

This BSc in ITMS programme is embodied in the Academic Plan (2006-2015) approved by the Ministry of High Education so as to establish a Faculty of Technology to offer new degree programme in BSc in MIS and BSc in ICT in the near future.

As IT is recognised as a very important and essential skills even for managers in the public and private sectors, so it is proper that IT should be provided for all the students from the school level to University to come up to learn MIS, ICT and other relevant courses at their best.

I am also glad that the Faculty of Management and Commerce has taken tremendous efforts to design suitable syllabus and offer this programme with the help of experts and scholars in the IT field.

Also i wish newly enrolled undergraduates all the success in continuing this programme for their better life in their future and to contribute their best towards the capacity building as well as nation building.

Dr. A.G. Hussain Ismail

Vice Chancellor

South Eastern University of Sri Lanka.

Oluvil

Message from Dean - FMC

I with great pleasure in contributing this brief message to this student's hand book of the FMC, SEUSL issued on the occasion of registering the new students enrolled for BSc. in Information Technology for Management Studies (ITMS) degree programme for the academic year 2008/2009 under the purview of this faculty. FMC has been offering various degree programmes in Accounting, Finance, Human Resources, Marketing, and Management Information System from its inception successfully according to the vision and mission of this University.

From this academic year, this faculty has opened a new window to offer BSc. in ITMS three years course of study to produce multi skilled graduates with the knowledge of management and IT so as to meet the new challenge in the context of rapid process of globalization. As the first time, 60 students are allocated by the UGC to read for this new course of study at this faculty. This degree programme is to be conducted in English medium and another innovative feature is that this BSc.in ITMS programme will be conducted with the modern facilities of well equipped computer laboratory and competent academic staff.

We are glad that this training programme would be well recognized by the peoples of this country. I congratulate all students who are selected to follow this new course at this faculty and I have the fullest confident that they would be valuable assets in the modern society to have sustainable knowledge based economic development according to the changes are taking place in the globalised competitive marketplace.

It's my bounded duty to thank Dr. A.G.Hussain Ismail, Vice Chancellor, through his advice and vast experiences, that he has, motivated the whole academic staff to create innovation according to the current trends of this new world. And also thanks the former Dean of the faculty, head of the departments, academic staff and other staff for their deep interest in developing the activities of FMC and specially introducing new course like this.
As the founder of the faculty and present Dean of the faculty, I would like to be thankful to our academic staff who worked as a team to develop this faculty such a level with their interesting efforts and commitments.

I take this opportunity to congratulate all the new students of this faculty to enjoy all accessible resources so as to widen the horizon of knowledge in their respective field of study.

Dr.K.Ishaq PhD
Dean/ Faculty of Management and Commerce.
South Eastern University of Sri Lanka.
Oluvil
08.10.2008

Message from the Head - Management

I take great pleasure in giving this message of felicitation for the first Handbook of the management and IT degree program on the occasion of its release. This is a maiden handbook of this degree and giving a higher level of benefits to the undergraduates.

I am very happy to note that this degree which is just starting has developed to such an extent of releasing this handbook as a valuable guide to the students' community. Actually this degree program will enhance the quality of the undergraduates to enable them to get into employment market locally and internationally with competence.

This handbook is considered as a tool for revealing the relevancy to the course for creating well trained human forces to meet global demands from the point of employability and well trained professionals to perform jobs.

This degree program presently operating under the faculty of management & commerce it is a new wing of this faculty in its success.

I hope that this handbook will assist the new students to identify the suitable path that lead them to the bright future. And I wish all the success in the future program of this Faculty.

Mrs. Sulaiha Beevi Athambawa,
Head
Department of Management
Faculty of Management & Commerce
South Eastern university of Sri Lanka
Oluvil

Message from the Head - Accountancy & Finance

It is my privilege to send this message to the students' hand book of the faculty of Management and Commerce for B.Sc (ITMS) programme.

The Faculty of Management and Commerce is the most progressive and innovative faculty opens a new window for information Technology in management studies considering global demands from the point of employability and sustainable economic development.

As a successful institution, we are consistently highly rated for our academic excellence and we have excellence reputation for the quality of our teaching and research.

This hand book can provide all necessary information to those who come from different discipline and different environment back ground. It has been prepared with the recommendation of the faculty board of Management and Commerce and the approval of Senate of SEUSL. So it becomes very important document for the first year students of B.Sc (ITMS) programme, and the Degree will be awarded on the information given in the hand book.

This hand book is designed to give you a flavour of the Management and Commerce experience, and I hope that it encourage you to take your interest a stage future. I look forward to welcoming you to our academic community and wish you all to achieve your target through the operation of the Degree programme.

M.B.M.Amjath
Head
Department of Accountancy & Finance
Faculty of Management and Commerce
SEUSL

01 Introduction

1 The South Eastern University of Sri Lanka

This South Eastern University of Sri Lanka has a historical record of two phases. Originally, it was ceremonially inaugurated as the South Eastern University College, Sri Lanka, on 23-10-1995 at Addalaichenai, Government Teachers' Training College Compound. Then it was raised to the status of the National University, and named as the South Eastern University of Sri Lanka with effect from 15 May 1996. In May 1998, this university was geographically shifted from Addalaichenai to Oluvil site.

This University started functioning with 1992/1993 academic year batch of 33 students who have finished their 1st year course of studies at Eastern University. Of these, 31 of them were admitted to the Faculty of Management & Commerce, and only 2 were to the Faculty of Arts & Culture. Then in Dec. 1995, 91 students and 108 students belonging to 1993/1994 academic year and 1994/1995 academic year respectively were admitted to follow 1st year course of studies.

The salient feature of the academic activities of this university is the adoption of semester system that ensure intensive teaching practices with specific syllabus for specified period of learning.

In 1997, The Faculty of Applied Science was started at Sammanthurai where Affiliated University College had been located. In the year 2007, the Faculty of Islamic Studies and Arabic Language was started in Oluvil Campus. Today this South Eastern University of Sri Lanka is one of the thirteen universities of the nation with a student's population of about 1200in four Faculties.

1.2 The Faculty of Management and Commerce

1.2.1 Evolution:

The noteworthy feature of the Faculty of Management and Commerce (FMC) is that it was started with its academic work at the very beginning itself with four academic staff and thirty one students of whom nineteen for commerce and twelve for management stream with the objectives of offering degrees in Business Administration and Commerce. Additionally in view of the demands of the Graduate Services in the field of Marketing and Accounting & Finance, the faculty recognized the necessity of offering a special degree in Marketing and Accounting & Finance. As a result, the special degree programmes in Marketing and Accountancy were started in 1999 and they offered exposures in industrial training to the final year students who were getting educated at the Academic Programme Centre so that the students enjoyed professional training in their special field at private and public organizations. Later on the Faculty of Management and Commerce having come to understand the necessity of the specialization programme it changed its policy to admit the students for specialization programmes at the 2nd year itself and the same specialization programmes were offered in 2001.

The Faculty of Management and Commerce has two departments namely Department of Management and Department of Accountancy and Finance from its inception. The year 2002 marked a turning point in the history of the Faculty of Management and Commerce. It finalized a plan for restructuring, which had been working since 1995. The restructuring plan resulted in the formation of six academic units which function under the above two departments, offering twelve undergraduate degree programmes. These units are oriented as service units. A service unit is a unit which is identified with a specific functional area of business, whose staff members are solely from that specific area of expertise, and which offers courses solely from its own area of expertise for all the degree programs offered by the Faculty of Management and Commerce. All degrees are offered by the Faculty of Management and Commerce and each unit will serve the needs of all the degree programs by offering courses from its functional area. It is intended to convert these units into departments in near future. And, in 2008, the Faculty of Management and Commerce proudly announces its new course with the title B.Sc (Information Technology for Management Studies).

To ensure the quality of our graduates, Faculty of Management and Commerce has been maintaining linkage with the Faculty of Management Studies and Commerce, University of Sri Jayewardenepura and other relevant national Universities on exchanging of the services of expertise frequently.

The Faculty of Management and Commerce is considered pioneer in implementing the latest University Educational Reforms in the country. The graduates of Faculty of Management and Commerce are highly able to face challenges in Sri Lanka locally as well as internationally.

1.2.2 Organizational Structure

The Faculty of Management & Commerce is organized under the Dean. The Dean's office coordinates all academic and administrative activities within the Faculty of Management & Commerce. There is a Head for each academic department that comes under the provision of faculty. In addition, the faculty has six units that come under the departments. In addition, ELTU (English Language Teaching Unit) and Computer Unit also serve the FMC. The Heads of the departments report to the Dean.

(See Table 1: Departments and Units in the FMC)
(See Figure 1: Organizational Structure of the FMC)

Table 1

Departments and Units in the Faculty of Management and Commerce

Academic Departments		Code
Department of Management	Marketing Unit Human Resource Management Unit Business Economics Unit Management Unit	**MKM** **HRM** **BEC** **MGT**
Department of Accountancy & Finance	Accountancy Unit Finance Unit	**ACC** **FIN**
MIS Unit	Management Information System Unit	**MIS/ITMS**

Figure 1

Organizational Structure of the
Faculty of Management and Commerce
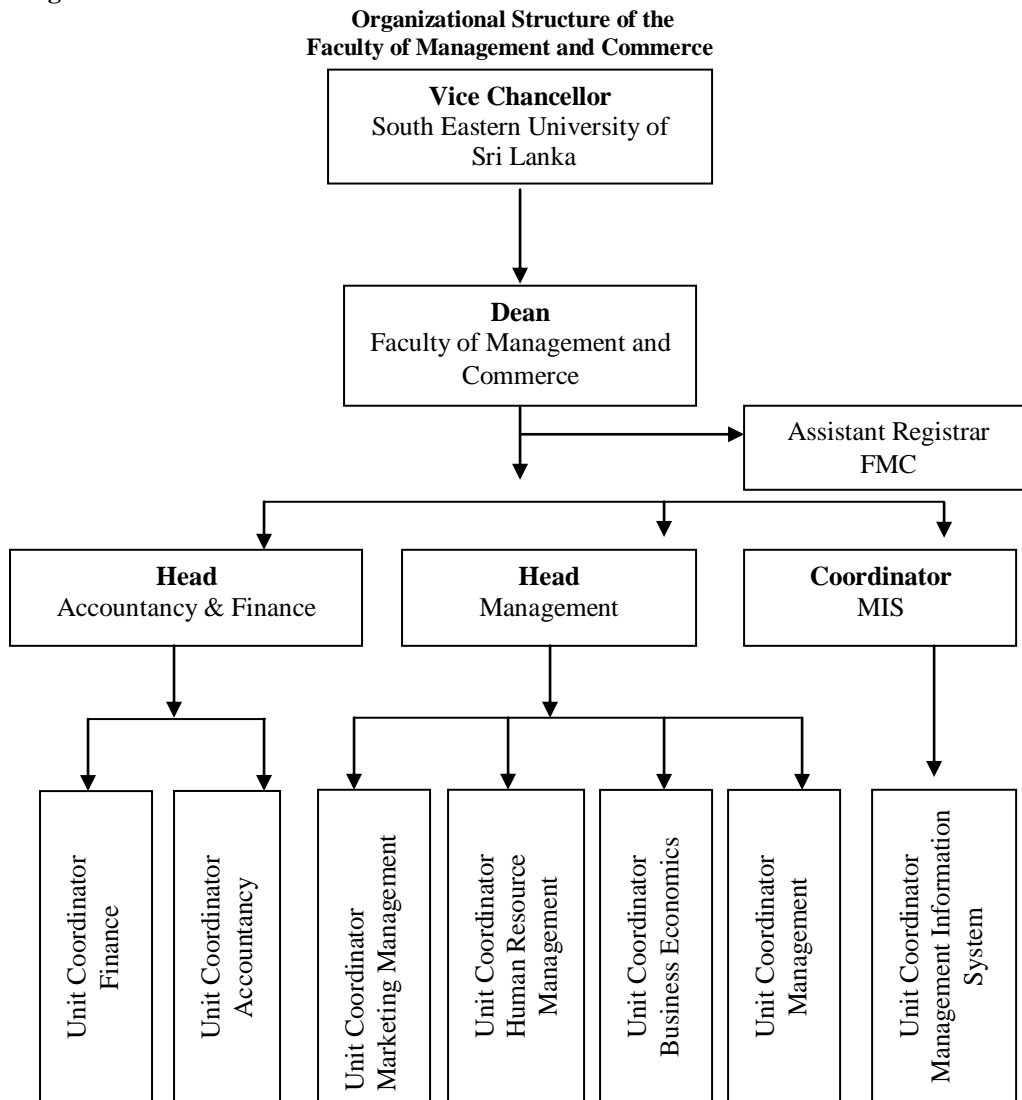
02. General Information

2.1 Admission to the Faculty:

Admission of students to the Faculty of Management and Commerce is done by the University Grants Commission (UGC). The policies, procedures and requirements for the admission of students to the Faculty of Management and Commerce each year are determined by the UGC in keeping with the admission policy of the Government and the allocation of students to the Faculty of Management and Commerce is also made by the UGC.

For B.Sc (ITMS), the FMC advertises on local news papers and university website inviting applications from interested students who got through in different streams in G.C.E. Advanced Level. The applicants will be having an selection test and the list of students who pass the test will be sent to the UGC and the UGC does the allocation of students for this course each year.

2.2 Registration

All students selected for admission to the Faculty of Management and Commerce are required to register themselves with the Faculty of Management and Commerce before commencing their course of study each academic year. In addition, for B.Sc (ITMS), selected students are requested to register themselves with the MIS Unit as well.

2.3 Effect of Registration

Any student who complete registration and thereby becomes a registered student of the Faculty of Management and Commerce is bound by the By – Laws, Rules & Regulation of the South Eastern University of Sri Lanka and is forbidden to register for any undergraduate course in any other universities in Sri Lanka.

2.4 Academic Degree Programmes

At present the Faculty of Management and Commerce offers special degrees in Business Administration, Commerce, Marketing, Accounting, Finance, Information System and Human Resource Management. The B.Sc (ITMS) is a general degree program and commencing form the academic year 2008.

2.4.1 Duration of Degree Programmes

The minimum period of study for completion of a general degree is three years of full time study for the award of a general degree offered by the Faculty of Management and Commerce. The maximum period of study for completion of a General degree is six years.

2.5 Course Identification

Each course unit is identified by an alpha – numeric course code of four alphabets and four numerals. The four alphabets indicate the degree title that offers the course. Out of the four numeral, the first digit indicates the year of study and can take the value of 1, 2, or 3. The second digit identifies the semester. The third digit indicates the serial number of the course assigned by the respective units. The forth digit represents the number of credits of allocated for the subject. For example, ITMS 1213 indicates a first year course (first digit) in the Semester – II, first subject digit (third Digit), and with 3 credit points (in last digit).

Table – 11

Bachelor of Science in Information Technology for Management Studies (B.Sc in ITMS)

Subject Code	Subjects	Cont. Ass. Marks	Final Exam Marks	Subjects offered by Dept. / Unit	Credits
Year 1 Semester 1					
ITMS-1113	Principle of Management	20	80	MGT	3
ITMS-1123	Professional English & Communication	20	80	MGT	3
ITMS-1133	Introduction to Information Technology	20	80	MIS	3
ITMS-1143	PC Applications	30	70	MIS	3
ITMS-1153	Mathematics for Computing	20	80	MGT	3
Year 1 Semester 2					
ITMS-1213	Entrepreneurship & Small Business Management	30	70	MGT	3
ITMS-1223	Business Economics	20	80	MGT	3
ITMS-1233	Business Information System	20	80	MIS	3
ITMS-1243	Fundamental of Programming	30	70	MIS	3
ITMS-1253	Object oriented System Analysis and Design	30	70	MIS	3
Year 2 Semester 1					
ITMS-2113	Marketing Management	20	80	MGT	3
ITMS-2123	Business Law	20	80	MGT	3
ITMS-2133	Computerized Accounting System	30	70	ACC	3
ITMS-2143	Technology Management & Applications	20	80	MIS	3
ITMS-2153	Data Communication & Network Administration	30	70	MIS	3
Year 2 Semester I1					
ITMS-2213	Human Resources Management	20	80	MGT	3
ITMS-2223	Financial Modeling and Decision Making	30	70	ACC	3
ITMS-2233	Database Management System	30	70	MIS	3
ITMS-2243	Web Designing & Development	40	60	MIS	3
ITMS-2253	Software Engineering	40	60	MIS	3
Year 3 Semester I					
ITMS-3113	Quantitative Techniques for Management	20	80	MGT	3
ITMS-3123	Strategic Management	20	80	MGT	3
ITMS-3133	Software Project Management	20	80	MIS	3
ITMS-3143	Rapid Application Development	30	70	MIS	3
ITMS-3153	Information Systems Security	20	80	MIS	3
Year 3 Semester II					
ITMS-3213	Operations Management	20	80	MGT	3
ITMS-3223	Java Components & Technology	40	60	MIS	3
ITMS-3233	E Commerce Principle and Applications	30	70	MIS	3
ITMS-3246	Projects			MIS	6

One credit is equivalent to 15 hours of lecture programme
MGT- Department of Management
ACC- Department of Accountancy & Finance
MIS- Management Information System Unit

03. Evaluation Policies

3.1 Semester System

The FMC operates on Semester System. Each academic year consists of two Semesters with fifteen weeks of teaching and practical works.

3.2 Examinations

Each course requires a final examination at the end of each semester. In addition, the courses incorporate continuous evaluations. The method of continuous evaluation may include mid-semester examinations, case studies, presentations, tutorials and group assignment etc. and the marks scored from these continuous evaluations are added to the examination performance of the student at the end of each semester. A student will be eligible to sit the semester examination only if he or she has 80% attendance at lecture and continuous evaluations.

(i)   Usually all written paper examinations are held within the two-week assessment process at the end of each semester. Examinations are held in two daily sessions commencing 9.00 am and 2.00 pm. The examination timetable is placed on the notice board about two weeks prior to the assessment period. Students are required to show their record book/ identity card at the examination venue.

(ii)   Students who arrive late but not later than 30 minutes will be allowed to sit the examination, but will not be granted extra time. Those who arrive more than 30 minutes late should report to the Registrar's Office.

(iii)   A student will not be permitted to sit an examination unless the Head/ Heads of the relevant Department/ Departments shall have certified that he/ she has completed the courses of study for the examinations by attending at least 80% of the total number of lectures, tutorials, practical classes and other forms of instruction in the subject matter of each paper for that examination.

However, under exceptional circumstances, consideration shall be given to candidates, if the reason for absence is illness, supported by a Medical Certificate from Government Medical Officer, or any other valid reason supported by documentary evidence, provided the student has attended at least 65% of lectures, tutorials, practical classes and other forms of instruction in the subject matter of each paper for that examination.

(i)   Unless the Senate decides otherwise, a candidate shall present himself/ herself for each examination on the first occasion on which the examination is held after the completion of course of studies for the examination.

(ii)   Unless the Senate decides otherwise, a candidate will be deemed to have sat any examination whether he/ she actually appeared for the examination or not.

(iii)   No examination conducted by the University will be repeated. If a student fails an examination or was unable to sit the examination due to ill health or any other valid reason acceptable to the Senate, he or she will be required to sit for such examination, when it is conducted during the next academic year.

(iv)   A candidate who is unable to sit an examination due to ill health should notify the Registrar immediately in writing or by telegram. Telegrams should be confirmed in writing by registered post within a period of 48 hours. A Medical Certificate should be submitted without delay from or through the University Medical Officer.

(v)   Such candidates should appear for the said examination when it is held the following academic year and depending on the circumstances and at the discretion of the Senate, the candidate may be treated as appearing for the first time. In the case of Practical, the candidate may be allowed to sit for Practical Examination at the end of the Course Units. Such marks will be considered as of a first attempt.

(vi)   Special repeat examination will not be conducted. (vide: Decision of the Senate at its 65th & 66th meetings held on 29/12/2005 & 21/02/2006)

3.3 Credit Hours

The unit of measure for academic credit purposes is the credit point. One credit point is normally equivalent to one hour of classroom work per week per semester. Most courses meet for three lecture hours a week and have an academic credit value of three credit points. On that basis, the number of credit points given for a particular course is indicated in the following Table.

Table – 11

Relationship between Contact Hours and Credit Points

No of Contact Hours Per Week	No of Credit Points
1	1
2	2
3	3
4	4

3.4 Students' Course Load

Typically, a student is required to take six taught courses per semester in the first two years. Each of the two semesters in the first two year common programme is designed to carry 18 credit points. During the next two years, the number of credit points per semester may vary among programmes. However, the total credit points required to earn a degree is 130.

3.5 Grading Scale

Students' performance is graded on a Grade Point Scale, which ranges from **A+** (excellent) to **F** (fail). The grading scale is shown in Table – 12

Table - 12

Grading Scale

Ranges of Marks	Grade	Grade Points	Interpretation
85 – 100	A+	4.00	Excellent
70 – 84	A	3.67	
65 – 69	A-	3.33	
60 – 64	B+	3.00	Good
55 – 59	B	2.67	
45 – 54	C+	2.33	Average
40 – 44	C	2.00	
35 – 39	D+	1.67	Poor passing
30 – 34	D	1.00	
00 – 29	F	0.00	Fail

3.6 Grade Point Average

Grade Point Average (GPA) is the credit-weighted arithmetic mean of the grade points. i,e, the GPA is determined by dividing the total credit – weighted grade points value by the total number of credits.

The formula for GPA calculation is given below.

$$GPA = \frac{\sum_{i=1}^{N} (\text{Credit Hours})_i \times (\text{Grade Points per Hour})_i}{\sum_{i=1}^{N} (\text{Credit Hours})_i}$$

Where, **i** = course number and **N** = the total number of courses considered
The maximum possible GPA is 4.00 while the minimum is 0. Table – 13 illustrates the calculation of the GPA of a hypothetical student at the end of the first semester of the first year of the degree programme.

Table – 13

Illustration of GPA Calculation

Course Code	Grade	Credit Point / Hour	Grade Points per Hour	No. of Grade Point Values Earned = Credit Points / Hours X Grade Points per Hour
ELU1101	A	3	3.67	11.01
COU1101	B	3	2.67	8.01
MGT1102	C	3	2.00	6.00
BEC1101	B+	3	3.00	9.00
MGT1101	A+	3	4.00	12.00
SCI1101	C+	3	2.33	6.99
		18	17.67	53.01

$$GPA = \frac{\text{Total number of Grade Point Values Earned}}{\text{Total number of Credit Points / Hours}}$$

$$= \frac{53.01}{18} = {}^*2.94$$

* Decimal beyond two places are truncated, not rounded, in computing the GPA.

3.7 Duration of the Examinations

Each subject will have semester – end final examination. The duration of the examination can vary depending on the Credit Points for each subject. On that basis, the duration of the examination for a particular subject is indicated in Table – 14.

Table - 14

Relationship between Credit Points and Duration of the Examination

Credit Point Given for Particular Subject	Duration of the Examination(Hours)
2	2
3	3
4	4

Students will be admitted to the final examination and repeat the examination only if they have complied with the attendance requirements and other regulations specified by the respective instructor, department, the faculty and the university.

3.8 Completion of Degree

3.8.1 Requirements for Graduation

In order to graduate with a bachelor's degree in BSc ITMS from the Faculty of Management & Commerce, a student shall have,

(i) Completed a minimum of 90 Credit point hours
(ii) Earned a minimum GPA of not less than 2.00 for each semester, and
(iii) A minimum overall GPA of 2.00 for the entire degree programme, and
(iv) No fail grades (**F**), and

(v)   No more than one poor grade (**D+** or **D**) per semester, and the total number of poor grades should not exceed 04 for the entire General degree programme.

(vi)   fulfilled all the requirements in (i) through (v) above within a maximum of 6 academic years from the academic year of original enrolment in the university other than approved medical withdrawal.

3.9 Award of Classes

3.9.1 Award of First Class

A student shall meet all the following requirements in order to be awarded a degree with first class standing.

(i)   The student shall have earned an overall GPA in the 3.33 – 4.00 ranges in the entire degree programme.

(ii)   The student shall have earned grades of **A+** or **A** in at least half of the courses in the degree programme.

(iii)   The student shall have earned no grades below **C**.

(iv)   Students shall have fulfilled these requirements within three academic years from the first academic year of registration other than approved medical withdrawal.

3.9.2 Award of Second Class (Upper Division)

A student shall meet all the following requirements in order to be awarded a degree with a Second Class (Upper Division) standing.

(i)   The student shall have earned an overall GPA of 3.00 or above in the entire degree programme.

(ii)   The student shall have earned grades of **B** or Better in at least half of the courses in the degree programme.

(iii)   The student shall have earned no grades below **C**.

(iv)   Students shall have fulfilled these requirements within three academic years from the first academic year of registration other than approved medical withdrawal.

3.9.3 Award of Second Class (Lower Division)

A student shall meet all the following requirements in order to be awarded a degree with a Second Class (Lower Division) standing.

(i)   The students shall have earned an overall GPA of 2.67 or above in the entire degree programme.

(ii)   The student shall have earned grades of **B** or Better in at least half of the courses in the degree programme.

(iii)   The student shall have earned no grades below **C**.

(iv)   Student shall have fulfilled these requirements within three academic years from the first academic year of registration other than approved medical withdrawal.

04. Detailed Syllabi

ITMS-1113 Principles of Management

Course Description:

Management is a field giving orientation for understanding the requirement of the future IT professionals in terms of managing the team members, making decisions, analyzing the environment and so on. It also further provides the students on the functional areas of Management, and analytical skills.

Objective:
The main objective of this course is to enlighten the students' knowledge and skills in fundamentals of Management. To identify and apply the Principles of Management in related to the subjects and practical issues.

Learning outcome:
After completion of this course unit, the student will able to:

- Understand the principles of management, development of major management theories and modern approaches to management.
- Explain the functions of management.
- Describe the management information system.
- Understand relationship between IT and management

Method of Teaching:

Different assignments, group discussion and presentation will be used to illustrate the various topics of the course, and the chapter activities are done in a class quiz within the lecturer break. Final examination question paper for this program will be three hours, five questions. It will cover all the topics in the syllabus.

Duration of the Course:
It includes 45 contact hours with three credit points.

Assessment Method:
Final written exam	80%
Assignments, Group discussion & Presentation	10%
Attendance	05%
Mid-semester examination	05%

Note: Students should attain 50% of the continuous assessment marks, and then only they will allow to sitting the final examination.

Course Contents:

1. **General Management: Introductory Concepts**
   1.1. Management: An Introduction
   1.2. Development of Major Management Theories
   1.3. Modern Approaches to Management
   1.4. Case study on General Management

2. **Organizational Planning**
   2.1. The nature and Purpose of Planning
   2.2. Organizational Objectives
   2.3. Strategic Planning Process
   2.4. Managerial Decision Making
   2.5. Use of IT for planning process
   2.6. Case study on planning

3. **Organizing for Efficiency**
   3.1. The nature and the purpose of Organizing
   3.2. Organizational Design
   3.3. Organizational Development
   3.4. Effect of information Technology on organization structure
   3.5. An electronic office

4. **Staffing: Management of Human Resources**

4.1. The Staffing Function
4.2. Career Planning
4.3. Introduction to HRIS

5. **The Directing Function**
    5.1. The Directing and Leading Function
    5.2. Motivation
    5.3. Managerial Communication and Information Technology
    5.4. Communication systems and networking
    5.5. Computer security
    5.6. Case study on Communication

6. **Principles of Controlling**
    6.1. Functions of Controlling
    6.2. Control Technique
    6.3. Management and control
        6.3.1. General control
        6.3.2. Application control
    6.4. Case study on controlling

Recommended Reading:

1. Robbins S. P. Coulter M.2002, Management. Prentice Hall of India (Pvt) Ltd. New Delhi
2. Chandan. J.S. 1997, Management Theory and Practice. Vikas Publishing House (Pvt) Ltd. New Delhi
3. James A.F. Stoner. R Edward Freeman and Daniel R Gilbert. Jr. 1997. Management. Prentice Hall of India (Pvt) Ltd. New Delhi
4. George R Terry. S G Franklin. 1996. Principles of Management. All India Traveler Booksellers. Delhi
5. Harold Koontz. Cyril O Donnel and Neinz Weihrich. 1980. Management. McGraw – Hill Book Company. New York
6. Drucker F Peter. 1975. Management Tasks, Responsibility, and Practices. Allied Publishers (Pvt) Ltd. Bombay
7. Robbins S.P. 1986. Management Concept and Practices. Prentice – Hall. Canada. Ontario
8. Pathmaranjan R. 2006 Modern Management Thoughts (Tamil) FMC, SEUSL, Oluvil
9. Kanahasingam V. 2006 Contemporary Management (Tamil) FCM EUSL.
10. Kenneth c. Laudon, Jane P. Laudon (2002) Management information systems, Seventh Edition

ITMS-1123 Professional English and Communication

Course Description:

This course is designed for students who wish to increase their knowledge and expertise in Professional English and communication. The course components improve oral communication ability and the integration of a comprehensive grammar review to increases the accuracy of business communication. Information has been the life blood of any organization. Communication of diverse methods has been the medium of exchanging information throughout the organizations and they have been trying to improve their communication channels and its members' communication ability.

Survey after survey places good communication skills at the top of the list of employee qualifications that are in high demand today. Simply put, those with outstanding communication skill will have an advantage in the workplace, and Business Communication gives them that crucial edge. Professional Communication gives an opportunity to students and practitioners to develop their communication skills in all forms.

Objectives:

- To take students to the realistic, business like modern world of business communication.
- To introduce and provide opportunity to students to maximize their personal effectiveness by improving personal communication skills and to enhance the knowledge and technique necessary for the communication inside and outside the organization.

Learning Outcomes:

After completing this course, students should be able to:

- Appropriately use introductory business related vocabulary and concepts necessary for success in further study or the workplace.
- Comprehend a variety of business readings; assess the information in the readings and make extrapolations based on that information.
- Use the appropriate business or academic format for completing written tasks.
- Use advanced language structures in both writing and speaking.
- Communicate effectively and efficiently in all situations encountered.
- Appreciate the real nature of the communication dilemma.
- Improve their personal effectiveness through an effective communication

Methods of Teaching:
Lectures, class presentation and group discussion, role play, and use of audio and video visuals.

Duration of the Course:
This course unit will be taught in 15 weeks, which includes three hours lecture per week.

Assessment Methods:
Final Examination   80%
Continuous Assessment   20%

> **Note 1:** Continuous Assessment: It consists of written assignments, and Class Presentation.
>
> **Note 2:** Students shall earn 50% of continuous assessment marks to be eligible to sit for the final examination. Those who failed to meet the above requirements shall resubmit the assignment works to be eligible for subsequent attempts.
>
> **Note 3:** 80% of attendance and fully cooperation are expected from the students

Course Contents:

PART – A: Professional English

1. **Laying foundation: Reference skills, Parts of speech, Sentence: Elements, Patterns, types**
   Skill focus: proof reading exercise

2. **Jobs and responsibilities: Getting acquainted, Executive titles, Management styles, Time management**
   Language focus: question forms and tense review
   Skill focus: briefing a new assistant

3. **Telephoning to make arrangements: Polite questions, Starting and finishing calls, making appointments, changing arrangements.**
   Language focus: Present and past continuous tenses (future tense) 'would' in polite questions.
   Skill focus: arranging a schedule, arranging a meeting

4. **Organizations: Collecting information, Future predictions, recording vocabulary.**
   Language focus: the present simple and continuous tenses
   Will (future predictions)
   Skill focus: arranging a schedule, arranging a meeting, describing a corporate culture

5. **Planning Ahead: International meetings, asking for opinions, managing the environment.**
   Language focus: Expressing intentions: 'going to' and 'will', Exchanging opinions: should
   Skill focus: playing an audio conversation as an example

6. **Problem solving: Making suggestions, considering possibilities, negotiating solutions.**
   Language focus: Making and responding to suggestions, first and second conditionals

Skill focus: negotiating a deal

7. **Visitors: Polite phrases, Showing interest, Socializing, Cultural differences.**
Language focus: Requests, offered, thanks, invitations, and apologies, present perfect and past simple tenses (life experiences)
Skill focus: an imaginative conversation

8. **Reporting on progress: Developments, A social action programme, Reporting back financial results, Achievements.**
Language focus: Present perfect and past simple tenses (indefinite and definite time references. Skill focus: business achievement award

9. **Describing Trends: Discussing probability, Market movements, Describing changes, Causes and results.**
Language focus: Future probability, present continuous tenses (temporary trends) and Cause/effect connectors and Modal verbs expressing ability and obligations, instructions, passives
Skill focus: review of a market condition

10. **Comparing options: Comparing products, Interpreting statics, Moral standards, Business ethics, Contingency plans.**
Language focus: Comparatives, superlatives, If, when, unless, in case, and until

11. **Reading and Comprehension**
Skill focus: Reading: paragraph reading and comprehension exercises

PART – B: Professional Communication

12. **Understanding business communication:** Communication skills are critical for a successful career; Challenges facing the business communicator, Common communication barriers, and the communication process (The Components of Communication)

13. **Developing messages:** Framework for developing messages (Determining the purpose, analyzing the situation, designing the message, selecting the media)

14. **Communication and technology:** IT tools that facilitate oral communication, written communication, electronic communication, data gathering and management

15. **Business Speaking:** The importance of oral communication, Improving your speaking, Barriers to oral communication, Preparing for a business presentation, developing a business presentation, Delivering a business presentation

16. **Business writing** (Developing your writing skill): Developing written documents, the writing process in action, improving your writing skills; Business Correspondences: Writing business memos, Writing business letters, Communication by E- mail, telephoning skills, sales letter, reports, proposal, and circular letter etc.

17. **Graphics and visual communication:** Understanding the role of visuals, the importance of visuals, General design mechanics, Classifying and selecting visuals

18. **Listening and nonverbal communication:** Understanding listening behavior, improving listening skills, Understanding and improving nonverbal behavior; Intercultural and international communication: Understanding cultural diversity, Global communication situation, International communication challenges.

19. **Assessing yourself and planning your Resume:** Finding the career that is right for you, creating a Resume that works

20. **Assessing employers and interviewing:** Finding the right employer, researching the, companies you want to work, approaching an employer, Interviewing for a job

Recommended Readings:

1. Courtland L. Bov'ee, and john V. Thill, ,2000, Business Communication, 6th edi., Prentice Hall. (Main text book for Professional Communication)
2. O'Hair, O'Rourke, and O'Hair, , 2001, Business Communication; a framework for success, South –Western College Publishing.
3. Clark, Zimmer and Tineervia, , 2000, Business English and communication, 8th edi McGraw Hill.
4. Krizan, Merrier, and Jones, , 2002, Business Communication, 5th ed., South-Western.
5. Mary Ellen Guffey, 1999, Business English, 6th edi,. (Main text book for Professional English)

ITMS-1133 Introduction to Information Technology

Course Description:

Information Technology has been identified as a knowledge area that should be acquired by all the students preparing for entire degree program and practical life.

Objective :
The objective of this course is to make the students aware of the importance of the IT and giving basic understanding of concepts and applications of IT.

Learning Outcomes:

Upon successful completion the student will be able to:

- Understand what information technology and its application in day to day life
- Understand Computers and its classifications
- Understand Input, Output and storage devices, and Software and its classifications
- Understand Computer networks internet, and worldwide web
- Understand potential career opportunities in IT

Method of Teaching:

The entire course will consist of lecture sessions, lab sessions, lab demonstrations, class room discussions, class room presentations, etc. Students will be provided with printed material for both reference and practical sessions. Different case assignments will be used to illustrate the various topics of the course

Duration of the Course:

It includes 45 contact hours with three credit points.(Excluding extra practical hours)

Assessment :

Final written exam	80%
Assignments, Group discussion & Presentation	10%
Attendance	05%
Mid-semester examination	05%

Course Contents:

1. **Introduction to Information Technology:-** Introduction& Applications of IT, IT in Business & Industry, Education & Training, Science & Technology, Entertainment, Health industry, Meteorology & Weather forecasting, Communication, Remote sensing, Planning, Multilingual Applications.
2. **Information Technology and Information System:-** Elements of a system, Types of system, Data & Information. & Computer Based Information System:-TPS, MIS, DSS, OAS…..

3. **Fundamentals of Computer System:-**What is a computer?, Characteristics of a computer, Computer generations and technical evolution of computers, Classification of computers
4. **Data representation:-**Introduction, Decimal, Binary, Octal, Hexa decimal Number System
5. **The Micro computer system unit:-**Power supply, mother board, CPU chip, RAM chips, ROM chips, expansion slots and adapter cards, plug & play, bus line, computer ports and connectors.
6. **Input, Output devices:-** Introduction to input and output devices, Input devices:-Key board, mouse, joysticks, trackball, touch screen, MICR,OMR, OBR, OCR, light pen, Output devices such as printers, plotters, and display devices.
7. **Storage Devices:-** Introduction to storage devices, Magnetic tapes, magnetic disk, optical disk, erasable optical disk, optical card, optical tape, CD- ROM.
8. **Operating System:-**Introduction:-DOS, UNIX / XENIX, Windows 95/98/2000/NT/XP
9. **Data communication system:-**Introduction, Data communication, data transmission techniques, types of communication, communication disciplines and communication media.
10. **Network and network Technologies:-** Introduction to computer network, Types of network.:-LAN, MAN, WAN, Internet, Intranet, Extranet, Virtual Private Network (VPNs) ,Network topologies:- Star, Ring, Bus, Mesh, Tree network
11. **Internet and its Technology. :-** History of Internet, internet technology & terminology, Features of internet, E- Mail, World Wide Web, File Transfer Protocol, Telnet, IP telephony.
12. **Computer Virus:-**Types of virus, Trojans, worms

Recommended Readings:

1. Chetan Srivastava(2003), Fundamentals of Information Technology by, Kalyani publishers.
2. S.Kanakanathan, Fundamentals of Information Technology, Kumaran book house.
3. Hutchinson/ Sawyer, Computers and Information Systems, 5th edition McGrawHill
4. O'Leary, Timothy J and O'Leary, Linda I, (2004), Computing Today, McGrawHill

ITMS- 1143 PC Applications

Course Description:

This course has been designed to train students to use Computer Application Packages to reduce the paper work and increase the speed and accuracy of day-to-day work and trains in the use of common application packages such as use MS Word as a Word Processing Application, create spreadsheets in MS Excel, use MS Access to create databases, design and develop presentations using MS PowerPoint, use Adobe Illustrator CS2 as an Illustration tool and publish documents with Adobe InDesign.

Objective:

The main objectives of this module is to Train to work with PCs efficiently, produce attractive documents, prepare Electronic Spreadsheets, create live presentations, to illustrate ideas using an illustration application, and create booklets and books

Learning Outcome:

- Work with PCs Confidently and efficiently
- Use MS Word as a Word Processing Application
- Design and develop presentations using MS PowerPoint
- Create spreadsheets in MS Excel
- Illustrate his ideas with Adobe Illustrator
- Publish Books with Adobe InDesign

Method of Teaching:

Lectures, Lab Practice with Demonstrations, Individual Assignments with class room presentation, etc.

Duration of the Course:

This course is of 45 hours lectures. And will be conducted for 15 weeks with each week consisting of 03 hours of lectures.

Assessment Method:

- Semester End Examination   70%
- Assignments (Written and Practical)   20%
- Mid Semester Examination   10%

Course Content:

1. **Operating a PC With Windows Vista**
   Windows overview, Desktop, Start menu, Taskbar, Recycle bin, Log off/switch users, Standby/Shutdown. My Computer, Folder views, Folder options, Creating files/folders, Copying/moving files, Creating shortcuts, Searching Files. Using programs, Adding/removing programs, Change color/resolution, working with themes, Using screen savers, Changing appearance, Disk cleanup, and Disk defragmenter

2. **Word Processing With MS Word 2007**
   Getting Started, Customize the Word Environment, Editing a Document, Formatting Text, Formatting Paragraphs, Styles, Tables, Graphics, Proofing a Document, Page Formatting, Macros, Table of Contents, Lists, References and Citations, Track Changes, Mail Merge, etc

3. **Calculations Using MS Excel 2007**
   Getting Started, Customize Excel, Working with a Workbook, Manipulating Data, Modifying a Worksheet, Performing Calculations, Macros, Sort and Filter, Graphics, Charts, Formatting a Worksheet, Developing a Workbook, Customize the Layout, Page Properties and Printing, etc

4. **Effecting Presentations With MS PowerPoint 2007**
   Getting Started, Customize, Creating a Presentation, Working with Content, Formatting Text, Adding Content, Graphics, Tables, Charts, Slide Effects, Printing, etc

5. **Illustrating With Adobe Illustrator CS3**
   Introducing Illustrator, Symetrical Shapes, Fill/Stroke/Color, Transforming Paths, Pen Tool, Selecting Points and Paths, Liquify & Envelope, Creating and Formatting Texts, Gradients & Gradient Mesh, Blends and Masks, Using Transparency, 3D Effects, Printing and Exporting

6. **Publishing A Book With Adobe InDesign CS3**
   Documents, Presets & Dependencies, Creating Margins & Columns, Master Pages, Text Formatting, Paragraph Formatting & Design, Basic Paragraph Style Sheets, Graphic Frames & Object Styles, Importing Vector Graphics, Layered Design & Text Wrap Compounds, Shadows & Transparency

Recommended Readings:

1. Murray, Katherine, Millholon, Mary, Molten, and Beth, Microsoft Office Word 2007 Inside Out, Prentice-Hall, India
2. Dodge, Mark, Stinson, and Craig, Microsoft Office Excel 2007 Inside Out, Prentice-Hall
3. Patrice-Anne Rutledge, and Geetesh Bajaj, Using Microsoft Office PowerPoint 2007 (Special Edition), Que
4. Viescas, John L, Conrad, and Jeff, Microsoft Office Access 2007 Inside Out, Prentice-Hall, India
5. Adobe Creative Team , Adobe Illustrator CS3 Classroom in a Book, Adobe Press
6. Adobe Creative Team, Adobe InDesign CS3 Classroom in a Book, Adobe Press

ITMS- 1153 Mathematics for Computing

Course Description:
The goal is to make students mathematically literate in preparation for studying a computing discipline. The course covers indices and logarithms, sets, Logic, Relations and Function, Function, Boolean Algebra, Techniques of Counting, Probability, and Matrixes.

Objective:
After successfully completing this module the student should Apply the mathematical (matrices, sequences, series, vectors, differentiation and integration) and statistical (random variables, discrete, and continuous probability distributions) concepts easily in some of the modules covered in the second and third year of the degree course.

Learning Outcome:
Acquire the skills of discrete mathematics needed to analyze, model and solve problems in Information and communication technology.

Method of Teaching:

The entire course will consist of lecture sessions, class room discussions, class room presentations, etc. Students will be provided with printed material short reference.

Duration of the Course:
45 hours teaching within 15 weeks.

Assessment Method:
- Semester End Examination   80%
- Mid Semester Examination   10%
- Assignments   10%

Course Contents:
1. **Indices and logarithms (03hrs)**
   1.1. Index
   1.2. Logarithms:
   1.3. Graphs of ax, log a x

2. **Sets**
   2.1. Introduction to sets
   2.2. Set operations (union, intersection, complement and relative complement)
   2.3. Laws of algebra of sets (The idempotent laws, the associative laws, the commutative laws, the identity laws, the complement, De Morgan's laws)

3. **Logic**
   3.1. Propositions
   3.2. Propositional Logic
   3.3. Negation, conjunction, disjunction defined by truth tables
   3.4. Truth - tables of compound propositions
   3.5. Tautologies and contradictions
   3.6. Logical equivalence
   3.7. Algebra of propositions
   3.8. The conditionals
   3.9. Arguments
   3.10. Predicates and Quantifiers
   3.11. Predicates involving one or more variables
   3.12. The quantifiers
   3.13. Propositions involving unmixed and simple mixed quantifiers
   3.14. Types of Proofs
   3.15. Direct proofs and proofs by contradiction
   3.16. Counter example
   3.17. Mathematical induction

4. **Relations and Function**
   4.1. Relations
   4.2. Ordered pairs and the Cartesian product of two sets
   4.3. Definition of a relation, Relation from a set A to a set B, relation on a set A

4.4. Relations as sets of ordered pairs
4.5. Inverse of a relation
4.6. Directed graph
4.7. Equivalence Relations
4.8. Definition and examples
4.9. Equivalence classes

5. **Function**
   5.1.   Function as a mapping from a set A to a set B
   5.2.   Range of function; Function from a finite set A onto a set B
   5.3.   One to one functions
   5.4.   Bijections
   5.5.   Inverse functions
   5.6.   Composite functions

6. **Boolean Algebra**
   6.1. Introduction
   6.2. Basic definitions
   6.3. Duality
   6.4. Basic theorems
   6.5. Sum of products form of Boolean algebras
   6.6. Minimal Boolean expression, prime implications

7. **Techniques of Counting**
   7.1. Permutations
   7.2. Permutations
   7.3. Permutations with repetitions
   7.4. Binomial theorem and the binomial coefficients
   7.5. Combinations
   7.6. Tree diagrams
   7.7. Pigeon hole principle

8. **Probability**
   8.1. Sample space and events
   8.2. Axioms of probability and basic theorems
   8.3. Finite probability spaces
   8.4. Conditional probability and the multiplication rule
   8.5. Tree diagrams
   8.6. Bayes theorem

9. **Matrixes**
   9.1. Definition of a matrix
   9.2. Column and row matrices (vectors)
   9.3. Identity, Null, diagonal and square matrices, equal matrices
   9.4. Matrix addition
   9.5. Scalar multiplication of a matrix
   9.6. Multiplication of two matrices and properties
   9.7. Determinants (In particular of order 2 and 3)

Recommended Reading:

1. H.S. Hall and R.S. Knight , 2000, Elementary Algebra for School, Metric Edition, A.I.T.B.S. Publishers & Distributors India.
2. Seymour Lipshutz & Marc Lipson, 2003, Schaum's Outline series: Discrete Mathematics, 2nd Edition, Tata McGraw-Hill India.
3. Qazi Zameeruddin,V.K Khanna and S.K Bhambri, Business Mathematics, (vikas publishing house)
4. H.S Hall and S,K Knigh, Higher Algebra, (A.I.T.B.S publishers and distributers) Delhi India
5. Dr. A.B. Mathur, An In-Depth Study of Mathematics, (Pitambar publishing company)
6. Greer ,New Comprehensive Mathematics for 'O' Level, (Stanley Thornes publishers Ltd)
7. Murray R. Spiegel, J. Schiller, R. A. Srinivasan,, 2000, Schaum's Outline Probability and Statistics, 2nd edition, MC Graw Hill

ITMS- 1213 Entrepreneurship & Small Business Management

Course Description:
Entrepreneurship is becoming a very relevant instrument to promote economic growth and development in different regional and national economies and the importance of innovations in IT in SMI, that need more and more innovative techniques in order to expand the SMI sector. Thus this course unit is going to address about the nature of entrepreneurship and small business and the need for IT application in SMEs and identifying opportunities for new venture creations.

Objectives:
The aim of the course is to provide the students with the theoretical and practical knowledge of small business management and entrepreneurship and its related issues that will enable the students to manage small and medium scale enterprises.

Learning Outcomes of the Course:
By the end of the course students will be able to;
- Identify opportunities in IT for new venture creation
- Enhancing IT skills and knowledge in small business and entrepreneurship
- Analyze the problems and challenges faced by SMI enterprises and produce solution for overcome such problems and challenges

Method of Teaching:
Different assignments, group discussions, case studies, and presentations will be used to illustrate the various topic of the course.

Duration of the Course:
It includes 45 contact hours with three credit points.

Assessment Method:

Semester-End Written Examination	70%
Mid-Semester Examination	10%
Assignments and Participation in Class room Discussions	10%
Project Report	10%

Course Content:

1. **Introduction to Small Business Management**
   1.1. Introduction
   1.2. Historical perspective
   1.3. Nature of SBM
   1.4. Problems and Challenges for SMI Sector

2. **Nature of Entrepreneurship**
   2.1. Introduction
   2.2. Economic and Social Contribution of Entrepreneurship
   2.3. Factors influencing the Entrepreneurship
   2.4. Characteristics
   2.5. Entrepreneurial qualities
   2.6. Entrepreneurial personality

3. **Business Development Support Systems**
   3.1. Nature of Support Institutions (Specially IT needs)
   3.2. The effectiveness of Business Development Support Services

4. **Small Business Management Practices**
   4.1. Opportunity Identification and Project Selection
   4.2. Business Planning
   4.3. Preparing to Operate a Small Business
   4.4. Managing a Small Business
   4.5. Marketing Practices of SMI Businesses

4.6. Management Information System and SMEs

5. **Entrepreneurship And Culture**
   5.1. Introduction
   5.2. Entrepreneurship & Culture
   5.3. Entrepreneurship & Sri Lankan Cultural needs

6. **Business Expansion And Diversification**
   6.1. Introduction
   6.2. Strategies for Expansion
   6.3. Diversification
   6.4. Modernization (IT based)

7. **Financial Requirements and Feasibility Analysis**
   7.1. Introduction
   7.2. Need for Financial Requirement
   7.3. Feasibility analysis
   7.4. Micro Finance

Recommended Readings:
1. Batra red. B.S.(2001) Entrepreneurship and Small Business Management, Deep Publications Pvt. Ltd, New Delhi.
2. Justin G. Longnecker et al.(1998), Small Business Management, 10th ed., South Western College Publ.
3. Justin G. Longnecker (2000), and Carlos W. Moore, Small Business Management: An Entrepreneurial emphasis, 11th ed. South Western College Publishers.
4. Peter F. Drucker (1994), Innovation and Entrepreneurship.
5. www.emeraldinsight.com

ITMS- 1223 Business Economics

Course Description:

The course module is intended to introduce the basic ideas of economics to the students. It also aimed at introducing of the key concepts of business economics relevant to the needs of day today business activities and as a foundation for optimal decision making. The key economic aspects will be clearly explained with the assistant of econometric software such as Minitab, SAS.

Objectives:

- To acquire the great brawl of business economics by the students
- To provide exposure of econometric software in the application of business economics
- To make decision in business organization by applying of the basic concepts, theories, and models in business economics

Learning outcomes:

After successfully completing this course, the student will

- Possess the requisite level of business economic literacy for making informed choices in a modern business world.
- Possess a set of critical thinking skills to analyze situations within the student's household and organization of employment
- Be prepared for a more advanced study of business concepts with the assistance of econometric software.

Method of teaching:

The method of teaching will be primarily lecture with class room discussion. In addition, students will be required to complete computer based exercises. Students are expected to complete such assignments in a timely manner and to be prepared to lead and/or participate in class discussion related to these exercises.

Duration of the course:
45 Hours of lectures.

Assessment Method:
Student performance will be evaluated on the basis of the following

- Semester-end final examination   80 %
- Computer based exercise   10 %
- Quizzes   05 %
- Mid semester Exam (MST)   05 %

Course contents:
1. **Introduction to Business Economics**
   1.1. Meaning of Business Economics.
   1.2. Basic Concepts of Business Economics.
   1.3. Nature of Business Economics.
   1.4. Scope of Business Economics.
   1.5. Role of Business Economist.
   1.6. Responsibilities of the Business Economist
   1.7. Understand the Essence of Business Economics.

2. **Theory of Consumer Behaviour in the Market**
   2.1. Marginal utility theory
   2.2. Revealed Preference Theory
   2.3. Indifference curve analysis

3. **Demand Forecasting**
   3.1. Types of demand.
   3.2. Define the Demand Forecasting
   3.3. Importance of demand forecasting.
   3.4. purposes of demand forecasting
   3.5. Essentials of good forecasting
   3.6. Market demand forecasting
   3.7. Company demand forecasting
   3.8. various forecasting methods
   3.9. calculate demand forecasting mathematically & Econometrics
   3.10.   Software

4. **The Analysis Production Function and estimation**
   4.1. Traditional production function.
   4.2. Isoquant or equal – product curves.
   4.3. Production Possibility curve Analysis.
   4.4. Cobb- Douglas Production Function.
   4.5. Profit Maximization

5. **The Competitive Market Environment**
   5.1. The essence of the competitive environment
   5.2. Competitive strategy
   5.3. Perfect competition
   5.4. Monopoly
   5.5. Monopolistic competition
   5.6. Oligopoly
   5.7. Competitive advantage

6. **Introduction to Macro economics**
   6.1. Macro economic Objectives& Variables
   6.2. National Income Determination
   6.3. Inflation and Unemployment
   6.4. Theories of Employment
   6.5. Aggregate Demand – Aggregate Supply Model with Flexible   prices

6.6. Introduction to trade theories

6.7. Trends in Economy of Sri Lanka**.**

Recommended Reading:

1. Joseph G Nellis,(1997), The Essence of Business Economics, New Delhi: Printice Hall of India.
2. Reddy N.P & H.R Appanniah (1995), Business Economics, New Delhi: S.Chand& Company Ltd.
3. Greenwood M..S&M.J.Carter (1997), Business Economics, UK: International Thomson Business press.
4. Yogesh M, (2003), Managerial Economics, New Delhi: Printice Hall of India.
5. Ahuja H.L,(2000), Managerial Economics Micro, New Delhi: S.Chand& Company Ltd.
6. Ahuja H.L,(1996), Macroeconomics Theory & Policy , New Delhi: S.Chand& Company Ltd.

ITMS- 1233 Business Information Systems

Course Description:

In this course students obtain a comprehensive overview of management information systems, their tactical, operational, and strategic importance, and how they affect and relate to business processes of the organization. The students are exposed to many different types of information systems, related state-of-the-art technologies, and management practices

Objectives
*   To introduce Information System in relation to Management
*   To make the students aware of different information system available to management decision making.
*   To introduce the fundamental concepts in information technology and computer.
*   To emphasize the role of IT in the years to come with regards to business and management.

Learning Outcomes:
*   Understand various types of information systems in organizations
*   Explain how they serve the various needs of organizations
*   Understand how information systems can support decision making process
*   Understand the alternative approaches for building systems

Method of Teaching:

The method of teaching will be primarily lecture based with class room discussion. Plus, different assignments, group discussions, case studies, and presentations will be used to illustrate the various topics in the course.

Duration of the Course:

45 Lecture hours with three credit points.

Assessment Method:

*   Semester-end final examination   80 %
*   Continuous Assessment   10 %
*   Mid semester Exam   10 %

Course Contents:

1. **Foundations of Information Systems in Business**
    Concept of a system, Importance and business applications of information systems, Challenges in managing the successful, ethical development and use of information technology, Components of real world information systems, and Career opportunities in information systems

2. **Competing with Information Technology**
   Basic competitive strategies and IT's usage to confront the competitive forces, Strategic uses of IT, Business process reengineering, Business value of Internet technologies, and Strategic advantages of knowledge management systems

3. **Computer Hardware**
   History and evolution of computer hardware, Major types and uses of computers, Input, output, and storage, Components and functions of a computer system, and Choosing computer systems and peripherals for a business

4. **Computer Software**
   Trends in computer software, Major types of application and system software, Purposes of popular software packages, Operating system, Uses of computer programming software, tools, and languages

5. **Data Resource Management**
   Business value and advantages of data resource management, Support of database management software to business professionals, Major types of databases, Data warehouses and data mining, Logical data elements, Fundamental database structures, Database development

6. **Telecommunications and Networks**
   Concept of a network, Metcalfe's law, Major developments and trends of telecommunications and Internet technologies, Business value of Internet, intranet, and extranet applications, Basics of telecommunications networks used in business, Functions of telecommunications network hardware, software, media, and services, Client/server networking, peer-to-peer networking, Difference between digital and analog signals

7. **Electronic Business Systems**
   Enterprise application integration, Transaction processing systems, Enterprise collaboration systems, Internet and other information technologies support for business processes within the business functions

8. **Enterprise Business Systems**
   Customer relationship, enterprise research, and supply chain management systems, Business processes, Customer and business value, Potential challenges and trends

9. **Electronic Commerce Systems**
   Major categories and trends of e-commerce applications, Essential processes of an e-commerce system, Key factors and Web store requirements to succeed in e-commerce, Types of e-commerce marketplaces, Benefits and trade-offs of several e-commerce clicks and bricks alternatives

10. **Decision Support Systems**
    The changes taking place in the form and use of decision support in business, The role and reporting alternatives of management information systems, Online analytical processing, Decision support system concept and how it differs from traditional management information systems, Neural networks, fuzzy logic, genetic algorithms, virtual reality, and intelligent agents

11. **Developing Business/IT Strategies**
    Role of planning in the business use of IT, Role of planning and business models in the development of business/IT strategies, architectures, and applications, Change management solutions

12. **Developing Business/IT Solutions**
    Systems development process, Use each steps of the information systems development, Prototyping, Basics of project management, Implementation of new information systems, Four basic system conversation strategies, Evaluating the acquisition of hardware, software, and IS services

13. **Security and Ethical Challenges**
    Ethical issues in the use of information technologies in business, Types of security management strategies and defenses, Lessen the harmful effects and increase the beneficial effects of the use of information technology

14. **Enterprise and Global Management of Information Technology**
   Components of information technology management, Involvement of business managers in IT planning and management, Challenges in the management of global information technologies, Transnational business strategy by international business organizations, Outsourcing and off-shoring

Recommended Readings:
   1. Kenneth C. Laudon, Jane P. Laudon, ,2007, Management Information Systems, Tenth Edition, Pearson Education.
   2. Andrew Doswell, Foundations of Business Information Systems.
   3. James O' Brien, (2003), Introduction to Information Systems, Irwin.
   4. Journals: Harvard Business Review.

ITMS- 1243 Fundamentals of Programming

Course Description:
The Fundamentals of Programming course provides students with an excellent choice for beginning to learn to program using the Java programming language. This course is intended for students with little or no programming experience.

Objectives:
The course provides the participants with in-depth knowledge and skills in fundamentals and programming Techniques for ITMS Students and those who are interested in learning the fundamental and Programming Techniques.

Learning Outcome
After successfully completing these modules students will be able to design and develop programs for specified tasks using Java as an Object Oriented Programming Language.

Methods of Teaching:
This course will be delivered in a combination of class room lectures, individual and group assignments with presentation, etc.

Duration of the Course:
This course is of 45 Lecture Hours duration

Assessment Method:
   - Semester End Examination   70%
   - Continuous Assessment   20%
   - Mid semester Examination   10%

Course Contents:
1. **Introduction to Computer Programming**
   1.1. What is programming?
   1.2. The required steps of writing a program
   1.3. What is Java?
   1.4. Java Virtual Machine (JVM) and Java Runtime Environment (JRE)
   1.5. Advantages of using Java

2. **Introduction to Java Development Kit (JDK)**
   2.1. Installing Java
   2.2. Creating a source file
   2.3. Compiling and running a source file

3. **Fundamentals of Java Programming**
   3.1. Structure of a Java program
   3.2. Statements
   3.3. Comments in Java
   3.4. Swing (GUI) in Java
   3.5. Literals

3.6. Variables and data types
    3.6.1. What is a variable?
    3.6.2. Declaring variables
    3.6.3. Conventions in variable naming
    3.6.4. Data types
    3.6.5. Constants and enumerations

4. Operators in Java
4.1. Arithmetic operators
4.2. Logical operators
4.3. Bitwise operators
4.4. Relational operators
4.5. Conditional operator (Short hand operator for if-then-else)(?,:) and other operators
4.6. Operator precedence

5. Flow Control
5.1. Flow control statements in Java
5.2. Selective statements
5.3. Selection statements (if, if.... else, switch,)
5.4. Iterative statements
5.5. For loop
5.6. While loop
5.7. Do-while
5.8. Nested loops
5.9. Jump statements
5.10. Break
5.11. Continue
5.12. Return
5.13. Labelled loops

6. Program Design Techniques
6.1. An overview of program design
6.2. Importance of professional programming
6.3. Tools for program design
6.4. Evolution of software design
6.5. Tools for algorithm specification and comparison between them
6.6. An overview of data and procedures
6.7. Data names
6.8. Explicit vs implicit definition of data
6.9. Data types and data usage
6.10. Data structures
6.11. Data scope
6.12. Simple procedures
6.13. An Overview of Program Structure, Modular design
6.14. Top down decomposition
6.15. Principles for decomposition
6.16. Program structure
6.17. Communication between procedures
6.18. Sub routine and functions

7. Arrays
7.1. One dimensional and array of arrays
7.2. Declaring array variables
7.3. Creating array objects
7.4. Accessing array elements
7.5. Changing array elements
7.6. Array of arrays

8. Object Oriented Concepts and Techniques
8.1.   Definition of a class
8.2.   Creating objects
8.3.   Defining methods
8.4.   Parameter passing: passing arguments to methods

8.5.   Constructor methods: overloading constructors
8.6.   this and super keywords
8.7.   Encapsulation (information hiding)
    8.7.1.   Access modifiers: controlling access to a class, method, or variable (public, protected, private, default)
    8.7.2.   Other modifiers: static modifier, abstract modifier, final modifier, Synchronized modifier
8.8.   Inheritance basics
    8.8.1. Overriding methods
    8.8.2. Abstract classes
    8.8.3. Reusability
9.   Polymorphism: overloading, overriding
10.   Recursions

11. String Handling
11.1.   Why Strings in a program?
11.2.   String manipulation methods
11.3.   StringBuffer class

12. Error Handling in Java
12.1. Handle errors in a program
12.2. Write robust programs
12.3. Process exceptions in Java programs
12.4. Why error handling is important?
12.5. Java way: Errors and Exceptions
12.6. Exception fundamentals: protecting code and catching exceptions try catch clause, finally clause
12.7. Handling exceptions
12.8. Throwing and rethrowing exceptions: throws clause

Recommended Readings:

1.   Ivor Horton's Beginning JavaTM 2, JDKTM, 2006, 5 edition by Ivor Horton, Wiley India (P) Ltd India, ISBN 81-265-0570-2
2.   Peter Juliff, Prentice Hall India, 2002, Program Design, 4th edition ISBN-81-203-1622-3.
3.   Deitel & Deitel, 2003, How to Java Program , 5th edition Prentice Hall India, ISBN-81-203-2371-8

Recommended Links:

• Official Sun Java site (Downloadable)
        http://java.sun.com/docs/books/tutorial/index.html
• Thinking in Java (3rd Edition) – Bruce Eckel (Downloadable)
        http://www.mindview.net/Books/TIJ/

Platform:

Any standard PC with a standard Java Compiler (JDK 1.5) running on a Windows/Linux platform. A visual development toolkit may be optionally used.

ITMS- 1253 Object Oriented System Analysis and Design

Course Description:

This course approaches system analysis and design with an object-oriented perspective currently in use in many organizations. This course shows how each step of the system development builds on itself. It

provides students with a strong systematic framework that enables them to easily learn object-oriented system analysis and design.

Objectives:

The objective of this course is to give students knowledge of the concepts of object-orientation, principles of object oriented systems analysis and design, and methods, tools and techniques available to develop information systems using object oriented approach.

Learning outcomes:

After the completion of the course, students will be able to apply object-oriented analysis and design techniques to provide software solutions for business organizations.

Method of Teaching:

The course will be delivered in a combination of lectures, case discussions, tutorials and group work

Duration of the Course

The course will be taught for 45 Hours.

Assessment Method

- Semester End Examination   70%
- Continuous Assessment   20%
- Mid semester Examination   10%

Course Contents:

1. **Problems in Information Systems Development and Avoiding the Problems.**
    1.1. Introduction
    1.2. What are the problems?
    1.3. Why things go wrong?
    1.4. The ethical dimension
    1.5. Costs of failure
    1.6. How to avoid problems
    1.7. Project life cycles
    1.8. Managing information system development
    1.9. User involvement.

2. **What is Object Orientation?**
    2.1. Introduction
    2.2. Basic concepts
    2.3. The origins of Object Orientation
    2.4. Object oriented languages today.

3. **Modelling Concepts**
    3.1. Introduction
    3.2. Models and Diagrams
    3.3. Drawing Activity Diagram
    3.4. A development process.

4. **Requirements Capture and Requirements Analysis**
    4.1. Introduction
    4.2. User Requirements
    4.3. Fact finding techniques
    4.4. User involvement
    4.5. Documenting requirements

4.6. Use cases

4.7. Requirements capture and modelling

4.8. Analyzing the requirements

4.9. What must a requirement model do?

4.10. Drawing a class diagram.

5. **Object Interaction**

5.1. Introduction

5.2. Object Orientation and collaboration

5.3. Interaction Sequence Diagram

5.4. Collaboration Diagram

5.5. Model consistency.

6. **Specifying Operations**

6.1. Introduction

6.2. The role of operation specification

6.3. Contracts

6.4. Designing operation logic

6.5. Object constraint language

6.6. Creating an operation specification

7. **Specifying Control**

7.1. Introduction

7.2. States and events

7.3. Basic notation

7.4. Further notation

7.5. Consistency checking

7.6. Quality guidelines.

8. **System Design**

8.1. Introduction

8.2. How design is different from analysis?

8.3. Logical and Physical Design

8.4. System design and Detailed design

8.5. The major elements of system design

8.6. Software Architecture

9. **Object Design and Design patterns**

9.1. Introduction

9.2. Class specification

9.3. Interfaces

9.4. Criteria for good design

9.5. Designing Associations

9.6. Designing Operations

9.7. Normalization

9.8. Software development patterns

9.9. Designing patterns

9.10. Benefits and dangers of using patterns.

10. **Human computer interaction**

10.1. The user interface

10.2. Approaches to user interface design

10.3. Standards and legal requirements

11. **Implementation**

11.1. Software implementation

11.2. Component Diagram

11.3. Deployment diagrams

11.4. Software Testing

11.5. Data conversion

      11.6.   User documentation and training
      11.7.   Implementation strategies
      11.8.   Review and maintenance

12. Managing object oriented projects
      12.1.   Resource allocation and planning
      12.2.   Managing iteration
      12.3.   Dynamic system development method

13. Systems development methodologies
      13.1.   'Method' and 'Methodology'
      13.2.   Why use a methodology?
      13.3.   Issues in choosing a methodology
      13.4.   Hard versus soft methodology.

Recommended Readings:

1. Simon Bennett, Steve Mc Robb, and Ray Farmer,(2005) Object Oriented Systems Analysis and Design, McGraw-Hill Higer Education.
2. Ali Bahrami,(1999) Object Oriented Systems Development, McGraw-Hill Higher Education

ITMS- 2113 Marketing Management

Course Description:

Name of the course is Marketing Management: the study or practice of providing goods or services that satisfy human desires. To illustrate and discuss marketing concepts and marketing management, chapters from marketing textbooks, newspaper clippings, and selections from popular literature will be used. We will also use case studies to illustrate marketing principles and to apply marketing concepts to the real world.

Objectives:

The objective of this course is to provide the students with an understanding of the fundamental aspects of marketing with its development and its changing role within a variety of organizations in the context of rapid process of globalization.

Learning Outcome:

As a result of completing this course, students should be able to;

- Take a joint view of different marketing decisions, i.e., product and brand, pricing, promotions and distribution (placing) and understand how they are interlinked.
- Understand how marketing decisions need to be continuously adapted to changes in the micro and macro environments that businesses operate in.
- Demonstrate knowledge and skills in identifying customer needs through market research, developing new products and services based on marketing strategy formulation, and promoting and distributing products and services with relevance in domestic and international settings.

- Obtain an in-depth understanding of consumer behaviour, e-marketing, international marketing, marketing strategy, sales-force management and marketing research.

Method of Teaching:

Teaching methods include lectures, discussions, case analyses, students' presentations, group projects and guest speakers from industry.

Duration of the Course:

The course will be taught for 45 Hours.

Assessment Method:
- Semester End Examination   80%
- Group Assignments   10%
- Class Room Participation   05%
- Mid Semester Examination   05%

Course Contents

1. **Understanding Marketing Management**
   1.1. Defining Marketing for the 21st Century
   1.2. Marketing Orientations

2. **Capturing Marketing Insights in the IT Era**
   2.1. Gathering Information and Scanning the Environment
   2.2. Conducting Marketing Research and Computer Aided Forecasting Demand

3. **Connecting with Customers, Customer Database and Database Marketing**
   3.1. Creating Customer Value, Satisfaction and Loyalty
   3.2. Analyzing Consumer Markets
   3.3. Analyzing Business Markets and E - Procurement
   3.4. Identifying Market Segments and Targets

4. **Building Strong Brands**
   4.1. Creating Brand Equity
   4.2. Crafting the Brand Positioning
   4.3. Dealing with Competition

5. **Shaping the Market Offerings**
   5.1. Setting Product Strategy
   5.2. Designing and Managing Services
   5.3. Developing Pricing Strategies.

6. **Delivering Value and E - Commerce Marketing Practices**
   6.1. Designing and Managing Value networks and Channels
   6.2. Managing Retailing, Wholesaling and Logistics

7. **Communicating Value**
   7.1. Designing and Managing Integrated Marketing Communications
   7.2. Managing Mass Communications: Advertising, Sales Promotions, Events, and Public Relations.
   7.3. Advertising using World Wide Web.
   7.4. Managing Personal Communication: Direct Marketing, Personal Selling and E-Marketing Guidelines.

8. **Creating Successful Long – Term Growth**
   8.1. Introducing New Market Offerings
   8.2. Tapping into Global Markets
   8.3. Managing a Holistic Marketing Organization
   8.4. Developing Marketing Strategies and Plans

Recommended Readings

1. Philip Kotler, Kevin Lane Keller (2006), Marketing Management (12th Edition), Pearson Education: India (KEY TEXT)
2. Philip Kotler (2005), Marketing Management (11th Edition), Pearson Education: India.
3. Joel R. Berman, Barry Berman (2005), Marketing: Marketing in the 21st Century (8th Edition), Biztantra: New Delhi.
4. Gray Armstrong, Philip Kotler (2000), Marketing an Introduction (5th Edition), Prentice Hall of India, New Delhi.
5. Michael J. Etzel, Bruce J. Walker, William J. Stanton (2004), Marketing (13th Edition), Tata McGraw – Hill: New Delhi.

ITMS- 2123 Business Law

Course description:
This course provides students knowledge with Commercial & Industrial Law so that students become familiar with the legal environment in which business organizations operate.   .

Objective:
- To give some fundamental aspects of law relating to commercial and industrial field and give an understanding of legal environment in business world and to make student aware of current trend of law in Information Technology and Communication.   .

Learning outcome:
After completing the course, the student should have knowledge on
- Legal System in our country
- Contract and Sale of Goods Laws
- Law of Partnership and Agency, Sole Trader and Company Law
- Laws related to Insurance
- Employment Law

Method of Teaching:
Provide lecture and give hand outs and invite some expert in the said field to give lecture (Gust lecture program).   .

Assessment Methods:
- Semester End Examination   80%
- Group Assignments   10%
- Class Room Participation   05%
- Mid Semester Examination   05%

Course contents:
1. **Fundamental aspects of legal system of Sri Lanka.**
    1.1. Common law
        1.1.1 Roman Dutch Law
        1.1.2 English Law
    1.2. Personal law
        1.2.1 Thesavalamai law
        1.2.2 Muslim law
        1.2.3 Kandiyan Law
    1.3 The sources of law in Srilanka

2. **The Law of Contract**
    2.1 Formation of contract
    2.2 Essential elements of a valid contract
    2.3 Termination of contract
    2.4 Breach and remedies for contract

3. **Sale of goods**
    3.1 Definition of terms
    3.2 Condition and warranties
    3.3 Implied term and conditions
    3.4 Right of an unpaid seller against the goods
    3.5 Nemo dat quod non habet
    3.6 Action for breach contract

4. **Partnership**

4.1 Formation of partner ship
4.2 Test of establishing partnership
4.3 Dealing with outsider
4.4 Rights and duties of partners
4.5 Dissolution of partner ship

5. **Agency**
   5.1 Formation of agency
   5.2 Kinds of agency
   5.3 Termination of agency
   5.4 Duties of principal and agent

6. **Sole trader ship**
   6.1 Differences between sole trader ship and partnership
   6.2 Differences between sole trader ship and companies

7. **Company Law**
   7.1 Registration of companies.
   7.2 Kinds of companies
   7.3 Memorandum of association
   7.4 Article of association
   7.5 Directors
   7.6 Borrowing powers-Debenture-Charges-Receivers and Managers.
   7.7 Winding up of a companies
   7.8 New companies act No 07 of 2007

8. **Law of Tort**
   8.1 Tort of negligence.
   8.2 Contributory negligence.
   8.3 Negligence- how it affects professional advisors.

9. **Kinds of employments**
   9.1 Termination of employment
   9.2 The labor Tribunal
   9.3 Misconduct
   9.4 Method of Dispute resolution
   9.5 Wage/Transfers/Promotions
   9.6 Employee Provident Fund
   9.7 Employee Trust Fund
   9.8 Workman compensation

10. **Law of Insurance**
    10.1 Nature of Insurance
    10.2 Insurance is uberrimae fidei
    10.3 Insurance Interest
    10.4 Double Insurance
    10.5 Life Insurance
    10.6 Fire Insurance
    10.7 Accident, Burglary and other forms of Insurance
    10.8 Marine Insurance

11. **Negotiable Insurance**
    11.1 Negotiability
    11.2 Bills of exchange
    11.3 Signature delivery and endorsement
    11.4 Liability of Parties, Acceptance Payment and dishonour
    11.5 Cheque
    11.6 Promissory note

12. **E-Commerce**
    12.1 E-Law and the relevant subjects
    12.2 Prevention of computer related crimes and the applicability of   Computer,   Crime act no 24 of 2007
    12.3 Computer information and the evidence ordinary (special provision act no 14 f1995)

12.4 Cyber terrorism, the preventive laws and the political, social, cultural and Economical impact.

12.5 International convention to protect computer information and technology and prevent computer related abuses

12.6 Protection law of computer related articles and software's Applicability of intellectual property act no36 of 2003.

Recommended Readings:
1. Prof. Nadarasa , Legal system of Sri lanka.
2. A Arora , Practical Business law.
3. Cheshire and Fifoot, The law of contract
4. Wikkramesinghe , Company law of sri lanka.
5. Richard Lawson, Business Law.
6. Sale of goods ordinance, partnership act and Company act
7. Kanthayya Neelakandan, New companies act.
8. Ruwana Rajapackshe, An introduction to Law in Sri Lanka.

ITMS-2133 Computerized Accounting System

Course Description:
This course has been designed to enhance the basic computing and bookkeeping skills to allow the student to operate accounting packages at an advanced level and prepare automated financial models and apply it to computerized accounting by balancing "real world" tasks with hands-on computer activities. The course provides a practical method of processing basic accounting transactions, receivables and payables, general ledger, payroll, and inventory management.

Duration of the course:
45 Hours of theory and practice

Objectives
Candidates should be able to complete the following:
• Add new accounts to purchase/sales ledgers.
• Create accounts in the nominal ledger from given information.
• Process information in respect of the sales ledger, i.e. invoices, Credit notes and receipts.
• Process information in respect of the purchase ledger, i.e. invoices, credit notes and payments.
• Calculate and reconcile all batch totals as required.
• Print out copies of ledgers, balances and accounts as required.

Assessment:

• Semester End Examination	70%
• Group Assignments	10%
• Class Room Participation	10%
• Mid Semester Examination	10%

The student's grade will be based on multiple measures of performance. The assessment will measure development of independent critical thinking skills and will include evaluation of the student's ability to:

• Perform accounting and mathematical calculations using a computer, as assigned
• Apply theory to laboratory assignments, successfully completing the assigned hands-on computer projects and tests
• Perform on written, oral, and practical examinations
• Participate in class activities and discussions, as an individual and as a part of a team
• Maintain attendance per current policy

Course Contents

1. **Introduction to Financial accounting**
   1.1. Accounting Framework
   1.2. Books of primary Entry/ Double entry

1.3. Error Corrections & Bank Reconciliation
1.4. Preparation of Company Final Account
1.5. Preparation of Cash flow statements
1.6. Financial Statement Analysis

2. **Introduction to Cost Accounting**
   2.1. Cost , Cost Elements, Cost Centre
   2.2. Inventory Control
   2.3. Budget
   2.4. Variance Analysis

3. **Accounting System Setup**
   3.1. Company information
   3.2. Configuration
   3.3. Chart of Accounts, Terms Tax, Account status ,Product, Department, Fixed Assets, Customs Field
   3.4. Appropriation accounts: Company Preference, Customer default, Supplier Default , Bank Default, Product Default, Invoice Default, Currency, control Account , And Access Rights

4. **Create new Accounts**
   4.1. Customer, Suppliers, Product, Bank, and Nominal

5. **Purchase order Processing**
   5.1. New or Edit, Order Delivery amend, Update, Batch Purchase and Credit Note, Reports

6. **Sales Order Processing**
   6.1. New or Edit, Quotation, Allocation, Dispatch, Amend, Shortfall, Batch Sales & Credit Note, Report
7. **Journal**
   7.1. New or Record, Activity, Journal Entry, Accrual, Prepayment

8. **Bank Transaction**
   8.1. Customer Receipt, Supplier Payment, Bank Deposit & withdrawal, Bank Reconciliation

9. **Fixed Assets Transaction**
   9.1. Record, Valuation, Disposal, Report

10. **Pricing & Discount System**
    10.1. Product Based, Customer Based, Invoice Based, quantity Based

11. **Routine Transaction**
    11.1. Global Change, Write off Refund, Return. , Contra Entry, Month End, Year End, Clear Stock and Audit Trial

12. **Payroll Applications**
    12.1. The payroll system ,Pay periods ,tax rates, percentages, and limits ,Employee data maintenance ,Payroll transactions ,Generate payroll checks ,Payroll reports

13. **Other Related Area**
    13.1. Interpretation and processing of both routine and non routine   transactions
    13.2. Processing techniques used for CAS
    13.3. System changes over methods
    13.4. Production of profit and loss account and balance sheet.
    13.5. Financial and cash flow Budget
    13.6. Credit management
    13.7. Working Capital Management
    13.8. Report generating financial reporting
    13.9. Internal Control & Computerized Audit

Recommended Reading:
- M.N. Arora (2006) A Textbook of Cost and Management Accounting (8Rev Ed edition), Vikas Publishing House Pvt.Ltd ,India
- Financial Accounting, S.N Mahaswari

- Frank Wood; Alan Sangster (2005) Business Accounting 1 (10 edition), Financial Times Management.
- Help catalogue on relevant software packages as Sage 50 Line, Quick Books and other relevant software

ITMS-2143 Technology Management and Applications

Course Description:
The Technology Management investigates the contemporary theories and practices that today's organizations are using to gain a strategic advantage through the deployment of information technology. Learners develop the process skills and subject matter knowledge needed to excel as scholar-practitioners and leaders in this growing field

Objectives:
To help develop the student's intellectual capacity to understand the role of contemporary engineer in knowledge driven economy. This is achieved through the introduction of concepts and principles of management of technology and their applications in an interactive learning environment

Learning Outcomes:
Understanding of basic concepts and theories of management of technology. Appreciation of these MOT concepts and theories.
Application of some of these MOT concepts and theories to modern organizations and economy.

Method of Teaching:

Different assignments, group discussion and presentation will be used to illustrate the various topics of the course, and the chapter activities are done in a class quiz within the lecturer break. Final examination question paper for this program will be three hours, five questions. It will cover all the topics in the syllabus.

Duration of the Course:

It includes 45 contact hours with three credit points.

Assessment Method:

- Final written exam   80%
- Assignments, Group discussion & Presentation   10%
- Attendance   05%
- Mid-semester examination   05%

Note: Students should attain 50% of the continuous assessment marks, and then only they will allow to sitting the final examination.

Course Contents:

1. **Concepts of Technology Management**

2. **Strategic management of technology**
    2.1. Technology-strategy relationship
    2.2. Elements of technology strategy and formulation of a technology strategy
    2.3. Integration of technology strategy and business strategy for competitive success
    2.4. Technology, the environment and sustainable development

3. **Organizational Aspects of technology management**
    3.1. Human dimension of technology and concepts of the entrepreneur and entrepreneur
    3.2. Organizational cultures and structures for promotion of creativity and innovation
    3.3. The learning organization

3.4. The imperative of knowledge management

4. **Acquiring technology through technology transfer**
   4.1. Motivations for acquiring technology through technology transfer
   4.2. Elements of technology transfer process
   4.3. Success and failure factors in technology transfer

5. **Acquiring technology through research and development**
   5.1. The concepts of invention and innovation
   5.2. Definition and classifications of research and development
   5.3. New product development
   5.4. Challenges in commercializing research results

6. **National innovation systems for facilitating technology-based development**
   6.1. Concepts of the national innovation system (NIS) and science and technology infrastructure
   6.2. Comparison of NISs of developed, developing and first and second tier NIC countries
   6.3. State involvement and growth of science and technology parks in developed and developing countries

Recommended Reading:

1. Efraim Turban, Dorothy Leidner, Ephraim McLean, and James Wetherbe, (2004) Information Technology for Management: Transforming Organizations in the Digital Economy, jhon wiley and sons (asia) pte ltd, Singapore.
2. Robert Plant and Stephen Murrell, An Executive's Guide to Information Technology: Principles, Business Models, and Terminology.
3. Ronald Lawrence Thompson, William Cats-Baril, and Ronald Thompson, Information Technology and Management with Simnet MIS.

ITMS- 2153 Data Communication & Network Administration

Course Description:
The course focuses on the Communication Technology, Communication Standard and the Importance of inter connecting network of difference standard. This course also provides the essential knowledge to make information decisions regarding the selection, purchase installation and maintenance of local and wide are network as well as practical knowledge on establishing a network environment.

Objective:
To provide theoretical & practical knowledge required to perform management of computer systems and networks and administration tasks on specified operating platform.

Learning Outcomes:
After successful completing of this module, students should be able to:
- Provide knowledge on Data Communication concepts, Transmission Media, and Error Controlling
- Describe the role/scope of a system/network administrator
- Manage computer systems and undertake operational tasks
- Provide/maintain network services to users
- Identify security policies and to apply necessary preventive & corrective steps to secure a system/network
- Deploy version upgrades & patches to a system

Method of Teaching:
The course will be conducted based on both lecture as well as lab sessions. Different assignments, group discussion and presentation will be used to illustrate the various topics of the course.

Duration of the Course:
It includes 45 contact hours with three credit points.

Assessment Method:

- Semester End Examination   70%
- Continuous Assessment   30%
  (Written assignments, practical test, etc.)

Course Content:

1. **Data Communication Concepts and Terminology**
   1.1. Basic Model of Data Communication System
   1.2. Data Transmission
   1.3. Modes of Data Transmission
   1.4. Digital Signal Encoding
   1.5. Bipolar Line Codes
   1.6. Block Codes
   1.7. Transmission Channel
   1.8. Data Compression
   1.9. Data Communication

2. **Transmission Media**
   2.1. Transmission Line Characteristics
   2.2. Linear Distortions
   2.3. Characteristics of Transmission Line in Time Domain
   2.4. Crosstalk
   2.5. Metallic Transmission Media
   2.6. Optical Fibre
   2.7. Radio Media
   2.8. Baseband Transmission of Data Signals
   2.9. Equalization

3. **Error Control**
   3.1. Transmission Errors
   3.2. Coding for Detection and Correction of Content Errors
   3.3. Error Detection Methods
   3.4. Forward Error Correction Methods
   3.5. Reverse Error Correction

4. **Introduction to Systems and Network Administration**
   4.1. The Scope of Systems and Network Administration
   4.2. The Goals of Systems and Network Administration
   4.3. System Components and their Management
       4.3.1. Operating Systems: Windows and Unix Variants
       4.3.2. File Systems and Standards (UFS, NFS, NTFS, EXT 2/3)
       4.3.3. Processes and Job Control
       4.3.4. Memory Management
       4.3.5. Privileged, User and Group Accounts
       4.3.6. Logs and Audits
       4.3.7. Systems Performance Tuning

5. **Host Management**
   5.1. Booting and Shutting Down of an Operating System
   5.2. Linux Boot Process
   5.3. Formatting, Partitioning and Building a File System
   5.4. File System Layout (inode and FAT based file systems)
   5.5. Concept of Swap Space
   5.6. Cloning Systems
   5.7. OS Installation
   5.8. Installation and configuration of devices and drivers
   5.9. Installation and configuration of Software
   5.10. Open Source Software: The GNU Project
   5.11. Super user/Administrator Privileges
       5.11.1. Adding/Removing users
       5.11.2. Controlling User Resources
       5.11.3. Disk Space Allocation and quotas
   5.12. User Management

Recommended Readings:

1. Prakash C. Gupta, 2006, Data Communications and Computer Networks, Prentice Hall India.
2. Mark Burgess, 2000, "Principles of Network and System Administration", John Wiley and Sons Ltd.

3. Craig Hunt, 2002, "TCP/IP Network Administration" (3rd Edition), O'Reilly and Associates Inc..
4. Matt Welsh, Matthias Kalle Dalheimer and Lar Kaufman, 2002, "Running Linux", (4th Edition), O'Reilly and Associates Inc.
5. AEleen Frisch, 2002, "Essential System Administration", 3rd Edition, O'Reilly and Associates Inc.

ITMS- 2213 Human Resource Management

Course Description:

This course is designed to provide participants wilh the professional competencies required for successful performance in the human resource field. Detailed exercises with learning objectives and procedures guide the student through the process of solving complex human resource problems.

Objective:

The student should be able to indicate and explain various human resource management interventions that may be required when dealing with the work environment, people, and problems. In particular, the student should be able to critically analyze organizational situations, prescribe courses of action necessary for problem solving, and integrate the steps necessary for effective implementation using information technology

Learning Outcomes:

After studying and completing all of the necessary components of this course, students will:

- Understand the implications of globalization. Technology changes, workforce diversity, changing skill requirements, continuous improvement initiatives, and employee's involvement.

- Be able to deal with the challenges effectively and efficiently in relations to human Resources in organizations using information technology,.

- Have an understanding of importance and making fair decisions about their employees.

Method of Teaching:

The course will be conducted on a participation basis consisting of lecture and discussion. In addition, critical incidents analysis, case study, and presentation will consist.

Duration of the course:
45 Lecture hours

Methods of Evaluation:

- Final Examination   80%
- Continuous Assessment   20%

Course Contents:

1. **Human Resource Management- An Overview**
   Definition of Human Resource and Unique Characteristics of Human Resource: Definitions of HRM; Features of HRM: Process of HKM and a Model of HUM; Environmental influences on HRM; Objectives of HRM: Significance of HRM:

2. **Job Analysis**
   The Nature of Job Analysis: Methods of Collecting Job Analysis Information; Computerized Skill Inventories: Writing Job Descriptions and Specifications:

3. **Human Resource Planning**
   Need for HR Planning: Significance of HR Planning; Nature of HR Planning; Process of HR Planning; Techniques for HR Planning: Human Resource Information System; Limitations of HR Planning: Guidelines for Making HR Planning Effective;

4. **Recruitment**

   The Recruitment Process: Recruiting Yield Pyramid: Sources of Recruitment: Recruiting on the Internet;

5. **Selection**

   The Selection Process; Basic Testing Concepts; Testing Guidelines: Types of Tests; Computer-Interactive Performance Test: Interview: Introduction; Basic-Features of Interviews: Common Interviewing Mistakes: Designing and Conducting the Effective Interview: Other Selection I techniques;

6. **Training and Development**

   Orientation; Meaning and Purpose of Training; Importance of Training: Training Process; Training Need Analysis; Training Techniques; Training Via the Internet; Nature and Purpose of Management Development;

7. **Performance Evaluation**

   HRM and Performance Appraisal (PA): Definition. Nature and Importance of PA Purpose of PA; Process of PA: PA Policies; PA Criteria and Standards: Methods of PA; PA Form and Procedure; Training of Appraisers; PA feedback; Review and Renewal of PA System: Some Issues of PA: Performance management;

8. **Compensation and Benefits**

   Basic Aspects of Compensation; Basic Factors in Determining Pay Rates; Benefits;

9. **Labor Relations**

   Introduction; Why Workers Unionize: Collective Bargaining Process:

10. **Safety and Health**

    Benefits of Employee Safety and Health Administration: Causes of Accidents: How to prevent Accidents; Employee Health: Problems and Remedies;

11. **Employee Discipline**

    Definitions; Causes of Indiscipline: Essentials for Good Disciplinary System: (lot-Stove Rule; Kinds of Punishment /Penalties: Procedure for Taking Disciplinary Action: Role of HR Manager in Maintaining Discipline: Building Two way (communications: Guaranteed Fair Treatment and Employee Discipline:

Recommended Reading:
1. Aquinas. P.G. (2006). Human Resource Management, Principles and Practice, 1st ed.. Vikus Publishing House Pvt Ltd, New Delhi.
2. Aswathappa (2003). Human Resource and Personnel Management, 5th ed., Tata McGraw-Hill puhishing Co.. India.
3. Dessler. G. (1997), Human Resource Management. "' I'd. Prentice Hall of India Private Etd, New Delhi.
4. Milkovich, G.T. & Boudreau, J.W. (2004). Personnel/Human Resource Management, 5th ed., Richard D. Irwin, INC. U.S.A.

ITMS – 2223 Financial Modelling and Decision Making

Course Description:
This Course provide an introduction to the major method of financial modelling and decision making in business and finance in addition to considering the theoretical aspect of the methods, students will gain practical experience of applying some of the mostly commonly used procedures to real life data.

Objective:
At the end of the course, the participants should be able:

- To have a wider and in-depth understanding of the concepts and technologies of financial decisions.

- To apply relevant technologies in identifying, evaluating and solving specific management problems.
- To construct and use sound and efficient computer models in order to solve such problems satisfying management decision-making needs in the operation of the business under varying circumstances.

Duration of the Course:
45 Lecture Hours

Method of Teaching:
- Lectures are aimed at guiding participants towards the topics in the syllabus.
- Computer-assisted Learning
  - Construction of computer models is an essential component of the course.
  - The participants will receive necessary assistance during the sessions to construct financial models using Microsoft Excel.
  - Assignments should be completed by participants on or before due dates

Course Contents:
1. **Management Accounting and IT**
   1.1. Introduction to Computing and use of Spreadsheets
   1.2. Introduction to Electronic Spreadsheet application (Microsoft Excel)
   1.3. Effectiveness of Models under current industrial and business environment
   1.4. Use of techniques (trial and error / 'what-if forecasting, simulation using
   1.5. Mathematical formulae or spreadsheet functions) in Computer modeling
   1.6. Developing computer models for Financial Analysis.
   1.7. Management Decisions and Computer Modeling

2. **Financial planning & budgetary process**
   2.1. Preparation of Departmental Budgets / Cash forecasts / Master Budgets
   2.2. Budgets and types of organization
   2.3. Flexible Budgets / Revision of Budgets
   2.4. Developing a computer model for a complete set of budgets for a manufacturing Environment

3. **Short term decision-making**
   3.1. C-V-P Analysis models
   3.2. Models for Cost estimation and pricing decisions

4. **Investment Appraisal, Capital Budgeting Strategy and Planning Risk.**
   4.1. NPV and IRR models.
   4.2. Ratio Analysis, its advantages and limitations

5. **Reports**
   5.1. Responsibility Accounting and Progress Report Models
   5.2. Standard Costing & Variance Analysis Models

Assessment:
- Term-end evaluation   70%
- Mid-term evaluation   30%

Recommended readings:
1. Mary Jackson & Mike Staunton, Advanced modeling in finance using excel and VBA.
2. Dawn E. Lorimer & charles R. Rayhorn, Financial modeling for managers.
3. Wayne l. Inston, Simulation modeling using @risk.
4. Wayne L. Winston, Microsoft Excel Data Analysis and Business Modeling.

ITMS -2233 Database Management System

Course Description:

This course will give the student an overview of Relational Database Systems, E-R Modelling, and Relational Database Design and in depth understanding of implementing. The student will acquire a much deeper knowledge of Microsoft SQL Sever 2005, the latest release from Microsoft to-date. Students will work individually on a series of small projects, and one larger project encompassing all phases of database design and implementation.

Objective:

- Learn the basics of database design and application
- Become comfortable with the thought processes for relational database design
- Learn to use a relational database application, MS SQL Sever 2005 in our course, effectively

Learning Outcome:

After completing this course, students

- Will have good understanding about database, its types, basic normalization knowledge etc.
- Will have good knowledge on desktop database as MS Access 2007
- Will have good knowledge on server database MS SQL Server 2005
  - Its installation and database creation and maintenance
  - T-SQL
  - Stored Procedure etc.

Method of Teaching:

The entire course will consist of lecture sessions, lab sessions, lab demonstrations, class room discussions, class room presentations, etc. Students will be provided with printed material for both reference and practical sessions. Different case assignments will be used to illustrate the various topics of the course.

Duration of the Course:

It includes 45 contact hours with three credit points.

Assessment Methods:

The Continuous Assessment is composed of Practical Assignments, Oral presentations, Unit Examinations, Final Project etc. Active participation and satisfactory attendance of the student is compulsory. The evaluation structure of the course is as follows.

- Semester end written examination   70%
- Individual Assignments (Written & Practical)   20%
- Mid – Semester examination   05%
- Group Assignments with classroom presentations 05%

Course Contents:

1. **Database Basics**
    Data Vs Information, File Systems Vs Database Systems, Types of Databases, etc. Relational Database Theory, Entity Relationship Modelling

2. **Working with Access 2007**
    Creating a Database, creating Tables, establishing Relationships, creating Queries, creating Forms, creating Reports

3. **Installing SQL Server 2005**
    Selecting the Correct SQL Server 2005 Edition, Determining Infrastructure Requirements for SQL Server 2005, Using Default, Named, and Multiple Instances of SQL Server 2005, Installing a New Instance of SQL Server 2005

4. **Configuring SQL Server 2005**
    Configuring Log and Data Files, Configuring Database Mail, Specifying a Recovery Model, Configuring Server Security Principals, Configuring Database Securables, Configuring Encryption, Configuring Linked Servers.

5. **Creating Tables, Constraints, Indexes and User-Defined Types**
   Creating Tables, Implementing Constraints, Creating User-Defined Types, Understanding Index Structure, Creating Clustered Indexes, Creating No-clustered Indexes.

6. **Working with Transact-SQL**
   Querying Data, Formatting Result Sets, Modifying Data, Working with Transactions

7. **Creating Partitions**
   Creating a Partition Function, Creating a Partition Scheme, Partitioning Tables and Indexes, Querying Partitions, Managing Partitions

8. **Implementing Views**
   Creating a View, Modifying Data through Views, Creating an Indexed View

9. **Creating Functions, Stored Procedures, and Triggers**
   Implementing Functions, Implementing Stored Procedures, Implementing Triggers

10. **Backing Up, Restoring, and Moving a Database**
    Backing Up a Database, Restoring a Database, Moving a Database

11. **Monitoring and Troubleshooting SQL Server Performance**
    Working with SQL Server Profiler, Working with System Monitor, Using the Database Engine Tuning Advisor, Using Dynamic Management Views and Functions, Correlating Performance and Monitoring Data, Resolving Blocking and Deadlocking Issues, Resolving Database Errors

12. **Managing Replication**
    Understanding Replication Types, Setting Up Replication, Configuring Replication Security, Configuring Conflict Resolution for Merge Replication, Monitoring Replication

Recommended Readings:
1. Date C.J , An Introduction to Database Systems.
2. John Viescas and Jeff Conrad, Microsoft Office Access 2007 Inside Out.
3. Paul Nielsen, SQL Server 2005 Bible.
4. David W. Tschanz, Mastering Microsoft SQL Server 2005.
5. Daren Bieniek, Microsoft SQ L Server 2005 Implementation and Maintenance.
6. Alison Balter, Teach Yourself Microsoft SQL Server 2005 Express in 24 Hours.

ITMS -2243 Web Designing and Development

Course Description:
The provides students knowledge to create professional looking websites; both static and dynamic ones. This is a specialized course that provides a comprehensive theoretical and practical knowledge in the area of web based application.

Objective:
- To provide opportunities to gain sufficient Practical and Theoretical knowledge in the field of Web surfing.
- To motivate the student to get used to the new technology introduced in web technology.
- Write server-side scripts within HTML to communicate with a web server and database

Learning Outcome
After successfully completing these modules students will be able to design and develop Web sites for specified tasks using the learned Web Technologies.

Method of Teaching:
The entire course will consist of lecture sessions, lab sessions, lab demonstrations, class room discussions, class room presentations, etc. Students will be provided with printed material for both reference and practical sessions.

Duration of the Course:
 45 Hours Theory and Practical

Assessment Method:
- Semester End Examination   60%
- Continuous Assessment   20%
- Practical Tests   10%
- Final Project   10%

Course Contents:

1. **Internet / Web basics**
   1.1. Brief history
   1.2. Web Technologies & Standards
   1.3. Types of web sites

2. **Web Design overview**
   2.1. Web Applications Architecture
   2.2. Web Page standards (navigation, download speed)
   2.3. Importance of HTML, CSS, XML, WML in Web technologies

3. **Introduction to Hypertext Mark-up Language (HTML)**
   3.1. Understanding HTML basic tags
   3.2. Working with Fonts and Attributes
   3.3. Working with links
   3.4. Working with Images
   3.5. Creating and Working with Tables
   3.6. Importance of Forms in Web Designing
   3.7. Controlling layout design

4. **Introduction to client Site Script**
   4.1. Introduction to Java Scripts
   4.2. Java script programming model & syntax
   4.3. Built in objects in Java scripts
   4.4. Use of Functions & arrays in Java Scripts

5. **Understanding Server Side Technologies**
   5.1. Introduction to Server Side Technologies (Microsoft .Net, Java Technology & Open Source Technology)
   5.2. Advantage and Disadvantages of Server Side Scripts

6. **Introduction to Open Source: PHP**
   6.1. PHP & IIS Server Installation
   6.2. Introduction to PHP Programming
      6.2.1. Basic PHP Syntax
      6.2.2. Sending Data to Web Browser
      6.2.3. Variables in PHP
         6.2.3.1. strings, numbers, or arrays
      6.2.4. Operators in PHP
         6.2.4.1. Arithmetic Operators
         6.2.4.2. Comparison Operators
         6.2.4.3. Logical Operators
      6.2.5. Conditional Statements in PHP
         6.2.5.1. Switch Statement
         6.2.5.2. If Statement
         6.2.5.3. Looping
      6.2.6. Functions in PHP
      6.2.7. PHP Server Variables
      6.2.8. Creating Validating FORMs in PHP
      6.2.9. Cookies and Sessions in PHP

7. MYSQL Basics
   7.1. Introduction to MYSQL
   7.2. MySQL Setup and Administration
   7.3. Creating Databases and Tables in MYSQL
   7.4. Selecting Data using Conditions
   7.5. Data Manipulations

8. Developing Dynamic Web sites

9. Hosting
   9.1. Hosting the site
   9.2. Name registration
   9.3. Service providers

Recommended Readings:

Main reading:

1. Larry Ullaman, PHP and MYSQL for Dynamic Web sites, (Indian Edition: Techmedia Publications).
2. James Fuller (2003). Professional PHP Web Services. Wrox Press (Indian Edition: Shroff Publishers).
3. Dietel and Dietel, How to Internet Program.
4. Teach yourself MYSQL in 21 Days, Sams Series Publications
5. Teach yourself PHP in 21 Days, Sams Series Publications

URLs:

- W3C HTML pages: http://www.w3.org/HTML
- The PHP home: http://www.php.net
- PHP Books: http://www.hotscripts.com/PHP/
- pen Source PHP Projects: http://sourceforge.net/softwaremap/trove_list.php?form_cat=183 and http://freshmeat.net/browse/183/
- Example/Free PHP Code: http://phpclasses.pathtech.org/browse/
- MySQL free RDBMS home: http://www.mysql.com/
- Web Services Resources from O'Reilly: http://webservices.oreilly.com/
- Microsoft's Web Services pages: http://msdn.microsoft.com/webservices/

Tools for Practical

- Be able to configure and run the Apache web server on Windows
- Understand the role of the IIS server and be able to configure it
- Able to install and connect PHP to Apache/IIS server
- Install and use the MySQL database and connect to it from PHP (and Java/ASP) and be aware of how to do this with other databases (e.g. SQL Server, ORACLE)
- Be aware of the equivalent database and web services support in ASP.NET and Java

ITMS- 2253 Software Engineering

Course Description:

This course provides students with knowledge and usage the software engineering process and practice including software development life cycle, system engineering, methods and standards of analysis and design, and aspects of management of a software engineering project.

Objectives

- Perform software engineering activities in project planning, test planning, requirement gathering, validation, specification, analysis, design, and prototyping.
- Apply software engineering practice and process to software design and   development.
- Demonstrate the ability to gather, analyze, develop, verify and validate artifacts of software engineering systems.
- Use software tools effectively in the major phases of software development.

Learning Outcome:

- Apply mathematics, science and computer science to the engineering of software systems. 2. Apply software engineering practice and process to software design and development.
- Demonstrate the ability to gather, analyze, develop, verify and validate artifacts of software engineering systems.
- Use software tools effectively in all phases of software development.
- Contribute to multi-disciplinary and interdisciplinary teams in the design, implementation and evolution of software systems.
- Demonstrate effective oral and written communication skills.
- Independently learn and research new topics in software engineering and be capable of independent learning.
- Recognize professional responsibility and the application of ethical principles.
- Demonstrate an ability to learn new languages, environments, and paradigms for software development.
- Recognize the impact their discipline has on society

Method of Teaching:
Lectures, discussion, presentation, out of class software engineering assignments

Duration of the Course:
The course will be taught for 45 Hours.

Assessment Methods:
- Final Exam   60 %
- Project, and Presentation   15 %
- Quizzes, Tests   10 %
- Midterm   10 %
- Participation, Attendance, and/or Class work   05%

Course Contents:

1 Why Software Engineering?
      1.1 What Is Software Engineering?
      1.2 How Successful Have We Been?
      1.3 What Is Good Software?
      1.4 Who Does Software Engineering?
      1.5 A Systems Approach
      1.6 An Engineering Approach
      1.7 Members of the Development Team
      1.8 How Has Software Engineering Changed?

2 Modeling the Process and Life Cycle
      2.1 The Meaning of Process
      2.2 Software Process Models
      2.3 Tools and Techniques for Process Modeling
      2.4 Practical Process Modeling

3 Planning and Managing the Project
      3.1 Tracking Progress
      3.2 Project Personnel
      3.3 Effort Estimation
      3.4 Risk Management
      3.5 The Project Plan
      3.6 Process Models and Project Management

4 Capturing the Requirements

4.1 The Requirements Process
4.2 Types of Requirements
4.3 Characteristics of Requirements
4.4 How to Express Requirements
4.5 Additional Requirements Notations
4.6 Prototyping Requirements
4.7 Requirements Documentation
4.8 Participants in the Requirements Process
4.9 Requirements Validation
4.10 Measuring Requirements
4.11 Choosing a Requirements Specification Technique

5 Designing the System

5.1 What Is Design?
5.2 Decomposition and Modularity
5.3 Architectural Styles and Strategies
5.4 Issues in Design Creation
5.5 Characteristics of Good Design
5.6 Techniques for Improving Design
5.7 Design Evaluations and Validation
5.8 Documenting the Design

6 Concerning Objects

6.1 What Is OO?
6.2 The OO Development Process
6.3 Use Cases
6.4 Representing OO: An Example Using UML
6.5 OO System Design
6.6 OO Program Design
6.7 OO Measurements

7 Writing the Programs

7.1 Programming Standards and Procedures
7.2 Programming Guidelines
7.3 Documentation

8 Testing the Programs

8.1 Software Faults and Failures
8.2 Testing Issues
8.3 Unit Testing
8.4 Integration Testing
8.5 Testing Object-Oriented Systems
8.6 Test Planning
8.7 Automated Testing Tools
8.8 When to Stop Testing

9 Testing the System

9.1 Principles of System Testing
9.2 Function Testing
9.3 Performance Testing
9.4 Reliability, Availability, and Maintainability
9.5 Acceptance Testing
9.6 Installation Testing
9.7 Automated System Testing
9.8 Test Documentation
9.9 Testing Safety-Critical Systems

10 Delivering the System

10.1 Training
10.2 Documentation

11 Maintaining the System
>   11.1 The Changing System
>   11.2 The Nature of Maintenance
>   11.3 Maintenance Problems
>   11.4 Measuring Maintenance Characteristics
>   11.5 Maintenance Techniques and Tools
>   11.6 Software Rejuvenation

12 Evaluating Products, Processes, and Resources
>   12.1 Approaches to Evaluation
>   12.2 Selecting an Evaluation Technique
>   12.3 Assessment vs. Prediction
>   12.4 Evaluating Products
>   12.5 Evaluating Processes
>   12.6 Evaluating Resources

13 Improving Predictions, Products, Processes, and Resources
>   13.1 Improving Prediction
>   13.2 Improving Products
>   13.3 Improving Processes
>   13.4 Improving Resources
>   13.5 General Improvement Guidelines

14 The Future of Software Engineering
>   14.1 How Have We Done?
>   14.2 Technology Transfer
>   14.3 Decision-Making in Software Engineering
>   14.4 The Future of Software Engineering

Recommended Readings:

1. Pfleeger, Software Engineering, ISBN 0-13-029049-1
2. Ian Sommervile (2006) Software Engineering , Pearson Education , New delhi
3. Pressman,and Roger. S, (2005) Software Engineering – A Practitioner's Approach, ISBN 007301911-X, Mcgraw Hill High Education, New York.

ITMS- 3113 Quantitative Techniques for Management

Course Description:
Quantitative Techniques are the powerful tools through which production can be augmented, profit maximized, cost minimized and production methods can be oriented for the accomplishment of certain pre-determined objectives. It has been a growing tendency to run quantitative techniques as a means for solving many of the problems that arise in a business or industrial enterprises.

Objective:
The objective of the course is to provide a comprehensive knowledge and skills in quantitative techniques that will enable the students to analyze managerial problems with the use of information technology for more effective decision making.

Learning Outcomes:
By the end of the course students will be able to;
-    Describe the managerial problems
-    Analyze managerial problems using quantitative techniques with the use of IT and
-    Evaluate the results and produce sound managerial decisions.

Method of Teaching:
Classroom teaching, group discussions and individual presentations will be used to illustrate the various topic of the course.

Duration of the Course:
The course will be taught for 45 Hours.

Assessment Method:

- Semester-End Written Examination   - 80%
- Mid-Semester Examination   - 10%
- Assignments, Quizzes, and Participation in
  Class room Discussions   - 10%

Course Contents:

1. Linear Programming
1.1 Introduction
1.2 Linear Programming: Graphical analysis
1.3 Linear Programming: Simplex Method
1.4 Duality
1.5 Sensitivity Analysis

2. Transportation Problem for Decision Making
2.1 Introduction
2.2 A Balanced- Transportation Problem
- Initial Basic Solution
- Optimal Solution
2.3 An Unbalanced Transportation Problem
- Initial Basic Solution
- Optimal Solution
2.4 Degeneracy in Transportation problem
2.5 Maximizations in Transportation
2.6 Prohibited Transportation problem

3. Assignment Problem for Decision Making
3.1 A Balanced Assignment Problem
3.2 An Unbalanced Assignment Problem
3.3 Alternative Optimal solutions
3.4 Prohibited Assignment
3.5 Assignment Problem for Maximization

4. Net Work Analysis: PERT/CPM
4.1 Introduction to PERT and CPM
4.2 Activity time Estimates in PERT
4.3 Critical Path Method
4.4 Net Work Diagrams and Analyzing Projects
4.5 Making Time- Cost Trade offs

5. Queuing Theory
5.1 Introduction
5.2 Queuing Systems
5.3 Single Channel Waiting Line Model
5.4 Multiple Channel Waiting Line Model

6. Decision Theory
6.1 Introduction
6.2 Types of Decision Making
- Decision Making Under Risk
- Decision Making Under Uncertainty
- Decision making under certainty
- Decision making under conflict

7. Inventory Control
7.1 introduction
7.2 The Economic Order Quantity Model
7.3 Economic Production Lot size Model

Recommended Readings:
1. Cook, M.T. & Russell A.R.(1995), Introduction to Management Science 6th ed.
2. Karunaratne, KRMT (1995) ,Quantitative Methods for Management.

3. Richard I Levin at el. (2001), Quantitative Approaches to Management. 8th ed.

ITMS- 3123 Strategic Management

Course Description:
Strategic Management is regarded as a capstone course in the management. The world it has been many innovations in recent years. Strategic management is important to survive and thrive in today's dynamic market place because the strategic decisions are ones that are of fundamental importance to the business. Therefore the formulation and implementation of strategy has emerged as the key to business success.

Objectives:
- Provide the theoretical as well as practical knowledge in strategic management.
- Provide why strategic management is important on the success of the enterprise.
- Explain the issues in implementing the chosen strategy.
- Discuss the activities of the external environmental analysis process.
- Explain the strategic management process.
- Analyze the problems in an organization and develop the strategic Plan
- Explain haw to formulate corporate and business strategies;

Learning Outcomes:
On satisfactory completion of this course, participants should be able to
- Understand the theoretical as well as practical knowledge in strategic management;
- Identify and analyze the strategic issues in organizations;
- Know haw to formulate corporate and business strategies;
- Understand the issues in implementing the chosen strategy.
- Understand the activities of the external environmental analysis process.
- Understand the strategic management process.
- Understand to identify the problems in an organization and
- Understand to develop the strategic Plan

Method of Teaching:

Theoretical knowledge can be delivered by the Lecturer who is in charge for this course unit and the practical issues in implementing the chosen strategy in an organization and the SWOT analysis of enterprise would be done through the group work and the discussion. For this group work students can be divided in to several groups and the students will be visited / taken to several organizations, and will be required to prepare the strategic plane of an enterprise. And also case studies will be done based on some real cases.

Duration of the Course:
45 Lecture hours

Assessment Methods:

Assessment of this course comprises:

- Semester end written exam   80%
- Continuous assessment   20%
  - Group works and case study analysis   10%
  - Individual assignment   05%
  - Mid semester exam   05%

Course Contents:
1. **Introduction:**
   1.1. What is strategic management?

1.2. Importance of strategic management
1.3. Value of strategic management
1.4. evolution of strategic management
1.5. Challenges of strategic management

2. **Strategic Thinking:**
   2.1. The five task's of strategic management
   2.2. Strategic thinking process
   2.3. What is industry foresight?
   2.4. Stake holder's analysis
   2.5. Levels of strategies

3. **Strategic Models:**
   3.1. Five forces model of competition
   3.2. Mekinsey's 7's strategic model

4. **Strategic formulation process:**
   4.1. Articulating strategic vision
   4.2. Core ideology and core values
   4.3. Mission Vs strategic visions
   4.4. Types of objectives
   4.5. Environmental scanning

5. **Alternative strategies**
   5.1. Growth strategies
   5.2. Stable growth strategies
   5.3. Diversification strategies

6. **Strategy Selection Process**
   6.1. BCG Matrix
   6.2. Nine cell matrix
   6.3. General electric matrix

7. **Strategy implementation and Evaluation**
   7.1. Managing strategic change
   7.2. Implementation technique
   7.3. Resistance to change
   7.4. Evaluations and recent trends in organizational change

8. **Strategy related Case studies analysis**

Recommended Readings:
   1. Dhruba Duttachowdhury (2002) Strategic management; Theory and Practice 1st Edition.
   2. Michal A. Hitt, R.Duane Ireland, Robert E. Hoskisson(2001); strategic Management Competitiveness and Globalization, Fourth Edition.
   3. S.B.Budhiraja M.B.Athreya(2006) Cases in Strategic Management,7th Edition.
   4. Philip Sadler(2005) Strategic management , 1st Edition.
   5. Pearce II. john A (1997) Strategic management formulation and Implementation.
   6. Stacey ralph D.(1996) Strategic management and organizational Dynamics.
   7. Geoge Luftman,Edward Lea, Stuart sanderson and Brrian Kenny(1997) Strategic management, 3rd Edition.

ITMS -3133 Software Project Management

Course description:
This course provides the students with an advanced knowledge and understanding in project planning and management. Major coverage includes framework, processes, integration, scope, time, cost, quality, HR, communication, risk and procurement with respect to project management.

Objective:

Objective of this module is to develop wider and broader knowledge among students with respect to project planning and management in dynamic business environment, in diverse projects and diverse organizational structures.

Learning outcomes:

At the end of this course module, students will be able to:

- To know about project planning and management
- Model Project management framework
- Differentiate Project management processes
- Clarify Project integration
- Decide project scope
- Manage project time in different projects
- Measure and evaluate project cost
- Control project quality
- Manage Project Human Resources
- Communicate among different Project stakeholders
- Identify risks related to projects
- Develop skills to procure different projects
- Tackle with contemporary project issues

Method of teaching:

Mode of teaching includes the succeeding.

- Hard copy of ppt presentation slides.
- Usage of multi- media presentations
- Interactive learning sessions such as in- lecture hall activities and discussions and freedom for questioning and clarifications.

Duration of the course:
This subject will have to incorporate a minimum of 45 hours of in-lecture hall delivery of lectures.

Assessment Method
I set the following in order to evaluate students' performances on taught chapters in project management.

1. Group/ individual presentation(s):
Topic will be assigned by the lecturer on a simple random sampling basis. When making the presentations, they must acquire the comments from audiences. Then, they have to submit a perfect corrected report immediately once presentation is over.

2. Mid Semester Test-(MST):
It will be taken place 7th or 8th week. MST will contain the chapters taught in the module.

3. Individual assignment(s):
Topic will be assigned by the lecturer on a random basis.

- Final Exam   80%
- Total continuous assessment marks   20%
Allocation of marks for continuous assessments stated above

Mode	Allocation of marks
Group/ individual assignments	10%
MST	06%
Individual assignments	04%

Note:- This allocation of continuous assessments marks may range from 20- 30

Instruction for final examinations: Number of questions will be five. All are mandatory. Of these, one is a case study or critical incident stemming from organizational settings.

Course Contents:

1. **Introduction to project management**
    1.1. Concept of project of project
    1.2. Definition of project management
    1.3. Building the project management framework
    1.4. Adapting management expertise
    1.5. Adapting application areas
    1.6. Examining related areas of project management

2. **Project management framework**
    2.1. Movement through project phases
    2.2. Organizational project environment
    2.3. Internal organizational project environment
    2.4. External organizational project environment

3. **Project management processes**
    3.1. Identification of the project management process groups
    3.2. Project initiation processes
    3.3. Project planning processes
    3.4. Executing project processes
    3.5. Controlling project processes

4. **Project integration management**
    4.1. Project plan purpose
    4.2. Inputs to project plan development
    4.3. Tools and techniques for project plan development
    4.4. Outputs of project plan development
    4.5. Typical project plan
    4.6. Project supporting details
    4.7. Project plan execution inputs
    4.8. Consideration of the inputs to integrated change control
    4.9. Tools and techniques for integrated change control

5. **Project scope**
    5.1. Definition of project scope management
    5.2. Planning the project scope
    5.3. Scope planning tools and techniques
    5.4. Implementation of scope management plan
    5.5. Updating the scope statement
    5.6. Verification of project scope
    5.7. Protection of scope

6. **Project time management**
    6.1. Definition of project activities
    6.2. Mapping activities
    6.3. Examination of sequencing outputs
    6.4. Estimation of activity durations
    6.5. Development of project schedule
    6.6. Creation of project schedule
    6.7. Consideration of outputs of schedule development
    6.8. Controlling project schedule

7. **Project cost management**
    7.1. Planning project resources

7.2. Cost estimation
7.3. Results of cost estimation
7.4. Cost budgeting
7.5. Implementation of cost control
7.6. Considerations of cost control results

8. Project quality management
8.1. The quality picture
8.2. Preparation for quality
8.3. Implementation of the quality policy
8.4. Implementation of quality control
8.5. Statistical quality control

9. Project HRM
9.1. Preparation for organizational planning
9.2. Completion of organizational planning
9.3. Examination of planning results
9.4. Management of staff acquisition
9.5. Assembly of the project team
9.6. Development of project team
9.7. Leading the project team

10. Project communication management
10.1. Communication planning
10.2. Creation of communication plan
10.3. Reporting of project performances
10.4. Completion of administrative closure

11. Project risk management
11.1. Planning for risk management
11.2. Creation of risk management plan
11.3. Examination of risk management plan
11.4. Identification of risks
11.5. Qualitative risk analysis
11.6. Quantitative risk analysis
11.7. Creation of risk responses
11.8. Examination of risk response planning
11.9. Implementation of risk monitoring and control
11.10. Completion of risk monitoring and control

12. Project procurement management
12.1. Planning for procurement
12.2. Examination of procurement planning results
12.3. Completion of solicitation planning
12.4. Organizing the solicitation materials
12.5. Creation of procurement documents
12.6. Creation of evaluation criteria
12.7. Updating the statement of work
12.8. Preparing for solicitation
12.9. Completion of solicitation
12.10. Performing contract administration
12.11. Performing contract closeouts

13. Other contemporary issues in Project management

14. Financial perspectives of project management

15. Case studies and critical incidents in project management.

Recommended readings:

1. Bhahavesh M. Patel (2003), Project management- strategic financial planning   evaluation and control
2. Everette Adam and Ronald J. Ebert (1998), production and operations management- Concepts, models and behaviours 5th edition
3. Griffin (2005), Management, 5th edition
4. Joseph Phillips (2004), project management- professional study guide
5. Philp Kotler and Garry Armstrong (2000), Marketing management, Millennium edition

ITMS- 3143 Rapid Application Development

Course Description:

This course combines software development methods, tools, and management techniques to achieve rapid application development. Emphasizes on the development of Windows based applications including Database Applications

Objectives:

- To give firm foundation on Rapid Application Concepts and methodology, various Visual Tools, advantages and limitations of RAD
- To train to work on Dot Net frame work and use Visual C# 2005 as a Rapid Application Tool
- Be able to develop applications using Visual C# 2005

Learning Outcome:

- Should have firm ground on Dot Net technology
- Create Windows based Simple applications
- Create Windows based database applications

Method of Teaching:

Lectures, Lab Practice with Demonstrations, Individual Assignments with class room presentation, etc.

Duration of the Course:

This course is of 45 hours lectures. And will be conducted for 15 weeks with each week consisting of 03 hours of lectures.

Assessment Method:

Semester End Examination	70%
Assignments (Written and Practical)	15%
Final Project	15%

Course Contents:

1. **The Basics in C# 2005**
   The Basic Structure, Source File, Types, Inheritance and Polymorphism, and Control Structures, The Basic Basics, Numbers, Integers, Other Number Types, Boolean Values, Characters and Text, Arrays, Making Decisions, IF Statements, Switch statements, and Loops

2. **Classes and Object Orientation in C#**
   Classes and Objects, Creating Classes, Using Constructors and Destructors, Methods, Polymorphism, Properties and Members, Getters and Setters, and Scoping

3. **Advanced Object Orientation**

Inheritance, Virtual Methods, Abstract Methods and Classes, Interfaces, Partial Classes, Casting Types, Reference Types and Value Types, Null and Casting As, Checking Object Types

4. **Handling Exceptions**
Understanding Exceptions, Handling Exceptions, Bubbling Exceptions, and Throwing Exceptions

5. **Assistance from C#**
Building a User Interface, Using Property Smart Tags, Aligning Controls, Setting Tab Orders, Using IntelliSense, Automatically Fixing Namespace Problems, Using Code Snippets, and Exploring the Edit Menu

6. **Building Windows Applications**
Common Properties and Events, Buttons, Text Boxes, Masked TextBox Control, Adding ToolTip, Radio Buttons and Check Boxes, and Date Pickers

7. **Windows and Dialogs**
Working with Forms, Styles, MDI (Multiple Document Interface), Dialogs, Message Box, Creating Your Own Dialog Box, and Common Dialogs

8. **Lists**
The ListBox Control, The CheckedListBox Control, The ComboBox Control, The TreeView Control, Changing the Visual Appearance of the Tree, and Responding to Selections and Finding Nodes

9. **Menus and Toolbars**
Menu Controls, Building a Menu, Adding Images and Shortcuts to a Menu, Menus in an MDI Application, The Context Menu Control, and Toolbars and Status Bars

10. **Database Programming**
Database Creation Tools, Writing Database Code, Data Binding

Recommended Readings:

1. Tony Grimer, Students' Essential Guide to .NET, Elsevier
2. James Foxall, Sams Teach Yourself Visual C# 2005 in 24 Hours, Complete Starter Kit, SAMS Publication
3. Peter Wright, Beginning Visual C# 2005 Express Edition From Novice to Professional, Appress
4. Karli Watson, Beginning C# 2005 Databases (Programmer to Programmer), Wrox

ITMS- 3153 Information Systems Security

Course Description:
A study of security policies, models, and mechanisms for secrecy, integrity, and availability. Topics include Basic Encryption and Decryption, Secure Encryption Systems, Applied Cryptography, Protocols and Practice, etc.

Objectives:
- Understand the concept of symmetric key and asymmetric key cryptography.
- Understand the security requirements of an information system.
- Describe the functionality of practical cryptographic protocols.
- Identify the security requirements of operating systems, databases and programs.
- Design new security solutions for address the security issues in open network environments.

Learning Outcome:
- Describe the different encryption and decryption algorithms and technologies.
- Describe the various existing security solutions in an open network environment.

Method of Teaching:

The entire course will consist of lecture sessions, class room discussions, class room presentations, etc. Students will be provided with printed material for both reference and practical sessions.

Duration of the Course:
It includes 45 contact hours with three credit points

Assessment :
- Final Examination: 80%
- Continuous Assessment: 20%

Detailed Syllabus

1. **Basic Encryption and Decryption**

   1.1. Terminology and Background
   1.1.1. Encryption, Decryption and Cryptosystems
   1.1.2. Plain Text and Cipher Text
   1.1.3. Encryption Algorithms
   1.1.4. Cryptanalysis

   1.2. Introduction to Ciphers
   1.2.1. Monoalphabetic Substitutions such as the Caesar Cipher
   1.2.2. Cryptanalysis of Monoalphabetic Ciphers
   1.2.3. Polyalphabetic Ciphers such as Vigenere Tableaux
   1.2.4. Cryptanalysis of Polyalphabetic Ciphers
   1.2.5. Perfect Substitution Cipher such as the Vernam Cipher
   1.2.6. Stream and Block Ciphers

   1.3. Characteristics of 'Good' Ciphers
   1.3.1. Shannon Characteristics
   1.3.2. Confusion and Diffusion
   1.3.3. Information Theoretic Tests
   1.3.4. Unicity Distance

2. **Secure Encryption Systems**

   2.1. Hard' Problems: Complexity
   2.1.1. NP-Complete Problems
   2.1.2. Characteristics of NP-Complete Problems
   2.1.3. The Meaning of NP-Completeness
   2.1.4. NP-Completeness and Cryptography

   2.2. Properties of Arithmetic Operations
   2.2.1. Inverses
   2.2.2. Primes
   2.2.3. Greatest Common Divisor
   2.2.4. Euclidean Algorithm
   2.2.5. Modular Arithmetic
   2.2.6. Properties of Modular Arithmetic
   2.2.7. Computing the inverse
   2.2.8. Fermat's Theorem
   2.2.9. Algorithm for Computing Inverses
   2.2.10.   Random number generation

   2.3. **Public Key (Asymmetric key) Encryption Systems**
   2.3.1. Concept and Characteristics of Public key Encryption System

2.3.2. Introduction to Merkle-Hellman Knapsacks
2.3.3. Rivest-Shamir-Adelman (RSA) Encryption in Detail
2.3.4. Introduction to Digital Signature Algorithms
2.3.5. The Digital Signature Standard (DSA)

2.4. Hash Algorithms
2.4.1. Hash Concept
2.4.2. Description of Hash Algorithms
2.4.3. Message Digest Algorithms such as MD4 and MD5
2.4.4. Secure Hash Algorithms such as SHA1 and SHA2

2.5. Secure Secret Key (Symmetric) Systems
2.5.1. The Data Encryption Standard (DES)
2.5.2. Analyzing and Strengthening of DES
2.5.3. Key Escrow and Clipper
2.5.4. Introduction to Advance Encryption Standard (AES)

3. Applied Cryptography, Protocols and Practice

3.1. Key Management Protocols
3.1.1. Solving Key Distribution Problem
3.1.2. Diffie-Hellman Algorithm
3.1.3. Key Exchange with Public Key Cryptography

3.2. Public Key Infrastructure (PKI)
3.2.1. Concept of Digital Certificate
3.2.2. Certificate Authorities and it's roles
3.2.3. X509 Structure of Digital Certificate
3.2.4. Types of Public Key Infrastructures

3.3. Legal Issues
3.3.1. Copyrights
3.3.2. Patents
3.3.3. Trade Secrets
3.3.4. Computer Crime
3.3.5. Cryptography and the Law

4. Operating System, Database and Program Security

4.1. Operating Systems Security
4.1.1. Security Policies
4.1.2. Models of Security
4.1.3. Security Features of Ordinary Operating System
4.1.4. Security Features of Trusted Operating System

4.2. Database Security
4.2.1. Security Requirements of Databases
4.2.2. Reliability and Integrity
4.2.3. Protection of Sensitive Data
4.2.4. Inference Problem: Direct and Indirect Attacks

4.3. Program Security
4.3.1. Kinds of Malicious Code
4.3.2. How Viruses Attach and Gain Control
4.3.3. Homes for Viruses
4.3.4. Virus Signatures
4.3.5. Preventing Virus Infection
4.3.6. Trapdoors
4.3.7. Convert Channels

4.3.8. Control Against Program Threats

4.3.9. Java mobile codes

5. **Security in Networks and Distributed Systems**

   5.1. Network Security

   5.1.1. Network Security Issues such as Impersonation, Message Confidentiality, Message Integrity, Code Integrity, Denial of Service

   5.1.2. Secure Communication Mechanisms such as IPSec

   5.1.3. PKI based Authentication and Kerberos Authentication

   5.1.4. Biometrics Authentication Mechanisms

   5.1.5. Access Control Mechanisms

   5.1.6. Firewalls

6. **Web Security**

   6.1.1. Solving Privacy Problems

   6.1.2. Solving Authentication Problems

   6.1.3. Secure Socket Layer (SSL) Protocol

   6.1.4. Secure Electronic Transaction (SET) Protocol

   6.1.5. Safe Guarding Web Servers

7. **Secure Electronic Mail**

   7.1.1. Privacy Enhanced Email (PEM)

   7.1.2. Pretty Good Privacy (PGP)

   7.1.3. Public Key Cryptography Standards-PKCS#7

   7.1.4. Secure/Multipurpose Internet Mail Extensions (S/MIME)

Reference:

- Charles P. Pfleeger, (2005) "Security in Computing (Third Edition)", Prentic-Hall International, Inc.
- Bruce Schneier, "Applied Cryptography Protocols, Algorithms, and Source Code in C (Second edition)", John Wiley & Sons, Inc.
- William Stallings, Cryptography and Network Security: Principles and Practice (3rd Edition).
- Rolf Oppliger, "Security Technologies for the World Wide Web", Artech House, Inc.
- Jalal Feghhi, Jalli Feghhi and Peter Williams, "Digital Certificates Applied Internet Security", Addison Wesley Longman, Inc

ITMS- 3213 Operations Management

Course Description:

Operations Management has been a key element in the improvement in productivity in business around the world it has been many innovations in recent years. An understanding of operations Management strategy and its function is vital to the survival of the firm. Operation Management now requires a global perspective for many of the topics. This course covers the latest and the most important issues facing operations Management as well as the basic tools and techniques.

Objectives:
- Provide the theoretical as well as practical issue in operation management.
- Provide how manage resources effectively in a system.
- Provide the concept of location strategy.
- Explain how to organize the layout efficiently.
- Analyze the problems in operations management.
- Explain how the field of operations management can provide direction in gaining and maintaining Competitive Advantage.

Learning Outcomes:

On satisfactory completion of this course, participants should be able to
- Understand the theoretical as well as practical issue in operations management.
- Able to understand how to organize the layout efficiently.
- Understand how manage resources effectively in a system.
- Understand how ca selects the Location for operations.
- Understand how can successfully design and control the operations
- Understand how environmental factors have on impact on related problems in operation management.
- Understand the Competitive challenge in operation management.

Method of Teaching:

Theoretical Knowledge can be delivered by the Lecturer who is in charge for this course unit, and the practical problems in operations management can be identified through the field work and the discussion. For this field work students can be divided in to groups and the students shall visit in their own or be ta taken to several organizations, which are in the south eastern region, and will be required to submit field reports. Later the report would be taken for the discussion.

Duration of the Course:
45 Hours
(Students should attend at least 80% of the total lectures held during the semester)

Assessment Method:

Assessment of this course comprises:

- Semester end written exam   80%
- Continuous assessment   20%

  - Field works report   10%

  - Individual assignment   05%

  - Mid semester exam   05%

Course Contents:
1. **Introduction**
   1.1. What is operations management?
   1.2. Importance of operations management
   1.3. Operations functions
   1.4. Goals and Objectives of operations management
   1.5. Managing the operations sub system.

2. **Meeting the Competitive Challenge in Operations**
   2.1. What is Operations Strategy
   2.2. Strategic role of operations.
   2.3. Strategic Planning approaches for operations.
   2.4. Major competitive dimension

3. **Capacity planning,**
   3.1. The need for capacity planning,
   3.2. Capacity planning decision
   3.3. Measuring capacity and capacity Planning Modelling

4. **Systems design and process selection:**
   4.1. The organization and flow of works
   4.2. The job approach, batch methods
   4.3. Flow methods
   4.4. The group approach
   4.5. Just-In- Time (JIT)

5. **Location Strategy**
   5.1. Location selection strategy.

5.2. Location evaluation methods
        5.3. Single and multiple facility locations.

6. **Layout**
        6.1. Layout Planning
        6.2. Process layout
        6.3. Fixed position layout
        6.4. Product layout
        6.5. Criteria for a good layout
        6.6. Inefficient layout problems
        6.7. Advantages of an efficient layout.

7. **Supply Chain Management**
        7.1. Supply Chain Management
        7.2. Inventory Management; The nature and Importance of Inventories, Inventory cost, Inventory models,
        7.3. Material requirement planning
        7.4. Material management and Purchasing
        7.5. Process of purchasing

8. **Quality and productivity**
        8.1. what is quality
        8.2. what is total quality
        8.3. Quality and competitiveness
        8.4. Quality and productivity
        8.5. Process of quality
        8.6. Cost of quality
        8.7. quality circles

9. **Quality management tools and techniques**
        9.1. Approaches to quality control: Systematic approach and Statistical process control.
        9.2. Control charts for variables
        9.3. control charts for attributes

10. **Job Design and Work measurement**

        10.1.   What is job design,
        10.2.   Importance of the work study and method of work study
        10.3.   Behavioral dimension of job design
        10.4.   Work measurement techniques

Recommended Readings

1. William J. Stevenson (2002) Operations Management- 7th Edition Chase
2. Aquilano Jacobs (2005) Operations Management for competitive Advantage-10th Edition
3. Everett Adam, Jr. Ronald J. Ebert (2002) Production and Operations Management – 5th edition
4. Alan Muhlemann, John Oaklond, KeithLockyear, Factory and Production Management
5. Bharat K. Majumdar, Aditya Panchkoti, Reading in Production Management
6. Donald W. Dobler, David N. Burt, Purchasing and Supply Management Elwood S. Buffa, .
7. Rakesh K. Sarin,(1994) Modern Production/ Operations Management – 8th edition (1994).

ITMS -3223 Java Components and Technology

Course Descriptions:
Establishing connectivity in enterprise applications using the Java Enterprise Edition technology allows you to inherit various resources and develop dynamic output.

Objectives
- Explore JDBC and use it to connect to a database, retrieve meta data, and execute a SQL query.
- Implement servlets, Java Server Pages, and Enterprise JavaBeans, which are trendsetting technologies at present.

Learning Outcomes:
- Understand the basic J2EE architecture and the flow of documents on the World Wide Web.
- Implement JDBC for retrieving meta data with SQL query execution, and use servlets, JSP, and EJBs for the implementation of multi-tiered applications, which enhance client-server interaction and optimal resource utilization.

Method of Teaching:
Lectures, Lab Practice with Demonstrations, Individual Assignments with class room presentation, etc.

Duration of the Course:
45 Hours teaching and practice

Assessment Methods:
- Final Exam   60%
- Project   20%
- Practical Assignments   10%
- Quiz   10%

Course Contents:
1. **Introduction to Java Applets**
   1.1. Sample Applets from the J2SDK
   1.2. Simple Java Applets: Drawing a String
   1.3. Drawing Strings and Lines
   1.4. Java Applet Internet and the WWW Resources
2. **Graphical User Interface Components**
   2.1. Over view of Swing Components
   2.2. How Event Handling Works
   2.3. JLabel
   2.4. Textfields
   2.5. JButton
   2.6. JCheckBox and JRadionButtons
   2.7. JComboBox
   2.8. JList
   2.9. Multiple Selection Lists
   2.10. Layout Managers
             2.10.1. FlowLayout
             2.10.2. BorderLayout
             2.10.3. GridLayout
   2.11. JTextArea
   2.12. Using Menus with Frames
   2.13. JPopupMenu
   2.1.4. JTabbedPane

3. **Graphical User Interface Components**
   3.1. Java Database Connectivity with JDBC
   3.2. Introduction to Relational Databases
   3.3. Relational Databases Overviews
   3.4. Structured Query Languages
   3.5. Creating Database: Example Programs
   3.6. Manipulating Databases with JDBC
             3.6.1. Connecting to and Querying a Database
             3.6.2. Stored Procedures

4. **Java Servlets**
   4.1. Servlet Overview and Architecture
             4.1.1. Interface Servlet and the Servlet Life Cycle
             4.1.2. HttpServlet Class

4.2. HttpServletClassRequest Interface
4.3. HttpServletClassResponse Interface
4.4. Handling HTTP get Requests
        4.4.1. Setting up JWS & Tomcat Server
        4.4.2. Deploying a Web Application
4.5. Handling HTTP post Requests
4.6. Redirecting Requests to Other Resources
4.7. Multi-Tier Applications: Using JDBC from a Servlet

5. Java Server Pages (JSP)
5.1. JSP Overviews
5.2. First Java Server Page Examples
5.3. Implicit Objects
5.4. Scripting
        5.4.1. Scripting Components
        5.4.2. Scripting Examples
5.5. Standard Actions
        5.6. <jsp:include> Action
        5.7. <jsp:forward> Action
        5.8. <jsp:useBean> Action
5.6. Directives
        5.6.1. Page Directive
        5.6.2. Include Directive

6. Building a Login System
6.1. Introduction
6.2. Plan the Login System's Logic
6.3. Create a Registration Form
6.4. Validate Form Data
6.5. Store and Retrieve Session Data
6.6. Forward a User From One JSP Page to Another
6.7. Update a Database with User Data

7. Personalizing the Site
7.1 Introduction
7.2. Plan a Personalization System
7.3. Store Data in a Cookie
7.4. Retrieve and Use Cookie Data
7.5. Test for Live Session Data
7.6. Destroy a Session

8. Displaying Dynamic Content
8.1. Introduction
8.2. Plan the Display of Dynamic Content
8.3. Display Database Results in Manageable Groups
8.4. Enable Navigation for Long Record Sets

Recommended Readings:
Main reading:
1.   H.M. Deitel & P.J. Deitel, (2003), Java How to Program, (Indian Fifth Edition: Prientice-Hall Publications).
2.   Vivek Chopra, Jon Eaves, Rupert Jones, Sing Li, John T. Bell, Beginning JavaServer Pages, Wrox Press (Indian Edition: Shroff Publishers).
3.   Beginning JSP. Wrox Press (Indian Edition: Shroff Publishers).
4.   Teach yourself Servlet in 21 Days, Shams Series Publications
5.   Teach yourself JSP in 21 Days, Shams Series Publications
URLs:
1. http://www.geocities.com/x_scn/Ebooks/Java.html
2. http://java.sun.com
3. http://www.apl.jhu.edu/~hall/java/
4. http://www.perryland.com/Java9.shtml
5. http://courses.coreservlets.com/Course-Materials/csajsp2.html
6. http://java.sun.com/javase/downloads/index_jdk5.jsp.

7. http://tomcat.apache.org/download-60.cgi

ITMS -3233 E-Commerce Principles and Applications

Course Description:

Electronic commerce is defined as any business process or exchange conducted electronically over telecommunication network. This could include exchange data files, designing and maintaining a web site, using business' web sites or buying and selling goods online. Web based business is generating a vast amount of consumer transactions. This will cover the business strategies of e- commerce, and the technologies involved in the design and development of e- business.

Objective:

After successfully completing this module, students should be able to:

- Understanding of a broad range of Internet tools
- Define electronic commerce and its benefits
- Implement and maintain a secure electronic commerce website
- Describe current technologies and future trends in electronic commerce
- Describe most suitable electronic commerce practices for Sri Lanka

Learning Outcomes:

By the end of the module students must demonstrate ability to:

- Discuss basic concepts of e- commerce.
- Discuss and explain theoretical and practical issues of conducting business over the internet and the web.
- Evaluate user needs and implement a simple e-commerce site.

Method of Teaching:

Lectures, Lab Practice with Demonstrations, Individual Assignments with class room presentation, etc.

Duration of the Course:

It includes 45 contact hours with three credit points.

Assessment Method:

- Final Examination   70%
- Project   30%

(The module is assessed by three hours written exam, which counts 70%, and a piece of coursework covers both theoretical and practical aspects of e- commerce. In the practical part students are asked to design and implement a simple website. Students can use MS FrontPage or any tool (s) for the implementation, this part counts for 30% of the marks.)

Course Contents:

1 Introduction to Electronic Commerce
- 1.1. Information Technology
- 1.2. Conventional Practices
- 1.3. The Internet and World Wide Web
- 1.4. Electronic Business (E-Business) VS Electronic Commerce (E-Commerce)
- 1.5. Search Engines and Web Portals
- 1.6. Online Shopping

2 Electronic Commerce Systems
- 2.1. Web-based Business Models
- 2.2. Decision Support Systems
- 2.3. Inventory Control Systems
- 2.4. Financial Management Systems
- 2.5. Online Analytical Processing (OLAP)
- 2.6. Expert Systems
- 2.7. Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM)

3 Sri Lankan Contexts for Electronic Commerce
  3.1. Infrastructure and Cultural Issues
  3.2. Success Stories of Developing Countries
  3.3. Role of Computer Societies of Sri Lanka (CSSL, BCS)
  3.4. Role of the Government and Public Sector (ICTA, Universities)
  3.5. Intellectual Property Rights in Sri Lanka
  3.6. E-Business Literacy of Sri Lanka

4 Business Models for E-Commerce
  4.1. Business Model Based on Relationship of Transaction Parties
    4.1.1. Business-to- Consumer (B2C)
    4.1.2. Business-to-Business (B2B)
    4.1.3. Consumer-to-Consumer (C2C)
    4.1.4. Consumer-to-Business (C2B)

  4.2. E-Business Model Based on the Relationship of Transaction Types
    4.2.1. Brokerage Model and its Characteristics
    4.2.2. Aggregator Model
    4.2.3. Value Chain Model

5 E-Marketing
  5.1. Traditional Marketing
  5.2. Identifying Web Presence and Goals
    5.2.1. Achieving Uniqueness of the Web
    5.2.2. Meeting the Needs of the Web Site Visitors
    5.2.3. E-Marketing Value Chain
  5.3. Online Marketing
    5.3.1. How should buyers pay online?
    5.3.2. Advantages of Online Marketing
    5.3.3. Various Business–Flourishes on the Net
  5.4. E-Advertising
    5.4.1. Various Means of Advertising
    5.4.2. Measuring the Effectiveness of E-Advertising
    5.4.3. Internet Marketing Trends

6 E-Payment Systems
  6.1. Digital Payment Requirements
    6.1.1. Online Payment Categories
  6.2. Digital Token-based E-payment System
    6.2.1. Credit Cards as E-Payment Systems
    6.2.2. Encryption and Credit Cards
  6.3. Classification of New Payment Systems
    6.3.1. Smart Card Cash Payment Systems
    6.3.2. Micro Payment Systems
    6.3.3. Cheque Payment on the Internet (e-cheque)
  6.4. Risk and E-Payment System
  6.5. Designing E-Payment Systems

7 Technologies for Electronic Commerce Systems
  7.1. Telecommunication and Networks
    7.1.1. Service Providers
    7.1.2. Network Architecture
    7.1.3. Internetworking and Internet
    7.1.4. Network Standards and Open Systems
    7.1.5. Networking Operating Systems and Applications

  7.2. Internet Technologies
    7.3.1. Web Technologies and Data Exchange Standards (HTML, XML, ebXML, SOAP, Email, VRML, Flash, Plug-ins, Java, JavaScript)
    7.3.2. Web Site Development
    7.3.3. Web Hosting
    7.3.4. Domain Name System
  7.3. Security on the Internet

       7.3.1. Types of Threats
       7.3.2. Public Key Cryptography
       7.3.3. Digital Certificates and Digital Signatures
       7.3.4. Web Server Security
       7.3.5. Securing Web Applications

8 Mobile Commerce & Technology
    8.1. Growth of Mobile Commerce
       8.1.1 Success Stories of M-Commerce
    8.2. Technology for M-Commerce
       8.2.1. Wireless Spectrum
       8.2.2. Origins of WAP
    8.3. WAP Protocols
       8.3.1. SMS
       8.3.2. CSD
       8.3.3. GPRS
    8.4. WAP Programming
       8.4.1. Micro Browsers
       8.4.2. WML
       8.4.3. WML Script

9 Public Policy Issues
    9.1. Ethical Challenges
       9.1.2. Data Protection
       9.1.2. Domain Names
       9.1.3. Contracts and Licensing

Chapter 10 Emerging Electronic Commerce
    10.1. The Development Process
    10.2. The Major EC Applications and Their Functionalities
    10.3. Developing and Deploying EC Applications
    10.4. Connecting to Databases and Other Enterprise Systems
    10.5. Usage Analysis of E-Commerce Site and Management

Recommended Readings:
Main Readings

1. Daniel Amor (2001), The E-business (R) Evolution: Living and Working in An Interconnected World, ISBN 0-13-067039-1, Prentice Hall
2. Simson Garfinkel and Gene Spafford (2002), Web Security, Privacy and Commerce, ISBN: 0-596-00045-6, O'Reily
3. P.T.Joseph (2002), E-Commerce A Managerial Perspective, ISBN: 81-203-2089-1, Prentice-Hall

Supplementary Readings

1. Janice Reynolds(2004), Complete E-Commerce Book: Design, Build and Maintain a Successful Web-Based Business ISBN: 1-57820-312-0
2. Turban E, Lee J, King D & Chung H.M. (2000),Electronic commerce: A managerial perspective, N.J.: Prentice Hall.

Recommended Links:
1. Sri Lanka Government Official Web Portal, online:
      i. http://www.gov.lk/
2. The Computer Society of Sri Lanka (CSSL), online:
      i. http://www.cssl.lk/
3. British Computer Society (BCS), online:
      i. http://www.bcs.org/ Sri Lanka Section,
      ii. http://www.bcssrilanka.org/
4. Information and Communication Technology Agency of Sri Lanka
      i. (ICTA), online: http://www.icta.lk/

ITMS -3246 Project

- The main objective of this project is to make student put all what he would have learnt throughout his/her degree program.

- Students will be tasked to study any institution, let it be for-profit or not-for-profit, and its system. And then the student will be developing an Information System if there is no system in practice or he will be tasked to find the shortcoming or gaps on existing system and integrate the new features.

- Students will be studying the system by physically visiting the shop-floor, interviewing managerial people as well as functional people on the bottom-line, filling up questionnaires, etc.

- The project will of chapters like the one below.

  1. **Introduction to the System**

     This chapter gave details of my client, its existing manual system, its drawbacks and how the student is going to overcome the drawbacks of the system by the introduction and implementation of new computerized information system.

  2. **Requirement Analysis**

     This chapter summarizes the requirements identified during the requirements gathering and identification process carried out in the client's place; the shop-floor and it explains how the proposed system will handle these requirements.

  3. **Design**

     This chapter provides real design of the system. This will consists of Context Diagrams, DFDs, ER Diagram, Interfaces, Reports, etc. of the existing as well as the proposed System.

  4. **Testing**

     This chapter details how the system is tested. It tells about test data, testing techniques, tools used, etc.

  5. **Implementation**

     This chapter details how the newly developed system is going to be implemented. Also it may discuss about what tools and techniques are to be used to implement the system. Packaging and Deployment, etc.

  6. **Support and Future Improvement**

     This chapter will provide details about how the solution provider is going to support or troubleshoot the newly implemented system throughout its life. Also the student will be suggesting what additional features can be integrated with the new system in the future i.e. future improvements of the system.

- To create the front end, the student can use any programming languages such as Visual C# 2005, Visual Basic 2005, Visual Web Developer 2005 (C# or VB) of his choice to develop the system, while the back end database can be developed using SQL Server or even MS Access.

SOUTH EASTERN UNIVERSITY OF SRI LANKA
FACULTY OF MANAGEMENT AND COMMERCE
UNIVERSITY ADMISSIONS - ACADEMIC YEAR 2007 / 2008

Aptitude Test for the Selection of Students for

B.Sc. in Information Technology for Management Studies (B.Sc. ITMS)

Degree Programme

Introduction An excellent opportunity for earning a high career perspective marketable recognized degree from the South Eastern University of Sri Lanka in the field of Information Technology for Management Studies.

The University Grants Commission has approved to offer a new degree program B.Sc. in Information Technology for Management Studies (B.Sc. ITMS)

This program will be offered for the 2008 new intake students (Who sat the GCE A/L examination in 2007 August) by the Faculty of Management and Commerce of the South Eastern University of Sri Lanka

B.Sc (ITMS):

Applications are invited for the above aptitude test from candidates who possess the minimum requirements for admission to Universities, specified under section 3.2(page No.06) of the handbook on "Admission to Undergraduate Programmes of the Universities in Sri Lanka for the academic Year 2007 / 2008", issued by the University Grants Commission.

Those who apply to the University Grants Commission for admission to Universities in Sri Lanka, and wish to gain admission to B.Sc in Information Technology for Management Studies degree programme, are required to sit and pass the aptitude test mentioned herein, conducted by the South Eastern University of SriLanka.

Eligibility: An applicant is eligible to sit for the said aptitude test if he/she possesses the following

qualifications:

1. Sat for the G.C.E. (A/L) 2007 Examination in any stream
2. Eligible for admission to Universities in terms of the said section 3.2 of the hand book issued by the University Grants Commission (See page No.06)

How to apply:

Students who wish to gain admission to B.Sc.(ITMS) degree programme should apply to the University Grants Commission for admission to Universities in Sri Lanka (Details of this degree program is available in the Universities Admission Hand Book, Academic Year 2007/2008,on page No.38)

Also, the student has to send an application obtained from the South Eastern University of Sri Lanka with the following documents for the aptitude test.

The attached specimen application form or downloaded form from the University web site at www.seu.ac.lk can be used. Applicants are required to apply **in accordance with the format given on A4 size paper with following documents.**

i. A payment of Rs.200/= made in favour of Bursar, South Eastern University   (A/C No: 161 011803-7 Peoples Bank, Addalaichenai Branch) or a Postal / Money Order for Rs. 200/- issued in favour of Bursar, South Eastern University payable at Oluvil post office. This payment is the application fee for the aptitude test.

ii. Certified copies of the following documents (certified as **True Copy** by the Head of the School or a Justice of Peace). **The official stamp of the certifying officer should be placed on each certified copy.** (Original certificates should not be sent)

a. Copy of G.C.E. (A/L) 2007 Results
b. Copy of G.C.E. (O/L) Examination Results
c. Copy of the Certificate of **Z Score** and result of the Common General Paper

iii. If the names on any of above documents differ from that of application, an affidavit to confirm that they relate to one and the same person.

iv. A self-addressed, stamped for Registered Post (Rs.40.00) long envelope.

Selection:

The students are required to pass the **Aptitude Test** conducted by the Faculty of Management and Commerce of the South Eastern University of Sri Lanka. **The duration of this Selection Test will be two hours and the medium of the test will be English.** The test is designed to assess the candidate's **Analytical Skills, Communication Skills, English proficiency,** and **Knowledge** of **IT** & **Management Environment.**

The list of students who score satisfied marks in the Selection Test will be sent to the University Grants Commission for normal admission as an internal student of this University.

The date of the aptitude test will be notified personally to qualified candidates, and by a press notice.

Rejection:
The following applications will be rejected

I. Those who do not possess the minimum admission requirements for University admission.
II. Those do not accompany the documents requested under item **(i)** to **(iv)** above.
III. Late applications.

Applications should be sent under **Registered Post on** or **before 11th March 2008 .** On the **Top Left Hand corner** of the envelope, mark **"B.Sc. (ITMS) Degree Programme"**, to reach

> **The Assistant Registrar**
> **Faculty of Management and Commerce**
> **South Eastern University of Sri Lanka**
> **P.O.Box 1**
> **University Park**
> **Oluvil**

For more Information:
Call the Dean of the Faculty of Management and Commerce at **067-2255069 or 0773587108** or mail fharauf@seu.ac.lk or ahaleem@seu.ac.lk

Registrar
South Eastern University of Sri Lanka
Oluvil
Sri Lanka

05. UNIVERSITY STAFF

5.1 The Officers of the University

Vice Chancellor
Dr.AG.Husain Ismail BA. (Cey.) MA (Cey.) Ph.D (Cey.)

Dean, Faculty of Management and Commerce
Dr. K. Ishaq, BCom (Hons) (Jaffna) M.Com (Kerala) PhD. (S. Africa)

Dean, Faculty of Arts and Culture
Mr. S.M.Aliff. B.A. (Hons) (P,deniya) MA (P,deniya)

Dean, Faculty of Applied Science
Mr.A.M.Rasmy, B.Sc. (Hons) (P,deniya) M.Sc(Sin)

Dean, Faculty of Islamic Studies and Arabic Language
Mr.M.S.M.Jalaldeen, B.A. (Hons) (P,deniya) M.Phil (P,deniya)

Registrar
Vacant

Librarian
Vacant

Bursar
A. Gulam Rasheed, ACMA (Lond)

5.2   The University Council

Ex – Officio Members.

Chairman.
Vice – Chancellor.
Dr.AG.Husain Ismail BA. (Cey.) MA (Cey.) Ph.D (Cey.)

Dean, Faculty of Management and Commerce.
Dr. K. Ishaq, BCom (Hons) (Jaffna) M.Com (Kerala) PhD. (S. Africa)

Dean, Faculty of Arts and Culture.
Mr. S.M.Aliff. B.A. (Hons) (P,deniya) MA (P,deniya)

Dean, Faculty of Applied Sciences.
Mr.A.M.Rasmy, B.Sc. (Hons) (P,deniya) M.Sc(Sin)

Dean, Faculty of Islamic Studies and Arabic Language
Mr.M.S.M.Jalaldeen, B.A. (Hons) (P,deniya) M.Phil (P,deniya)

Members appointed by the Senate
Dr.F.C Ragel, B.Sc

Members appointed by the UGC.

Mr.MTHM.Saheed
Mr.M.T.A.Furkhan
Mr. K.M.H. Akbar
Mr. S.L. Abdul Rasheed
Prof.S.Chandrasekaram
Mr.LRS.Bandara
Mr. N.M. Shaheed
Prof.Thilak Hettiarachchy

Secretary:
Mr. M.F.Hibathul Careem   - Act. Registrar

5.3   THE UNIVERSITY SENATE

Dr.AG.Husain Ismail	- Vice-Chancellor (Chairman)
Dr.K.Ishaq	- Dean Faculty of Management & Commerce
Mr. S.M.Aliff	- Dean Faculty of Arts & Culture
Mr.A.MRazmy	- Dean Faculty of Applied Science
Mr.M.S.M.Jaladeen	- Dean Faculty of Islamic Studies & Arabic Language
Mr.MBM.Amjad	- Head Dept. of Accountancy & Finance
Mrs.MAC.Sulaiha Beevi	- Head Dept. of Management
Mrs.SRUMohamed Ziyad	- Head Dept. of Language
Mr.KMM.Falee Haque	- Head Dept. of Social Sciences
Dr.(Mrs) MI.Safeena	- Head Dept. of Biological Sciences
Dr.NWB.Balasooriya	- Head Dept. of Physical Sciences
Dr.P.Elengo	- Head Dept. of Mathematical Sciences
Mr.M.A.M.Hussain Ali	- Elected Member / FMC
Mr. MBM Amjath	- Elected Member / FMC
Mr.ABM.Aliyar	- Elected Member / FIA
Mr.MHM.Nairoos	- Elected Member / FIA
Mr.K.Raguparan	- Elected Member / FAC
Mr.ILM.Mahir	- Elected Member / FAC
Dr.FC.Ragal	- Elected Member / FAS
Dr.R.Senthilnithy	- Elected Member / FAS

Secretary:

Mr.M.F.Hibathul Careem   - Act. Registrar

5.4 THE FACULTY BOARD OF THE FMC

Dr.K.Ishaq	- Dean (Chairman)
Mr. MBM Amjath	- Head / Dept. of Accountancy & Finance
Mrs.Sulaiha Beevi Athambawa	- Head / Dept. of Management
Mr.A.Jamaldeen	- Senior Lecturer
Mr.A.L.Abdul Rauf	- Senior Lecturer
Mr.MAM. Hussain Ali	- Senior Lecturer
Dr.A.Jahfer	- Senior Lecturer
Mr.S.Gunapalan	- Senior Lecturer
Mrs.S. Safeena M.G.Hassan	- Senior Lecturer
Mrs.Sareena UMA Gaffoor	- Senior Lecturer
Mr.MIM.Hilal	- Senior Lecturer
Mr.AMM.Mustafa	- Senior Lecturer
Mrs.AM.Inun Jariya	- Senior Lecturer
Mr.K.M.Mubarak	- Senior Lecturer
Mrs.Salfiya UA Jaleel	- Senior Lecturer
Mr.ALMA.Shameem	- Lecturer
Mr.M.B.M.Ismail	- Lecturer
Mr.M.B.M.Irshad	- Lecturer
Mr.A.Haleem	- Lecturer
Mr.MH.Thowfeek	- Lecturer (Prob.)
Mr.MCA.Nazar	- Lecturer (Prob.)
Mr.T.L.Sakeer Ussain	- Educational Assistant
Mr. A.L M. Ayoobkhan	- Instructor in Information Technology

Appointed External Members:
Mr.AM.Kamaldeen
Mr.A.L.Natheer
Mr.S.M.Kaleel

5.5 ACADEMIC HEADS OF THE FMC

Dean

Dr. K. Ishaq, BCom (Hons) (Jaffna) M.Com (Kerala) PhD. (S. Africa)

Head, Department of Management
Mrs. Sulaiha Beevi Athambawa B.BA (Hons) (Jaffna) M.Sc (SJP)

Head, Department of Accountancy & Finance
Mr. M.B.M. Amjath - BCom. (Hons) (EUSL) M.Sc (Russia)

5.6 ACADEMIC STAFF OF THE FMC

5.6.1 Department of Management

Lecturers

Mrs.F.H.Abdul Rauf - B.BA (Hons) (Jaffna) MBA (SJP)
Area of Interest - HRM, Entrepreneurship, QT, Strategic Mgt.

Mrs.S. Safeena M.G.Hassan - B.BA (Hons) (EUSL) M.Sc (SJP)
Area of Interest - Financial Mgt., Operations Mgt., Strategic Mgt., TQM,
QT & Investment Analysis and Portfolio Mgt.

Mrs.Sulaiha Beevi Athambawa - B.BA (Hons) (Jaffna) M.Sc (SJP)
Area of Interest - HRM, Business Management & OB.

Mr.MAM. Hussain Ali - B.BA (Hons) (Jaffna) M.Sc (SJP)

Area of Interest - Employee Performance Appraisal System &
Employee Productivity.

Mrs.Sareena UMA Gaffoor - B.BA (Hons) (Jaffna), MSc. Mgt (SJP)

Area of Interest - Mgt. & Entrepreneurial Skills, TQM, Strategic Mgt.,
HRM, Organizational Behavior & Marketing Mgt.

Mr.S.Gunapalan - B.BA (Hons) (Jaffna) M.Com (KLN)

Area of Interest- Small Business Management & Organizational Behavior

Mr.KM.Mubarak - B.Com (Hons) (SJP), MSc. Mgt (SJP)

Area of Interest - Business Communication, Marketing Communication
Strategies, Human Soft Skills and HRM

Mr.MIM.Hilal - B.Com (Hons) (SEUSL) M.Com (KLN)

Area of Interest – Market Orientation, Internet Marketing, Service Quality,
Service Marketing and Relationship Marketing.

Mr.ALMA.Shameem - B.BA (Hons) (SEUSL) MBA (CMB)

Area of Interest- Consumer psychology, peace and conflict studies &
Sustainable Development

Mrs.Salfiya UA Jaleel - B.BA (Hons) (SEUSL), MSc. Mgt (SJP)

Area of Interest – Business Studies, Small Business Mgt. & Entrepreneurship, Organizational Change & Development and HRM.

Mr.MH.Thowfeek - B.BA (Hons) (SEUSL), MBA (Hamdard, PK)

Area of Interest -E-learning, Management Information System, E-commerce and IT Project Management

Mr.AMM.Mustafa - B.Econ (Hons) (SEUSL), M.Phill (P,deniya)

Area of Interest – Micro Economics, Macro Economics, International Environment of Business and Labour Economics.
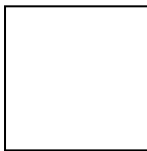
Mr.M.B.M.Ismail - B.BA (Hons) (SEUSL),MBA(Col), CTHE (Col), SEDA (UK)

Area of Interest – Management & Information Technology

Mr.M.B.M.Irshad - B.BA (Hons) (SEUSL), MBA(SRI J.), CTHE(Col)

Area of Interest - Information Technology, Professional Communication, Banking and Brand Management.

Educational Assistant

Mr. T.L. Sakeer Ussain - B.Sc. (Hons) (EUSL)
Interst area – Mathematics and Statistics

Lecturer (Temporary)

Mr.I.Raisal - B.Com (Hons) (SEUSL)
Area of Interest - Labour economics, business economics and Islamic banking and finance

5.6.2 Department of Accountancy & Finance

Lecturers

Dr. K. Ishaq - BCom(Hons) (Jaffna) M.Com (Kerala) PhD. (S.Africa)
Area of Interest-Strategic Marketing, Global Marketing and Cost Accounting

Mr. A.L.A. Rauf - B.BA (Hons) (Jaffna) M.Sc (Sri J.)
Area of Interest – Financial management & Stock Market

Mr. A. Jamaldeen - BCom (Hons) (Jaffna) MCom (Kerala)
Area of Interest – Islamic Banking and Insurance, Tourism and
Marketing.

Mr. M.B.M. Amjath - BCom. (Hons) (EUSL) M.Sc (Russia)
Area of Interest – Auditing, Taxation and Financial Reporting.

Dr. A. Jahfer - BCom (Hons) (Col).MSc (SJP) P.hD. (Japan)
Area of Interest – Finance, Investment Analysis & Portfolio Mgt. and QT.

Mrs.AM.Inun Jariya - BBA (Hons) (SEUSL)
Area of Interest - Accounting and Finance

Mr.MCA.Nazar - BCom (Hons) (Col.)
Area of interest – Accounting and Finance

Mr.A.Haleem - BCom (Hons) (SEUSL), MSc. In MIT(Kln)
Area of interest – Computerized Accounting Systems, E Commerce,
Network & System Administration

Instructor

Mr. A.L.M. Ayoobkhan - B.Com (Hons) (P.deniya), M.Sc (PK)
Areas of Interests - E-Learning & Web Technologies

Lecturer (Temporary)

Mr.S.Sabraz Nawaz – BBA (Hons) (SEUSL), MCP(MCDBA)
Areas of Interests -Information System, RAD, RDBMS, Software Engineering

Ms.S.M.Murshitha – BBA (Hons) (SEUSL)
Area of Interest – mathematical Programming, SAD, & IS

Appendix – I

AUTHORITIES OF THE UNIVERSITY AND HIERARCHY

Minister of Higher Education:
The minister shall be responsible for the administration of the Universities Act and for the general direction of University Education, in accordance with National Policy as determined by the cabinet of ministers, from time to time.

University Grants Commission (UGC):

UGC objected to plan and co-ordinate of Higher Education in accordance with National Policy. The allocation of funds to Higher Educational Institutes and monitoring of expenditure of each Higher Educational Institution, maintenance of high academic standards. The UGC consist of a Chairman, Vice Chairman and five other members, all of whom shall be appointed by the president for a term of five years.

The Council:

The Council of a University shall be the Governing Authority and the Executive Body of the University and shall exercise, perform and discharge the powers, duties and functions of the University.

The council shall consist of; The Vice – Chancellor, Deans of the Faculties two members elected by the Senate from among its members, persons appointed by the UGC. The Chairman of the Council shall be the Vice Chancellor who shall preside at all meetings of the council. If the Chairman is unable to preside at a meeting the meeting, shall be presided by a Dean of a Faculty, elected by the members present.

The Senate:

A University shall have a Senate which shall be the Academic Authority of the University. The Senate of the University shall consist the Vice – Chancellor, Deans of Faculties, the Rectors of each campus, Heads of the Departments of Study, Permanent professors of the Universities, The Librarian, two teachers, elected by the permanent teachers of the each Faculty of the University.

The Vice – Chancellor:

The Vice – Chancellor of a University shall be appointed by the president. The Vice – Chancellor shall be the principal Executive officer, Principal Academic Officer and the Principal Accounting Officer. The Vice – Chancellor shall preside at all meetings of the Council and Senate of the university and shall be responsible for the maintenance of discipline within a university.

The Faculty Board:

A Faculty Board shall exercise and perform to establish divisions, units, and subject to the control of the Senate, to regulate matters connected with teaching, examination and research in the faculty. The Chairman of the Faculty Board shall be the Dean. If the Chairman is unable to preside at a meeting, the members present shall elect a Head of a Department to preside at such meeting. The Faculty Board consist of the Dean of the Faculty, all permanent academic staff of the faculty including Professors, Associate Professors, Senior Lecturers and Confirmed Lecturers, two members elected by the Permanent Lecturers (Probationary) of the faculty from among their numbers, two students elected by the student, three persons not being members of the staff of the university elected by the Faculty Board from among persons of eminence in the areas of study relevant to the faculty.
The Dean:

The Dean shall be a full time officer of the university and the academic and administration head of that faculty. The Dean shall be elected by the Faculty Board from among the Heads of the Department of Study comprising such faculty.

Department of Study:

Departments of Study come under the purview of the relevant Faculty Board and are responsible for the development of teaching, research, examination and other relevant academic matters of the departments. Department of Study consists of Head, Lecturers and Non – Academic Staff in the Department.

Head of the Department:

Appointed by the Council on the recommendations of the Vice – Chancellor, from among those in the department holding the rank of Professor, Associate Professor and Senior Lecturer. Responsible for the monitoring and supervision of teaching, research and other academic and administrative matters of the department.

The Registrar:

The Registrar of a university shall be appointed by the Council. The Registrar shall be a full – time officer of the university and responsible for the custody of the records and the property of the university. The Registrar shall be the Ex - Officio Secretary of the Council and the Senate and responsible for the general administration of the university and the Assistant Accounting Officer of the university and the discipline of its – non – academic staff. The Registrar shall, subject to the direction and control of the Vice – Chancellor.

The Librarian:

Appointed by the Council subject to the direction and control of the Vice – Chancellor, The Librarian is responsible for the administration of the libraries in the university. The Librarian shall be a full time academic officer of the university and is an Ex – Officio member of the Senate.

The Bursar:

The Bursar is appointed by the Council. The Bursar shall, subject to the direction and control of the Registrar, have the custody of the funds of the university and be responsible for the administration of the finances of the university and maintain its accounts.

Source: Universities Act.

APPENDIX – II

BY– LAW No : 02 OF 1996 FOR CONDUCT AT EXAMINATIONS

Prepared under section 135 of the Universities Act No. 16 of 1978 as amended by the Universities Amendment Act No: 07 of 1985 and approved by the University Council on 24-08-1996.

This By – Law may be cited as By – Law No: 02 and shall come into force on 15 July, 1996.

1.0 Rules Pertaining to the Conduct of Examinations:

1.1 Candidates shall be present at the Examination Hall at least 15 minutes before the commencement of each paper and shall enter the Hall only when they are requested to do so by the Supervisor.

1.2 On admission to the Examination Hall, the candidates shall occupy the seats allocated to them.

1.3 No candidate shall have in his/ her person or in his clothes or on the admission card, timetable, and record book or on any other object that is permitted to be brought to the examination hall. Any notes, signs, diagrams of formula or any other unauthorized materials, books, notes, parcels, file covers, bags etc. which the candidate has brought with him/ her should be kept at a place indicated by the Supervisor or Invigilators.

1.4 No candidate shall be admitted to the examination hall after the expiry of hall an hour from the commencement of the examination nor shall candidate be allowed to leave the hall until half an hour has elapsed from the commencement of the examination or during the last 15 minutes of the paper.

1.5 A candidate shall bring into the examination hall his Student Record Book or his University Identity Card which should bear the candidate's photograph and his signature duly certified by the Registrar or the Authorized Officer. If there is a discrepancy between the names indicated in the Record Book or the Identity Card and the name under which the candidate appears for the examination the candidate shall produce a certificate endorsed by the Registrar to the effect that both names refer to one and the same person. In the absence of the above proof of identify a candidate may produce his National Identity Card or a recently taken photograph duly certified by an Authorized Person.

1.6 A candidate may be requested by the Supervisor to declare any items in his possession or person.

1.7 No candidate can either lend or borrow any material from any other candidate or attempt to communicate in any manner with another candidate or copy from the script of any other candidate. No candidate shall attempt to obtain help from another candidate or any other person. No candidate shall attempt to help another candidate or conduct himself negligently so that another candidate has the opportunity of copying.

1.8 Candidates shall write only on the writing paper issued during the current paper on that particular date and session.

1.9 Examination stationary (i.e. writing paper, graph paper, drawing paper, ledger paper, precise paper etc.) will be supplied as and when necessary. No sheet of paper or answer book supplied to a candidate may be torn, crumpled, folded or otherwise mutilated. No papers other than those supplied to him by the Supervisor / Invigilator shall be used by candidates. Log tables or any other material provided shall be used with care and left behind on the desk. All materials supplied, whether used or unused, shall be left behind on the desk and not removed from the Examination Halls.

1.10 Every candidate shall enter his / her Index Number on the Answer book and every continuation sheet, before using such answer book or continuation sheet, no candidate shall write his name or any identifying mark on the answer script. Any candidate who inserts on his script an Index Number other than his own is liable to be regarded as having attempted to cheat.

1.11 All calculations and rough work shall be done only on paper supplied for the examination and shall be cancelled and attached to the answer script. Such work should not be done on admission cards, time table, question papers, record books or on any other paper. Any candidate who disregards these instructions runs the risk of being considered as having written notes or outline of answers with intention of copying.

1.12 Every candidate shall conduct himself in the Examination Hall and its precincts so as not to cause disturbance or inconvenience to the Supervisor or his staff or to other candidates. In entering and leaving the hall, he shall conduct himself as quietly as possible. A candidate is liable to be excluded from the examination hall for disorderly conduct.

1.13 No candidate shall submit a practical or field book dissertation or project study or answer script which has been done wholly or partly by anyone other than the candidate himself.

1.14 Candidates shall bring their own pens, ink, mathematical instruments, drawing instruments, erasers, pencils and calculators. No candidate shall bring a programmable calculator into the Examination Hall.

1.15 No person shall impersonate a candidate at the examination nor shall any candidate allows himself to be so impersonated by another person.

1.16 The Supervisor / Invigilator is empowered to require any candidate to make a statement in writing on any matter which may have arisen during the course of the examination and such statement shall be signed by the candidate. No candidate shall refuse to make such a statement or to sign it.

2.0 Procedure for Inquiry and Determination of Punishment due to those found guilty of Examination Offences:

2.1 Examination offences shall be reported to the Registrar through the Supervisor of the relevant examination who shall place them for consideration by the Vice – Chancellor. The latter shall then appoint an Examination Offences Committee who will be required to inquire into the alleged offences. The findings of this committee will be reported to the Senate by the Vice Chancellor. The Senate, shall, after consideration of the Vice – Chancellor's report, determine the punishments due to those found guilty of the examination offences.

3.0 Punishments for Examination Offences:

	Type of Offences	Recommended Punishments
1.	Name written on Answer Scripts	Written warning
2.	Possession of bag etc. on or near desk	Written warning
3.	Possession of unauthorized materials	
	a. Use of cellular telephones at the Examination hall	Students should be informed to providing the electronic equipments which they needed for the examination. Students will not be allowed to bring the electronic equipments themselves. Cancellation of paper. If the same offence repeated cancellation of examination.
	b. Possession of relevant material on university stationary and/ or notes on desk.	Cancellation of particular subject
	c. Relevant material to relevant subject	Whenever found it, the whole semester examination will be cancelled and they will not eligible for class awarding. And the committee should submit the report before releasing the particular semester examination results.
	d. Notes found in bags or near desk relevant to examination paper	Cancellation of whole examination for two semesters. And not eligible for class awarding.
	e. University based notes. Subjects based but not relevant to specific examination paper found on/ beside desk.	Warning for first offence. Cancellation of examination for repetition.
4.	Copying at examination	Cancellation of whole examination for four semesters. Not eligible for class awarding.
5.	Disruption of examination (Misconduct)	2-4 weeks out of bounds but student be allowed to sit the exam. Snr. Asst. Registrar/ Examination should be reported within a week about the incidents.

6. impersonation	If by a student, debarment for two years and to be referred to disciplinary action. If the student in final year, debarment period depends on duration on completion of degree program, anyway the maximum **two years whole examination** will be cancelled. If by an outsider, prosecution to be initiated.
7. Copying an assignment, project work	
a. If the marks allotted is less than 25% of the total marks	Assign zero marks and written warning and without continuous assessment marks students not allowed to sit for the exam. i.e. Cancellation for eligibility of examination.
b. If the marks allotted is more than 25% of the total marks	Cancellation of paper
8. Aiding and abetting	Cancellation of whole examination for four semesters.

Note :

❖ Punishment for person who allows himself to impersonation by another person.

❖ Students shall complete their work of study within 7 years period. But punishment shall not be affected entire period of work of studies.

❖ Punishment for any other type of offence not covered above may be decided by the Senate in keeping with the above.

❖ Amendments to the By – Laws may be made from time to time. Students are required to contact the Assistant Registrar – Students and Staffs Welfare or the Senior Student Counsellor to ascertain the amended By – Laws.
(Decision of the Senate at its 52nd meeting held on 24.06.2004)

APPENDIX – III

If you have any problems during your period of study you could contact the following persons:

Nature of Problem	Whom to Contact	Division
1. Registrations, Examination Results, Certificates, Identity Card	Senior Assistant Registrar / Examinations	Examination Branch
2. Hostel Facilities, Mahapola Scholarship, and Bursary Payments, Telephone / Intercom breakdown, Canteen Service, Bus, Auditorium Reservations for functions/ Seminars, Election for Students' Union	Assistant Registrar / Welfare	Students Welfare Branch
3. Counselling on Studies or Personal matters and Ragging problems	Senior Students' Counsellor, Students' Counsellor, FMC	Senior Students' Counsellor Office
4. Career Guidance	Director / Career Guidance	Career Guidance Office
5. Change of Specialization Courses, Subject Registration Problems on lectures, medium, postponement of studies, submitting Medical Certificates, Request to sit examination, Study Tour, Field Trip, Seminar, Workshop etc. and Postponement of studies	Head / Department of Accountancy & Finance (For Commerce Students) Head / Department of Management (For Management Students)	Department of Accountancy & Finance Department of Management
6. Illness	University Medical Officer	Health Centre
7. Stationeries, Photo copies, Groceries etc.		Multi Shop
9. Problems at Hostel and Hostel Canteen	Sub – Warden / Men's Hostel Sub – Warden / Women's Hostel	