SCHOOL OF COMPUTER SCIENCE, COMMUNICATION, MEDIA AND DESIGN

DEPARTMENT OF COMPUTER SCIENCE

BSc. Electronic Commerce

Course Curriculum

1. INTRODUCTION

Business firms in Malawi and around the world have reported a growing shortage of prospective employees who have a solid mix of business combined with skills and hands-on experience in applying electronic commerce technologies to today's internet-driven business environment. The four-year BSc Electronic Commerce degree programme aims to provide this in-demand mix of management and technology skills in its graduates.

Applying electronic commerce technologies to the redevelopment of existing business processes requires more than just a basic acquaintance with computers. There are new business models emerging that will revolutionise how organisations interact with their key customers and suppliers through the use of the web and the internet, to transfer and process business transactions, but also to develop electronically enabled relationships and support human interaction. Electronic commerce is far more than building web pages: it touches the fundamental functions of every business organisation. Employers need people, with BSc Electronic Commerce on their CV, who can contribute to the radical changes that will be needed in the coming years as organisations become more closely tied to internet processes.

2. PROGRAMME DESIGN RATIONALE

This Programme has been developed to enable and encourage students to become independent, self-directed learners who can work with their tutors as supporters and facilitators rather than traditional “lecturers”. To achieve this all of the activities are designed to build confidence and to help them to become more self-reliant over the course of the Programme.

MU puts great emphasis on English language as a language for instruction and in this regard all undergraduate students will compulsorily undertake English courses throughout the first year. It is important from the onset that students understand that they are expected to engage actively and proactively in their own learning. BSc. Electronic Commerce is designed around participation, contribution and the development of independent enquiry. Attendance at tutorials and seminars, prepared and ready to take part, is critical to this, and the teaching team take a proactive approach in monitoring attendance. The approach is designed to help students to develop theoretical and practical knowledge as well as key professional and

employability skills and attributes such as group work, collaboration, problem-solving and communication skills. Practical experience and relevance are embedded throughout the Programme.

There is a clear logical flow through each course - the course aims flow into the intended learning outcomes, the content and the assessment. The intended learning outcomes describe what students should achieve as a result of studying the course. The assessment will be a demonstration of the results of their learning.

2.1 Why this programme is unique

a MU will create a relationship with industry to identify needs and gap filling.
b MU will endeavor to ensure that students on this programme attain placements in industry during their vacation in order to increase their practical exposure to the profession.

3. VISION AND MISSION OF THE DEPARTMENT

3.1 VISION

Producing quality graduates trained in the latest tools of technologies in software and hardware products and services. To achieve academic excellence in Computer Science Engineering by imparting indepth knowledge to the students, facilitating research activities and cater to the ever changing industrial demands and societal needs.

3.2 MISSION

1. To provide quality engineering education to the students through state of art education in Computer science engineering
2. To provide a learning environment that helps students to enhance problem solving skills, be successful in their professional lives and to prepare students to be lifelong learners by offering a solid theoretical foundation in computing along with applied computing experiences and educating them about their professional, and ethical responsibilities.
3. To establish Industry Institute Interaction to make students ready for the industrial environment.
4. To provide exposure to students to the latest tools and technologies in the area of computer hardware and software.
5. To promote research based projects/activities in the emerging areas of technology convergence.

3.3 Philosophy

The Department's philosophy is to produce high level graduates in the field of Computer Science who will contribute through learning and research to the growth of technologies in the area of computer hardware and software.

3.4 Justification

Electronic Commerce (e-Commerce) is a growing industry and there is a shortage of graduates with both the necessary computer skills and knowledge of how business and commerce operate. BSc Electronic Commerce programme addresses the gap in the market. It provides the necessary knowledge and abilities to build e-Commerce applications, and also gives an appropriate appreciation of business environments and operations.

4. PROGRAMME AIMS

Programme aims to equip students with updated knowledge and skills in both the technical and business aspects of electronic commerce. The syllabi will equip students with:

a. Business Strategies: develop knowledge and skills in making decisions on e-commerce projects on the basis of sound market analysis.

b. Change Preparation Skills: ability to take into account the organisational consequences and regulatory constraints when moving into electronic commerce;

c. Technical Skills: adapting to the knowledge and skills needed to implement e-commerce application.

5. PROGRAMME OBJECTIVES

Upon completion of the programme, graduates should be able to:

a. Demonstrate an understanding of technopreneurs in e-commerce who are able to design and implement e-commerce solutions in both private and public sectors.
b. Assess, rationalise and market e-commerce solutions so as to expand businesses and technical proficiencies.
c. Apply knowledge and skills of e-commerce to leverage business processes locally and globally.

6. DEVELOPMENT OF "SOFT SKILLS"

One of the unique features of this course is that the student will be able to develop soft skills or transferable skills through in-course assessments. The development of such soft skills include:

a. Report writing
b. Group work
c. Presentations
d. Research and information gathering techniques

e. Hands on computing skills covering spreadsheets, databases and word processing applications.

7. LEARNING OUTCOMES

The following information presents a breakdown of the skills and abilities that the successful student will develop during the length of the course.

7.1 Cognitive Abilities:

To provide student with:

a. Knowledge and understanding of the essential facts, concepts, principles and theories relating to Computer Science in general, and eCommerce in particular.

b. A good knowledge of how 1.1 can be used to model and design both traditional and eCommerce related computer-based systems.

c. A good understanding of how to recognise and critically analyse criteria and specifications appropriate to problems to be solved by computer, and plan innovative traditional and eCommerce strategies for their solution.

d. A sound knowledge of the criteria and mechanisms whereby traditional and eCommerce related computer-based systems can be critically evaluated and analysed to determine the extent to which they meet the criteria defined for their current and future development.

e. An in depth understanding of the appropriate theory, practices, languages and tools that may be deployed for the specification, design, implementation and evaluation of both traditional and eCommerce related computer-based systems.

f. Knowledge of how to present succinctly (orally, electronically or in writing) rational and reasoned arguments that address a given problem to be solved by computer.

g. A good understanding of the professional, moral and ethical issues involved in the exploitation of computer technology, and the associated professional, ethical and legal practices.

h. A good understanding of the field of eCommerce and its related sub-fields (such as Internet Computing, Database systems, WWW programming, etc.).

7.2 The practical skills to:

To provide students with the ability to

a. Specify, design and construct both traditional and eCommerce related computer based systems in a manner that is both innovative and creative; and using a range of concepts, principles and practice.

b. Critically evaluate and analyse traditional and eCommerce related computer based systems in terms of general quality attributes, possible trade-offs presented within a given problem, risks or safety aspects that may be involved in their operation, and professional, ethical and legal issues.

c. Deploy effectively the tools used for the construction and documentation of both traditional and eCommerce computer applications, with practical emphasis on understanding the whole process involved in the effective deployment of computers to solve practical problems.

d. Work as a member of a development team, recognising the different roles within a team and different ways of organising teams.

e. Operate computing equipment effectively, taking into account its logical and physical properties.

8. CAREER OPPORTUNITIES

Internationally, computer scientists are in the highest-earning category of graduates. Many go straight into well-paid careers such as:

- Computer programmer
- Software developer
- Systems analyst
- Software engineer
- Web designer
- IS/IT consultants
- IT architects
- IT infrastructure developers
- Network developers
- Systems analysts

Others venture in Entrepreneurship, while others go into teaching/ lecturing.

9. FACILITIES AND EQUIPMENT

Teaching lecture rooms and seminar rooms are fully equipped with the latest teaching aids. MU Business School has dedicated computer suites for the exclusive use of its undergraduates and many campus areas are WI-FI networked. The university library facilities are extensive, modern and accessible and specialist staff are available to help find any information needed.

10. DEPARTMENTAL LIBRARY

MU library holds enough books and journals to satisfy the needs of both staff and students. The department of business studies has its shelves in the MU library which holds books for this Programme. MU will continue to build on the library stock for future developments. MU also has an e- library subscribing to several international journals, books and soft copies on accountancy and banking and finance fields.

11. COMPUTER FACILITIES

MU has a computer laboratory to cater for all computer needs. For instance, Sage 50 software was acquired for the use of Accounting, Banking & Finance students.

12. BSc. ACCOUNTING PROGRAMME TEACHING TEAM

- Refer to the Teaching Team Schedule

13. ADMISSION INTO THE PROGRAMME

For admission into the BSc Electronic Commerce Programme, applicants must have as minimum:

a. Malawi School Certificate of Education (MSCE) or IGCSE/GCSE or equivalent with minimum 6 credit passes including English obtained in not more than 2 sittings.
b. A-Level with One 'A' Level pass
c. IB with One upper level pass
d. Mature Entry Requirement: A recognized University Diploma or Advanced/Postgraduate Diploma in accounting or relevant field of study earned from a recognized University with at least 2 years working experience. Students with ICAM Certificate in Financial Accounting (CIFA) will be permitted to start in year 2, and those with ICAM or PAEC Diploma will be permitted to start from year 3.
e. Students from other countries may be admitted if they hold either comparable

certification or university admission status in their own country.

14. INTERDEPARTMENTAL TRANSFERS

Students wishing to transfer from other departments to the department of Accounting must do so during the first and the second years of their Programmes provided that they were able to take foundation accounting courses.

15. TRANSFER STUDENTS FROM ANOTHER UNIVERSITY

A student who has been formally admitted as a regular student to a Bachelor's degree Programme in an accredited university or tertiary institution may be considered for admission as a transfer student. Such students must have completed at least two (2) Semesters and obtained a CGPA of not less than 2.0 before the candidate is considered for transfer. The contents of courses taken must be comparable and satisfy the course requirements of the School in which he/she seeks to pursue his/her studies. The candidate shall take any additional courses as may be required by the School. To earn an MU degree, a transfer student must take a minimum of sixty (60) credit hours at MU.

16. COURSE DURATION

In order for the MU Accounting Practice student to be qualified to graduate, he or she must complete all the required courses and the necessary elective hours to fulfill the minimum of 120 credit units. Under normal circumstances, this requires a full- time student to study at MU a minimum of four (4) years and maximum of six (6) years.

The Programme's duration is four years, consisting of eight semesters. Each semester consists of about seventeen (17) weeks, fifteen (15) of which are devoted to formal teaching, peri-curriculum instruction and assessments. Each course except for the professional practice course includes a scheduled mandatory one (1) hour tutorial class per week.

17. LEARNING, TEACHING, AND ASSESSMENT METHODS USED

The programme is delivered through a mixture of formal lectures, guided reading and tutorial groups supported by practical work. The programme operates under the approved teaching and learning strategy of the Department of Computer Science.

The programme is assessed by a combination of traditional written examinations and continuous assessment, including marked essays and computer programming problems. The project courses include an element of assessment by oral, poster and demonstration representation of project work. All courses are assessed at the end of the semester at which they are taught. The mark produced for a course is subject to scrutiny at the meetings of Departmental Examiners, by the External Examiner and also by Faculty Examiners meeting. Decisions on progress are also controlled by the university's published regulations.Courses in the Computer Science programme are assessed as follows (according to the nature of the course):

- Examination only where the assessment is based entirely on examination, which is held at the end of the semester in which the course is taught.
- Continuous Assessment.
- Examination and continuous assessment.

Details of the assessment method for each course can be obtained from the Department of Computer Science Student Handbook.

15.1 Assessment

a. The assessment methods are defined in each course description. Each course will use a combination of coursework, lab exercises and examination. The project will be assessed as an individual piece of work.

b. Intellectual skills are assessed by formal examinations as well as the coursework and as the final outcomes of the project.

c. Some of the weekly exercises will contribute to assessment. In addition, students will undertake other assignments that will allow them to integrate the skills they have acquired.

d. They will be required to assess and report on the success of their solutions.

e. Classroom and laboratory sessions will be monitored by the tutor and students will be required to reflect on collaborative processes as well as content of their work. A number of assignments will require students to effectively undertake research, but it will be predominantly assessed through the project.

18. MONITORING THE QUALITY OF THIS PROGRAMME

The quality of this Programme is monitored each year through evaluating:

a. External examiner reports (considering quality and standards)
b. Statistical information (considering issues such as the pass rate)
c. Student feedback
d. Evaluation by an internal quality assurance committee.

19. SUPPORT FOR LEARNING INCLUDING PERSONAL DEVELOPMENT PLANNING (PDP)

Students will receive assistance for their own development through co-curriculum activities including dedicated activity weeks and extended induction Programmes. They are encouraged to identify and, with guidance, to reflect on their own learning needs and are offered the following support as appropriate to meet those needs:

- Library
- Computer Facilities
- Course tutors are available for individual student support and guidance
- Academic study skills from Learner Support tutors
- Business English support
- Placements
- Student services including Careers, Sickbay Facilities, Chaplain and Counseling Services
- Language Learning

20. GRADING SYSTEM

Millennium University grading system is as follows:

18.1 Table B.

Grade	(%) MARK	Grade Point (GP)	Interpretation
A	80- 100	4.00	Distinction
A-	70- 79	3.75	Excellent
B+	65-69	3.50	Very Good
B	60-64	3.00	Good
C+	55-59	2.50	Average
C	50-54	2.00	Pass
C-	45-49	1.75	Fail
D	40-44	1.00	Fail
E	35-39	0	Fail
F	0- 34	0	Fail
0 (Zero)			No Assessment Recorded
I			Assessment Incomplete for Valid Reasons
Z			Grade Cancelled: Assessment Offence

Other symbols which may appear on the grade report are as follows:

18.2 Table C.

AU	Audit Course
DG	Deffered Grade
IW	Incomplete Work
S	Satisfactory
U	Unsatisfactory
W	Official Withdrawal
AW	Administrative Withdrawal
NG	No Grade

21. ELIGIBILITY OF SUPPLIMENTARY EXAMINATIONS, REPITITION AND WITHDRAWAL

19.1 Supplementary Examinations

Students who obtained a "Fail" grade are permitted to sit for a supplementary examination within three weeks of the release of the final results of the syllabus area. The supplementary examination fee will apply.

Students who are absent from exam without providing any valid reasons (medical or compassionate grounds) or have been found guilty of any form of academic misconduct will not be allowed to sit for a supplementary examination.

Specifically:

a. A student who wishes to defer the main examination, based on valid reasons such as on medical and compassionate rounds, must submit the necessary documents to the Head of the Department within three working days after the examination date, or else such request will be considered invalid. Upon approval, students will be allowed to sit for the supplementary examination.
b. Students who fail to achieve 40 marks out of 100 for the main examination and/or fail to achieve an overall 50% combining all assessments are required to sit for the supplementary examination after paying the supplementary examination fee.
c. If a student passes the supplementary examination (i.e. 50 marks out of 100 marks), a "P" grade will be shown on the transcript. If a student fails the supplementary examination, he will be required to repeat the entire syllabus area and pay the course fee for the syllabus area.
d. Students are not allowed to further defer a supplementary examination regardless of reasons. Only one supplementary examination will be available for each syllabus area.
e. If the student is absent from the supplementary examination, they will receive an "F" grade and will be required to re-take the entire syllabus area and pay the course fee for the syllabus area.

19.2 Repetition

The candidate enrolled for a Degree shall be required to take examinations and pass in all courses before being allowed to proceed to the following year of study. The learner shall only repeat a year once and shall be eligible for repeating the whole year of study (in which failure has taken place), in the following circumstances:

a. Failure to obtain a minimum passing grade of C in any of the supplementary examination re-sitting.

b. Failure to obtain a passing grade of C in more than 50% of the courses offered in the semester.

19.3 Students in Good Standing

Undergraduate students are required to maintain a minimum Cumulative Grade Point Average (CGPA) of 2.00 in order to remain in good academic standing. Students whose cumulative GPA falls below 2.00 at the end of any semester are automatically on academic probation. Students who are on academic probation for two (2) consecutive semesters and who fail to raise their GPA to a satisfactory level at the conclusion of the two consecutive semesters of probation will be withdrawn from the University.

19.4 Grounds for academic withdrawal include:

a. failing to meet the specific academic requirements of the degree Programme;

b. failing to maintain a minimum cumulative GPA of 2.00 over two consecutive semesters;

c. exceeding the Statute of Limitation

19.5 Appeals

Appeals concerning academic progress such as academic withdrawal must be addressed in writing to the Dean who will review the matter and prepare a report and written recommendation for review by the Academic Board. The Academic Board will review the application and make the final decision regarding a student's appeal.

22. EXAMINATION MALPRACTICES OR OFFENCES/ MISCONDUCT

Examination offences include an attempt on the part of a candidate to gain unfair advantage, and breach of the Examination Regulations and Instructions to candidates including refusal on the part of the candidate to occupy an assigned place in an examination room, any form of communication with another candidate, possession of a book, paper or written information of any kind except as required by the rules of a particular examination, smoking, leaving an examination room without permission of the invigilator, or refusal to follow instructions.

In all instances of examination malpractices or offences a formal report shall be made as soon as practicable. The chief invigilator or his alternate shall, administer the examination misconduct form to the candidate.

The Examinations Committee/School Board shall review the reports received in connection with an examination malpractice or an offence and on the basis of its review, the Committee may impose a sanction involving:

- loss of marks in a particular paper.
- credit denial in respect of any courses or examination completed or attempted
- withholding of the candidate's result for up to one academic year
- Disqualification

23. POLICY & PROCEDURES FOR EXAMINATION PAPERS

The Creation, Moderation and Administration of Examination Papers for Formal Written Examinations

21.1 Introduction

a. The Dean of School has to ensure that a Head of Department (principle examiner) is appointed, as specified in the Quality Assurance and Enhancement Handbook.
b. Each School Member in the department will submit the final semester examination to the Head of Department.
c. Regarding the assessment process, the Head of Department is responsible for the compilation of instruments of assessment, marking schedules and to stipulate, where appropriate, when candidates are permitted to use specified books, instruments including electronic calculators (specifying the type), notes or other materials or aids. All arrangements must be clearly documented and available for internal and external quality audits.

21.2 Preparation and Approval of Unseen Examination Papers

a. Each Head of Department is responsible for the production of all assessment instruments required to complete the course.
b. All Formal Examinations must have the Standard University Front Cover, available from the Registry (Exams).
c. Each Head of Department is responsible for ensuring that all examination papers are moderated internally.
d. Each Head of Department is responsible for ensuring that all examination papers are submitted to the appropriate External Examiner for moderation and approval. The appropriate draft examination papers for both first and resit diets, together

with associated marking schemes or model answers and a record of the process used for internal moderation, will be forwarded to the External Examiner.

e. Each External Examiner is required to certify that they have received, read and moderated the examination papers sent to them.
f. Where an External Examiner requires changes to be made to a draft examination paper, the changes should be annotated on the paper. The draft should be returned to the appropriate member of academic staff together with a note from the External Examiner stating that, subject to the completion of the annotated amendments, the paper is approved.
g. Where an External Examiner feels unable to approve a draft examination paper, the paper should be certified as received and read, with clear and specific reasons provided as to why approval has been withheld.
h. The record and certification of each External Examiner's moderation will be maintained on file within the School for two years following completion of the academic year in which the examination was delivered.

24. DEGREE CLASSIFICATION

The scheme of classification of undergraduate degrees is as follows:

22.1 Table D.

Class	**Final Grade Point Average (FGPA)**
First	3.65 – 4.00
Second Upper	3.25 – 3.64
Second Lower	2.60 – 3.24
Pass	2.00 – 2.59

25. INTERPRETATION AND APPLICATION OF LETTER GRADES

a. 'A' to 'C-' constitute pass grades
b. 'D', 'F' and 'Z' are fail grades
c. Z Failure due to DISQUALIFICATION from an examination as a result of an examination malpractice or offence as determined by the Academic Board.
d. I Denotes INCOMPLETE and is awarded to a student who is unable to complete a course during the Semester adjudged by the Academic Board as satisfactory. The Incomplete must be rectified within three (3) weeks after commencement of the next semester otherwise the Incomplete elapses to the next grade ("F").
e. 0 Denotes that student has not attended an end of semester examination and has not submitted medical or valid certification, zero will be the grade for that particular exam. In addition, Student has not submitted course work for

assessment and has not submitted medical or valid certification. If Medical or other Certification considered to be valid by the Academic Board is submitted an 'I' grade may be allotted.

26. DEFINITION OF ACADEMIC TERMS

24.1 Course Work (Credit hour)

Credits for a course are a means of measuring a student's progress in an academic programme. Credits represent the standards for the amount and quality of work required for students to complete a given course. MU functions on a 15:1 lecture hour per credit ratio. Under these regulations one (1) credit represents the amount of learning achieved through a notional 15 hours of learning time which includes everything a learner has to do to achieve the intended learning outcomes in a course.

b

24.2 Grade Point (GP)

For each (letter) grade there is a corresponding Grade Point as indicated above. The Grade Point earned by a student for each course completed is computed as the product of the number of credits (credit units) for the course and the Grade Point equivalent of the (letter) grade obtained in the course.

24.3 Grade Point Average (GPA)

The Grade Point Average or GPA is a way of showing your overall level of achievement of your Degree course. The GPA is simply your Average attainment over all the courses you take.

24.4 Cumulative Grade Point Average(CGPA)

A Student's Cumulative Grade Point Average is calculated by dividing the total number of grade points obtained, up to any specified time, by the total number of credits for all courses for which the student has completed up to that time.

24.5 Final Grade Point Average (FGPA)

The Final Grade Point Average is the Cumulative Grade Point Average for all courses for which the student has completed up to the end of the academic Programme for reasons adjudged by the Academic Board as satisfactory.

24.6 Change of Grade

An undergraduate student's academic transcript is intended to serve as a complete and permanent history of the student's academic progress at MU. A transcript will not, therefore, be altered except in conformity with the University's policy governing change of grade. Grades for students remain as part of the student's permanent record. Changes in previously recorded grades may be made within one semester where the original instructor certifies that an actual mistake was made in determining or recording and is approved by the Dean.

24.7 Course Exemption

A student who wishes to be exempted from taking a course should apply to the Dean for exemptions. Exemptions are only granted for courses with similar content taken at accredited universities with a grade of at least 'B'.

24.8 Grading for Project Work

Once candidates begin writing project work they must be continuously enrolled at the university until the degree requirements are satisfied. Enrollment may be satisfied by being registered for project work until the project work is approved and submitted to the Dean of the School. Students failing to maintain continuous registration will be required to pay the costs of all previous semesters for which registration was required. Degree requirements may not be satisfied until this is done.

27. GRADUATION REQUIREMENTS

To qualify for an MU BSc. Electronic Commerce degree, a student must earn the required minimum number of 120 credit units including core, elective and general university education courses and obtain a Final Grade Point Average (FGPA) of at least 2.00. The student must pass all the approved and required courses at a GPA of at least 2.00.

28. PARTICIPATION IN GRADUATION EXERCISES

Before a student may participate in graduation exercise and receive his/ her degree certificate, the following conditions must be met:

a. Must have completed all the relevant requirements of the degree.
b. Must have official transcript of any transfer credits including correspondence work in the Registrar's Office at least one month prior to the intended date of graduation.
c. Must have been given financial clearance by the Finance Office.
d. Must have been given academic clearance by the Department, School and the Senate.
e. Must have been cleared by the office of the Dean of Students.
f. Must have attained a grade of S (satisfactory) in all courses that require S/U grade.

27. CURRICULUM STRUCTURE FOR BSc. ELECTRONIC COMMERCE

The course has been designed to provide an ordered programme of study on a full time basis over four academic years. The components within each year are as follows:

Year One

Semester 1	
Course	**Code**
English 1	ENG1101
Fundamentals of Business Mathematics	BS1101
Communication Skills	COMM1101
Introduction to Information Systems and Technology	ICT1107
Programming for Business Applications	ECOM1101
Semester 2	
Course	**Code**
English 2	ENG1201
Mathematics for Computing	ICT1203
Introduction to JAVA Programming	ECOM1201
Computer Systems and Internet Technology	ICT1202
Sociology	SO1207

Year Two

Semester 3	
Course	**Code**
Fundamentals of E- Commerce	ECOM2301
Professionalism in the IT Industry	ICT2302
Purchasing and Supply Chain Management	LSCM2301
Algorithmic and Design and Problem	ECOM2302
Database Techniques	ICT2303
Semester 4	
Course	**Code**
Logic in Computer Science	ECOM2401
Operating Systems Concepts	ECOM2402
Database Development	ECOM2403
Data Information and Knowledge	ICT2402
Information Technology Law	LAWS2410

Year Three

Semester 5	
Course	**Code**
E- Marketing	ECOM3501
Enterprise Systems	ECOM3502
Software Engineering 1	ECOM3503
Principles of Security	ICT3501
Human Centric Computing	ECOM3504

Semester 6	
Course	**Code**
Research Methods	ECOM3601
Distributed Systems	ECOM3602
E- Advertising	ECOM3603
Advanced Object Oriented Programming	ECOM3604
E- Commerce Group Project	ECOM3605

Year Four

Semester 7	
Course	**Code**
Internet Principles	ECOM4701
Software Development Tools	ECOM4702
E- Business Innovation and Evolution	ICT4702
Advanced Web Technologies	ECOM4703
Dissertation	ECOM4704
Semester 8	
Course	**Code**
Strategic Marketing Management	ECOM4801
Software Project Management	ECOM4802
Database Design and Management	ECOM483

ENG1101- English 1- Grammar

Department	**Education**
Course Code	**ENG1101**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**2**
Method of assessment	**Final Examination and Continuous Assessment**

COURSE AIMS

The aim of this course is to introduce students to English as a foreign language and make them recognize and acquire the structure of the English Grammar. Grammar is the backbone of any language and knowing the grammar of a language is almost equal to knowing the language itself. Thus, this grammar course is meant to bridge the gap between knowing grammatical structures and using them.

LEARNING OUTCOMES

- To enable the students to acquire phonetic skills required for oral skills.
- To give ear training to students to help them to listen sounds which are not there in their regional languages.
- To acquaint the students with the phonological structure of modern English.
- To orient the students to word accents and speech rhythm and spoken English.
- To improve communicative competence of the students
- To enable the students to converse in their life situations
- To train the students to use English for the practical purposes.
- To acquaint learner with the modern English Usage
- To take remedial steps to correct the errors that enters the learner's Language system while learning English as a foreign language.
- To make them aware of the peculiarities English language.

HOW THE COURSE WILL BE DELIVERED

The formal timetabled components of the course comprise of 45 hours of lectures and tutorials. The course will involve interactive communication between students and their teacher and between students themselves. In teaching grammar the teacher should follow

certain methods and techniques such as the PPP model (presentation, practice and production), or the TTT method (text, teach, and test).The teacher's approach of presenting grammar rules can be either deductive or inductive.

HOW THE COURSE WILL BE ASSESSED

The students will be expected to sit a 3 hour examination and hand in a written assignment.

ASSESSMENT BREAKDOWN

40% Continuous Assessment

60% Final Examination

TOPICS

Phonology of English

Phonemes: Consonants, Vowels and Diphthongs

Phonetic transcription of words and sentences

Syllables and CVC pattern

Rules for word accents

Weak forms and strong forms

Accent patterns in connected speech

Intonation: Rising tone, Falling tone etc.

Practical Test will include: Assessment: 10%

1] Loud reading of a poem/ passage.

2] Pronunciation of words

3] Observation of accent and pronunciation of a given text

Conversation in English

A. Patterns:
Greeting

Introducing Oneself

Invitation

Making Request

Expressing Gratitude

Complimenting and Congratulating

Expressing Sympathy

Apologizing

Asking for Information

Seeking Permission

Complaining and Expressing Regret

B. Using English in Real Life Situation

At the Bank/ post office/ College office

At the University Canteen or Restaurant

At the Railway Station/ Bus Station

At the Medical Shop

At the Library

Interviews

Booking a Room in a Hotel

Practical Test will include:

All the topics in Part B that is Using English in Real Life Situations**: Assessment: 10%**

Basic English Grammar

Parts of speech and their uses

Word formation

Tenses and their Uses

Articles and their uses

Types of sentences and sentence patterns

Synonyms and their uses

Antonyms and their uses

Practical Test will include: Assessment: 10%

1] Definition of terms such as noun / adjective/ adverb

2] Synonyms

3] Antonyms

4] Word Formation

Prescribed Book

1. Danial Jones. English Pronouncing Dictionary. 15th edition. Roach, P. & Hartman, J. eds.Cambridge UK: Cambridge University Press, 1997.
2. Katamba, F. An Introduction to Phonology, Longman, 1989.
3. J. D. O'Connor. Better English Pronunciation. Universal Book Stall. New Delhi, 2001
4. V. Sasikumar and P. V. Dhamija. Spokan English. Tata McGrow Hill, New Delhi, 2001.
5. .Swan, Michael, *Practical English Usage.* Oxford. Oxford University Press. 1996
6. Thomson & Martinet, *A practical English Grammar*. London. Oxford University Press.
7. Quirk & Green Baun. *A university Grammar of English.*
8. Leech, *Meaning and the English verb.* London. Longman.
9. A. S. Hornby. Oxford Advanced Learner's Dictionary for Current English. Oup., 1989.
10. Z. N. Patil. English for Practical Purpose. MacMillan Ind. Ltd. .
11. K. S. Smita, Annie Pothen. English Conversational Practice. Sterling Publication Pvt. Ltd.
12. Dr. Saraswati. Success with Spoken English for Undergraduates. Commonwealth University Books.
13. Bygate, M. Speaking. Oxford: Oxford University Press.
14. Geoffrey Leech, Margaret Deushar. English Grammar Today.
15. W. S. Allen. Living English Structure.
16. F. T. Wood. A Remedial English Grammar for Foreign Students.
17. Thomson and Martinet. A Practical English Grammar. OUP, 1986.

BS1101 – Fundamentals of Business Mathematics

Department	**Business and Management**
Course Code	**BS1101**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**2**
Method of assessment	**Final Examination**

COURSE AIMS

To provide students with an understanding of and an ability to apply a range of mathematical techniques to a variety of accounting and finance situations.

LEARNING OUTCOMES

On completion of the course a student should be able to:

1. Use the basic principles of algebra and apply mathematical skills to finance decisions.
2. Summarise and analyse data diagrams, distributions and index numbers.
3. Use forecasting techniques including time-series analysis and relate variables through regression analysis and scatter diagrams.
4. Explain the use of spreadsheet software in business
5. Demonstrate the rules of probability and the use of expected value tables in risk and decision making.

HOW THE COURSE WILL BE DELIVERED

The formal timetabled components of the course comprise of 45 hours of lectures and tutorials. The lecture programme is supported by detailed handouts, which strive to challenge and empower students to attempt tutorial questions, which are closely integrated to the lecture material.

HOW THE COURSE WILL BE ASSESSED

Students will be expected to sit for a 3 hour examination at the end of the semester.

TOPICS

1. Basic mathematics – powers and roots, percentages and ratios, basic algebra including simultaneous and quadratic equations.
2. Summarising and analysing data – histograms, frequency distribution, normal distribution, Pareto distribution, index numbers.
3. Financial mathematics – simple and compound interest, annuities and perpetuities, loans, discounting, NPV, IRR.
4. Inter-relationship between variables – scatter diagram, correlation coefficient, regression equation.
5. Forecasting – time series, trends, seasonal factors, predicted values.
6. Spreadsheet skills - features and functions, comparison to manual work, every day work tasks.
7. Probability – addition and multiplication rules, expected value, tables, risk and uncertainty.

Prescribed Book

- Core course material provided, includes material from CIMAstudy.com, published by CIMA and Elsevier.
- ROSSER, M., 2003. *Basic mathematics for economists.* 2nd ed. London: Taylor and Francis. *(ebook)*
- WERNER, F. and SOTSKOV, Y., 2006. *Mathematics of economics and business.* London: Routledge. *(ebook)*

COMM1101 – Communication Skills

Department	**Computer Science**	
Course Code	**COMM1101**	
Course Duration	**Semester**	
Lecture hours per week	**3**	
Tutorial Hours per week	**1**	
Course Credits	**3**	
Level	**2**	
Method of assessment	**Final Examination**	**60%**
	Continuous Assessment	**40%**

DESCRIPTION AND AIM OF COURSE

The aim of the course is to provide students with the necessary methods and techniques to increase their personal effectiveness and enhance their proficiency in written, oral and presentation communication skills.

LEARNING OUTCOMES

On completion of the course a student should be able to:

Demonstrate a proficiency in interpersonal skills and be able to effectively participate in teams and meetings.
Write clearly and concisely in a variety of formats.
Describe how to increase personal effectiveness.
Understand the importance of Communications within the business function
Research and source relevant course information correctly
Demonstrate an ability to write effective business reports
Develop a competency in formulating other business correspondence
Demonstrate the verbal and presentation skills needed to make effective oral presentations to specialised and non-specialised groups.
Develop competency in addressing the communications mix among employees in the workplace

HOW THE COURSE WILL BE DELIVERED

The formal timetabled components of the course comprise of 42 hours of lectures and tutorials. The lecture programme is supported by detailed handouts, which strive to challenge and empower students to attempt tutorial questions, which are closely integrated to the lecture material.

HOW THE COURSE WILL BE ASSESSED

Assessment Breakdown	**%**

Course Work	60.00%
End of Course Formal Examination	40.00%

TOPICS

a. **Communication and Organisations**
Communication process, Effective Communication, Communication Channels and Communication Media

b. **Accountancy Firms**
Typical hierarchy, Communication Paths, Organisational Communication Strategies

c. **Research & Writing Skills**
Information Sources, Referencing, Writing Process, Business Writing Style

d. **Business Correspondence**
Report Writing, Letter Writing (application and complaint), Press releases, Memorandum, E-mail Writing, CV Development

e. **Verbal & Non-Verbal Communication**
Presentations & Talks, Constructing Visual Aids, Telephone skills, Listening skills, Handling customer complaints, Kinesics, Proxemics and Body Language

f. **Communication in the workplace**
Groups and Meetings, chairing Business Meetings, Participating effectively in formal Meetings, Understanding Standing Orders, Minuting Meetings, Actioning Key Items, following up on Agreed Actions

Prescribed Book

- Mc Clave, H 2004, *Communication for Business*, Gill and Macmillan
- Jones, L & Alexander, R. 2000, *International Business English: Communication Skills in English for Business Purposes*, Cambridge University Press Cambridge
- Scott, J.F. 2000, *English Communications for Business Students*, 4th. Ed., Gill Dublin
- Stanton, N. 2003, *Mastering Communication*, 2nd. Ed., Macmillan Basingstoke

ICT1107 – Introduction to Information Systems and Technology

Department	**Computer Science**
Course Code	**ICT1107**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**2**
Method of assessment	**Final Examination 60%** **Continuous Assessment 40%**

DESCRIPTION AND AIM OF COURSE

a. To provide students with an understanding of the principles and concepts underpinning information analysis and computers.
b. To give students a basic level ability and confidence in handling computerized business information systems.
c. To familiarize students with the terminology used and concepts encountered in computerized business environments.
d. To enable students to apply these concepts and principles to practical solutions.
e. To enable students to solve typical business problems through the application and use of commercial quality software.

LEARNING OUTCOMES

On completion of the course a student should be able to:

a. Prepare documents using a commercial quality word-processing package.
b. Set up and extract information from a database information system.
c. Prepare basic financial models using a spreadsheet package
d. Prepare financial statements using a commercial accounting package.
e. Understand and interpret basic information concerning computer hardware and software.
f. Set up and extract information from a database information system.
g. Understand the problems that arise in the design and use of computer systems
h. Appreciate and evaluate the security and controls used in information systems.

HOW THE COURSE WILL BE DELIVERED

a. The practical aspect of the course will be delivered in a workshop environment.
b. Theoretical topics will be approached by lecturers.
c. Tutorials and workshop classes will be limited to 20 students.
d. Students will be required to complete 3 assignments.

HOW THE COURSE WILL BE ASSESSED

The students will be expected to produce group coursework and write an exam at the end of the semester.

Assessment Breakdown

Type	%	Title	Duration (hrs)
Examination	25	Information Technology	2 hrs
Written Assessment	75	Computers and Information Analysis	N/A

TOPICS

1. Hardware
    i. Components of Computer hardware and their functions
    ii. Input/output methods
    iii. Types of system
2. Software
    iv. Operating Systems
    v. Introduction to WINDOWS and WIMP environments
    vi. Types of software
3. Application Packages
    vii. Wordprocessing package (Word)
    viii. Spreadsheets (Excel)
    ix. Databases (Access)
    x. Accounting Package (Sage)
4. Components of a computer, Input/Output methods, Data storage, Types of system, Operating Systems, Processing Methods
5. Systems Theory – Definition of a system, Basic elements of systems control, Positive and negative feedback
6. Information Systems –Quality and attributes of information, Types of information Systems for operational, tactical and strategic planning and control
7. Legislation
8. Systems Analysis and Design
9. Application Packages

Prescribed Book

- SZYMANSKI RA. 1990. *Computers and Information Systems in Business*
- McGEE and BOYCE J J 1993 *Microsoft Access for Windows* Microsoft Press
- Methods for Business, *Financial Times/Prentice Hall*.

ECOM1101- Programming for Business Applications

Department	**Computer Science**
Course Code	**ECOM1101**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**2**
Method of assessment	**Final Examination 60%** **Continuous Assessment 40%**

COURSE AIMS

This course aims to introduce students to the principles of programming using an object oriented approach, and to provides them with the programming skills necessary to continue the study of computer science. Java is used as the introductory language.

LEARNING OUTCOMES

Knowledge and Understanding

Having successfully completed this course, you will be able to demonstrate knowledge and understanding of:

- Simple object oriented terminology, including classes, objects, inheritance and methods.
- Basic programming constructs including sequence, selection and iteration, the use of identifiers, variables and expressions, and a range of data types.
- Good programming style

Subject Specific Intellectual

Having successfully completed this course, you will be able to:

- Analyse a problem in a systematic manner and model in an object oriented approach

Transferable and Generic

Having successfully completed this course, you will be able to:

- Demonstrate a range of basic C&IT skills, including use of the Web to locate study materials

Subject Specific Practical

Having successfully completed this course, you will be able to:

- Design a short program, compile the program, debug the program and test the program
- Use simple programming environments to aid the above process

HOW THE COURSE WILL BE DELIVERED

The formal timetabled components of the course comprise of 42 hours of lectures and tutorials per semester.

HOW THE COURSE WILL BE ASSESSED

The students will be expected to sit a 3 hour examination and hand in a written assignment.

ASSESSMENT BREAKDOWN

- 20% - Coursework.
- 20% - Laboratory Work.
- 60% - Exam, 3 hour(s)

Referral policy: By examination
Assessment notes

The exam is open book, and taken on University workstations with full access to internet resources (although no communication software or social media are permitted).

TOPICS

1. Writing and running programs
2. Compilation, Interpretation and the Java Virtual Machine
3. Variables, Objects, Primitives and Scope
4. Methods
5. Computational Thinking
6. Constructors
7. Loops and Arrays
8. Collections and Iterators
9. The Java Library
10. Integrated Development Environments
11. Testing and Debugging
12. Software Design (What makes a good program)
13. Super and Sub Classes (Inheritence)
14. Polymorphism and Dynamic Binding
15. Abstract Classes and Interfaces
16. Designing Applications (Moving from problem to solution)
17. Event Driven Programming

Prescribed Book

- Barnes and Kolling, Objects First with Java: A Practical Introduction using BlueJ, 3rd Edition, Pearson/Prentice Hall 2006

MILLENNIUM UNIVERSITY

COURSE OUTLINE

1. Programme **BSc Electronic Commerce**

2. Department	**Computer Science**		
3. Course Title	**English 2 -Literature**		
4. Course Code	**ENG1201**		
5. Course Duration	**Semester**		
6. Lecture hours per week	**3**		
7. Tutorial Hours per week	**1**		
8. Course Credits	**3**		
9. Level	**2**		
10. Method of assessment	**Final Examination**	**60%**	
	Continuous Assessment	**40%**	

11. DESCRIPTION AND AIM OF COURSE

English 1 and 2, which are compulsory to all the incoming students at first and second semester in MU, serves as an important introduction to the culture of the university, its habits of mind, conventions, and responsibilities.

This course offers an introduction to the full sweep of English literature from the Anglo-Saxon period to the present day.

This is an introductory course in literature, comprising critical analysis of notable works in prose fiction, drama, and poetry, with emphasis on evaluating the logical relationship between form and content and on formulating criteria for artistic judgment.

Students will learn what makes a piece of writing become "literary," as well as the terms and devices needed to read and understand literature.

12. LEARNING OUTCOMES

At the end of the course students should be able to:

a. Gain insight into the variety and complexity of human life through reading literature which reflects our struggle with ourselves, our environment, and our society;
b. Become more sophisticated, sensitive, and skilled readers of works in the major literary genres;
c. Learn the terms, tools, and techniques needed to analyze and understand major works of literature;
d. Increase critical thinking skills through close examination literature;
e. Improve communication skills through active writing, listening, and discussing;
f. Learn how to read several complete works of literature;

13. HOW THE COURSE WILL BE DELIVERED

The formal timetabled components of the course comprise of 45 hours of lectures and tutorials. The course will involve interactive communication between students and their teacher and between students themselves. In teaching grammar the teacher should follow certain methods and techniques such as the PPP model (presentation, practice and

production), or the TTT method (text, teach, and test). The teacher's approach of presenting grammar rules can be either deductive or inductive

14.HOW THE COURSE WILL BE ASSESSED

The students will be expected to sit a 3 hour examination and hand in a written assignment.

15.ASSESSMENT BREAKDOWN

40% Assignment

60% Final Examination

16. READING

You are advised to provide yourself with a **map** of the development of English literature, for example Andrew Sanders, The Short Oxford History of English Literature 3rd ed. (Oxford 2004).

The following works are central to the course:

Beowulf, trans. Seamus Heaney (Faber and Faber, 1999)

Sir Gawain and the Green Knight, trans. Simon Armitage (Faber and Faber, 2007)

John Milton, Paradise Lost (1667, revised 1674), either ed. Alastair Fowler (2nd ed. Longman, 1998), or ed. John Leonard (Penguin, 2000)

Alexander Pope, The Rape of the Lock (1714), in The Norton Anthology of Poetry

William Wordsworth, The Prelude (1805 text), in William Wordsworth: The Major Works ed. Stephen Gill (Oxford World's Classics, 2008)

George Eliot, The Mill on the Floss (1860) ed. A.S. Byatt (Penguin, 1979)

T. S. Eliot, The Waste Land (1922) in The Norton Anthology of Poetry

J. M. Coetzee, Disgrace (Vintage, 1999)

17.TOPICS

The seminars on longer works may focus on selected sections but you are required to read the complete text.

a. *Seamus Heaney's* Beowulf
b. *Sir Gawain* – using original text with Smon Armitage's translation
c. *Paradise Lost* Bks 1 & 2
d. *Paradise Lost* Bks 9 & 10
e. *The Rape of the Lock* Reading Week
f. *The Prelude*: selected sections
g. *The Mill on the Floss* 1: selected sections
h. *The Mill on the Floss* 2: selected sections
i. *The Waste Land*
j. *Disgrace*

18.Prescribed Books

Booth, Hunter, Mays *The Norton Introduction to Literature:Shorter*, 9th Edition, Mays. ISBN 039392615X

Jerzy Kosinski, *Being There*, ISBN 0802136346

Edwin Barton and Glenda Hudson. *A Contemporary Guide to Literary Terms*, 2nd Edition. ISBN 0618341625

MILLENNIUM UNIVERSITY

COURSE OUTLINE

1. **Programme** **BSc Electronic Commerce**
2. **Department** **Computer Science**
3. **Course Code** **ICT1203**

4.	**Course Title**	**Mathematics for Computing**	
5.	**Course Duration**	**Semester**	
6.	**Lecture hours per week**	**3**	
7.	**Tutorial Hours per week**	**1**	
8.	**Course Credits**	**3**	
9.	**Level**	**3**	
10.	**Method of assessment**	**Final Examination**	**50%**
		Continuous Assessment	**50%**

11. COURSE AIMS

This course introduces, and in some cases reviews, the mathematical foundations of computer science.

12. LEARNING OUTCOMES

On successful completion of the course, students will be able to:

a. Demonstrate an understanding of discrete mathematics and those concepts and methods which are highly applicable to computing.
b. Understand and apply the basic techniques of mathematical methods to various problems within computer science.

13. HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of 34 hours of lectures and 8 hours of tutorials per semester.

14. HOW THE COURSE WILL BE ASSESSED

50% coursework: The assignment will require submission of a portfolio of evidence of learning, which will be equivalent to approximately 3500 words in length. This may include computer based assessment.

50% examination: 3 hour closed-book examination.

15. TOPICS

1. Set theory
2. Boolean algebra
3. Introduction to Logic
4. Truth tables, operations, equivalences.

5. Predicate logic, quantifiers.
6. Argument and proof
7. Differential and Integral Calculus
8. Linear algebra (Vectors and Matrices)
9. Graph theory
10. Numerical analysis

16. PRESCRIBED RESOURCE

- Rod Haggerty; Discrete Mathematics for Computing. Addison Wesley. 2002
- Neville Dean; The Essence of Discrete Mathematics, Prentice Hall.1997.
- John Kelly, The Essence of Logic, Prentice Hall 1997.
- Burden R.L, Numerical Analysis,Brooks/Cole 2011 (or earlier edition)
- McQuarrie, D A., Mathematical methods for scientists and engineers, Palgrave 2003
- Stewart J, Calculus, Brooks/Cole 2003

17. <u>OTHER RECOMMENDED READING</u>

- Grassman, Tremblay; Logic and Discrete Mathematics, Prentice Hall.1996.
- Goodaire,Parmmenter; Discrete Mathematics with Graph Theory, Prentice Hall. 1998.
- The website http://www.mathcentre.ac.uk

MILLENNIUM UNIVERSITY

COURSE OUTLINE

1. Programme **BSc Electronic Commerce**

2.	**Department**	**Computer Science**	
3.	**Course Code**	**ICT1201**	
4.	**Course Title**	**Introduction to JAVA Programming**	
5.	**Course Duration**	**Semester**	
6.	**Lecture hours per week**	**3**	
7.	**Tutorial Hours per week**	**1**	
8.	**Course Credits**	**3**	
9.	**Level**	**2**	
10.	**Method of assessment**	**Final Examination**	**50%**
		Continuous Assessment	**50%**

11. COURSE AIMS

The aim of this course is to introduce learners to fundamental concepts of software development with an emphasis on problem solving and computer programming using the Java programming language. Introduce learners to programming applications. Introduce learners to the sequence, selection and iteration constructs as well as course programming and the basics of using objects within programs.

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12. LEARNING OUTCOMES

a. Write, compile, execute and debug well structured programs in the Java programming language
b. Create and use arithmetic expressions
c. Select and use appropriate programming structure for sequence, selection and repetition
d. Declare and use single and multi-dimensional Arrays
e. Use basic testing and troubleshooting skills to ensure a program's correct operation
f. Modularize Code by breaking larger programs into smaller methods

13. HOW THE COURSE WILL BE DELIVERED

The formal timetabled components of the course comprise of 42 hours of lectures and tutorials per semester.

14. HOW THE COURSE WILL BE ASSESSED

The students will be expected to sit a 3 hour examination and hand in a written assignment.

15. ASSESSMENT BREAKDOWN

- 30% - Coursework.
- 20% - Laboratory Work.
- 50% - Exam, 3 hour(s)

Referral policy: By examination

Assessment notes

The exam is open book, and taken on University workstations with full access to internet resources (although no communication software or social media are permitted).

16. TOPICS

a. Introduction

i. Overview of Programming, Programming Language Environment, Program Format

b. Problem solving

i. Problem analysis, decomposition and solution design solution verification, tracing, testing, critical cases, test cases Program/Logic

ii. Flowcharts, Pseudo Code

c. Data types

i. Basic Data types, Strings Variable declarations Operators, expression evaluation, assignment Basic Input/Output

d. Control Structures

i. Sequence Selection Iteration Nesting of control structures Compound Statement Methods (AND, OR, NOT)

e. Introduction to Graphical User Interface Development

f. Arrays

i. Concept of Arrays Creating arrays, accessing elements Two-dimensional arrays

g. Functions/Procedures

i. Function/Procedure Concept of Modular design Parameters Scope and Duration of variables Returning values from functions

Prescribed Book

There is NO single recommended text. However parts of the course are based or otherwise inspired by the following textbooks:

- Barnes, David and Kolling, Michael (2009). Objects First with Java (4th edition). Pearson ISBN 0137005628 [Especially Part I]
- Weber Becker, Byron (2007). JAVA: Learning to Program with Robots. Thomson ISBN 0619217243
- Morelli, Ralph (2003). Java, Java, Java (3rd edition). Prentice-Hall ISBN 0131474340
- Stevens, Perdita and Pooley, Rob (2006). Usign UML. Addison-Wesley [Especially Chapters I, II, and V].
- Michael Ernest 2012, Java SE 7 Programming Essentials, 8th Edition Ed., Sybex [ISBN: 1118359100]

- Tushar Sharma 2013, Oracle Certified Professional Java SE 7 Programmer Exams 1Z0-804 and 1Z0-805: A Comprehensive
- OCPJP 7 Certification Guide, 1 edition (February 27, 2013) Ed., Apress [ISBN: 1430247649]

MILLENNIUM UNIVERSITY

COURSE OUTLINE

1. **Programme** **BSc Electronic Commerce**
2. **Department** **Computer Science**

3. **Course Code** **ITC1202**
4. **Course Title** **Computer Systems and Internet Technologies**
5. **Course Duration** **Semester**
6. **Lecture hours per week** **3**
7. **Tutorial Hours per week** **1**
8. **Course Credits** **3**
9. **Level** **2**
10. **Method of assessment** **Final Examination 60%**
Continuous Assessment 40%

11. DESCRIPTION AND AIM OF COURSE

Internet technologies are rapidly becoming central to modern computing and information systems that support modern business. The communication and presentation of information in a business-to-customer, business-to-business or intranet mode is essential to the effective operation of modern business organisations. Internet technologies provide the infrastructure for the effective deployment and use of information and knowledge systems to support most business activities and enable the organisation to compete effectively in the market place.

A computing or information systems graduate must be able to appreciate the significance of internet powered information systems in the modern world, and understand how information systems can both support and enhance information needs in society. The internet technologies supporting modern information systems are evolving rapidly, and a computing or information systems graduate must be well versed in the theory, and practical application of these technologies.

This course aims to present the concept of "information" in a practical perspective, giving the student an understanding of its significance as a resource in today's society. Further to this, the course will provide the student with an overview of how information systems support society (and in particular business) in a variety of different ways. The ethos of the course will be to introduce the student to pertinent concepts with the support of relevant, up-to-date case studies and examples.

This course will also introduce the student to the internet technologies supporting modern business information systems, such as basic data communications and networking concepts. In addition to this, it will explore in more practical depth WEB-related and media-related technologies, which are helping to shape the future design of internet enabled computing and information systems.

12. LEARNING OUTCOMES

On completion of the course a student should be able to:

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

a. Discuss the impact that growing sources of information such as the Internet are having on society.
b. Identify and discuss examples of legal, ethical, security and privacy issues relating to the use of Internet based computer systems.
c. Demonstrate an understanding of modern Internet tools and be able to create simple web sites including JavaScript scripting, forms and the use of Web-enabled Databases.

13. HOW THE COURSE WILL BE DELIVERED

The course comprises of 45 hours of lectures and tutorials over one semester.

14. HOW THE COURSE WILL BE ASSESSED

Continuous Assessment 40%
Final Examination 60%, three-hour examination.

15. TOPICS

a. Historical development of business information systems.
b. Understanding information as a resource including, legal, ethical and privacy issues and security aspects.
c. Categories of information systems and the level of support that they provide.
d. How business transactions take place.
e. The growth of electronic commerce.
f. An introduction to the importance of the Internet and its various aspects including the Web and email.
g. The architecture of the Web, URL, web servers and HTTP.
h. Practical introduction to HTML - creating Web pages incorporating media.
i. HTML forms and basic use of client side scripting (such as JavaScript) for input validation.
j. Introduction to client side, in terms of a simple Web-enabled Database.
k. Theoretical overview of the client server environment, to support the practical use of HTML, JavaScript, and Access Databases detailed above.

16. PRESCRIBED BOOKS

Keith Sutherland, Understanding the Internet: A Clear Guide to Internet Technologies
Goutam Chakraborty, Distributed Computing and Internet Technology: Second International

COURSE OUTLINE

1. Programme	**BSc Electronic Commerce**		
2. Department	**Social Sciences**		
3. Course Title	**Sociology**		
4. Course Code	**SO1207**		
5. Course Duration	**Semester**		
6. Lecture hours per week	**3**		
7. Tutorial Hours per week	**1**		
8. Course Credits	**3**		
9. Level	**2**		
10. Method of assessment	**Final Examination**	**60%**	
	Continuous Assessment	**40%**	

11. DESCRIPTION AND AIM OF COURSE

This course fulfills: Social/Behavioral Science Exploration. The class offers an introduction to the basic nature of society and the relationship between society and the individual. This course focuses on how society functions and is organized, and how society impacts and influences individual motivation, understanding, action, and well-being. Basic sociological ideas regarding social relations, social interaction, social structure, and social change are examined. Students are introduced to key issues addressed by contemporary sociologists; class, race, gender, sexuality, religion, globalization, education, health care, crime, the media, and the environment. The knowledge gained in this course will aid students in future studies within a variety of fields and careers, and encourage the development of critical thinking about important issues.

12. LEARNING OUTCOMES

On completion of the course a student should be able to:

a. Describe and examine a range of key concepts and theoretical approaches within sociology and evaluate their use.
b. Examine the relationships in levels of sociological analysis, especially between individuals, wider groupings and societies.
c. Illustrate how sociologists examine the content and context of socialisation and social identities.
d. Explore how social inequalities are generated, experienced and maintained or changed.

13. HOW THE COURSE WILL BE DELIVERED

The class will consist of you reading the text book, reviewing lecture slides, submission of assignments and exams, and engaging with supplementary materials such as pertinent documentary films. Exams are designed to be a motivating and learning experience for students and they allow them to assess their understanding.

14. HOW THE COURSE WILL BE ASSESSED

The final course grade will be determined by student's performance on an exam and an assignment.

15. ASSESSMENT BREAKDOWN

Type	%	Duration(hrs)
Examination-	60	3 hrs
Written Assessment	40	N/A

16. TOPICS

a. Introduction
b. What is sociology?
c. Methods of sociological research
d. Culture, society, and socialization
e. Society and social structure
f. Socialization
g. Social interaction
h. Social groups
i. Deviance and control
j. Social inequality
k. Social stratification
l. Race and ethnicity
m. Gender and age

17. PRESCRIBED BOOKS

Fulcher J. & Scott, J. ((2011) *Sociology.* 4th edition

18. RECOMMENDED BOOKS

Conley, Dalton, (2011), *You may Ask Yourself: An Introduction to thinking like a Sociologist*, 2nd Edition, New York: WW Norton & Company, ISBN:0393935175

Giddens' (2009*) Introduction to Sociology,* 6th edition.

Macionis, J. & Plummer, K. (2002) *Sociology: a Global Introduction*

Fulcher J. & Scott, J. ((2011) *Sociology.* 4th edition

Cohen, R. and Kennedy, P. (2000) *Global Sociology*

MILLENNIUM UNIVERSITY

COURSE OUTLINE

1.	**Programme**	**BSc E Commerce**
2.	**Department**	**Computer Science**
3.	**Course Title**	**Fundamentals of E- Commerce**
4.	**Course Code**	**ECOM2301**
5.	**Course Duration**	**Semester**
6.	**Lecture hours per week**	**3**
7.	**Tutorial Hours per week**	**1**
8.	**Course Credits**	**3**
9.	**Level**	**3**
10.	**Method of assessment**	**Final Examination 60%** **Continuous Assessment 40%**

11. COURSE AIMS

eBusiness Fundamentals introduces the student to the fundamentals of eBusiness from business, technical and organisational perspectives. The course includes methods of exploiting Internet technologies to the advantage of the business.

12. LEARNING OUTCOMES

On successful completion of this course the learner will be able to:

- Navigate eBusiness websites and identify their basic components.
- Identify business models applicable to eBusiness.
- Discuss how website design contributes to the success of an eBusiness.
- Recommend an Internet marketing strategy.
- Recognise the legal implications of conducting business on-line.

13. HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

14. HOW THE COURSE WILL BE ASSESSED

Coursework - 40% weighting, pass mark 40%; outline details: Building a quality information system.
Final Examination: 60%

15. TOPICS

a. eBusiness Models
   Classify on-line business according to revenue and business models, including categories of eBusiness such as eLogistics, eGovernment, eProcurement, etc.
b. Elements of an eBusiness website.
   Required elements of a business operating on-line, which may include considerations such as payment systems, security issues, contact details, etc.
c. eBusiness website design.
   Outline the principles of good website design, including elements essential to an eBusiness site such as security guarantees, FAQs, etc.
d. Internet marketing
   Conducting market research on-line. Consider Search Engine Optimisation (SEO) and search engine marketing (SEM). Tools such as Alexa and Compete will be used as well as web analytics tools such as Google Analytics.
e. Fundamentals of laws relating to conducting business online Including but not restricted to VAT charged to customers, data privacy issues, electronic contracts, and data protection laws.
f. Website development
   How to register a domain name and determine the most suitable hosting package; payment services; deciding between offshore, outsourcing, or inhouse development of applications and websites.

16. Prescribed Book

- Aisling Mackey 2010, Click Through: A Practical Guide to Starting a Successful Internet Business,
- Oak Tree Press Ireland [ISBN: 9781904887386]

17. Supplementary Book Resources

- Kristopher B. Jones 2008, Search engine optimization, Wiley Indianapolis, IN [ISBN:9780470224489]
- Jennifer Grappone and Gradiva Couzin 2011, Search Engine Optimization, 3 Ed. [ISBN:978-0470902592]
- Dave Chaffey 2009, E-business & E-commerce Management, 3 Ed. [ISBN: 9780273719601]
- Kenneth Laudon and Carol Traver 2011, E-Commerce: Business, Technology, Society, 3 ed. Ed.[ISBN: 9780273750840]

18. Other Resources

- http://www.openup.ie

- Website: GoogleGoogle's business tools including marketing, advertising and free analytics tools
- http://www.google.ie
- Website: Alexa - an online tool for Traffic Rankings
- http://www.alexa.com
- http://www.shoponlineireland.com/
- Website: Dave ChaffeyDave Chaffey's website
- http://www.davechaffey.com/
- Website: eBusiness in the EU
- http://ec.europa.eu/information_society/ ecowor/ebusiness/index_en.htm
- Website: Improving a website's ranking in search results
- http://money.howstuffworks.com/online-bi z-promotion.htm/printable
- Website: Prentice-Hall 2007, Resources for book by Laudon & Traver
- http://vig.prenhall.com/catalog/academic /product/0,1144,0131735160,00.html
- Website: YahooYahoo Search Marketing (formerly Overture)
- http://searchmarketing.yahoo.com/en_GB/r c/srch/index.php
- Website: GoogleVariety of tools from Google including Checkout and Analytics
- http://www.google.ie/intl/en/options/
- Website: Wordtracker - tool to determine popular online search terms
- http://www.wordtracker.com/

MILLENNIUM UNIVERSITY

COURSE OUTLINE

1.	**Programme**	**BSc E Commerce**
2.	**Department**	**Computer Science**
3.	**Course Title**	**Professionalism in the IT Industry**
4.	**Course Code**	**ITC2302**
5.	**Course Duration**	**Semester**
6.	**Lecture hours per week**	**3**
7.	**Tutorial Hours per week**	**1**
8.	**Course Credits**	**3**
9.	**Level**	**3**
10.	**Method of assessment**	**Final Examination 60%**
		Continuous Assessment 40%

11. COURSE AIMS

The aims of this course are:

- To enable the student to consider personal employability and career issues;
- To develop skills in business communication;
- To develop critical awareness and the need for critical thinking;
- To explore the role of the IT professional within the development environment.

12. LEARNING OUTCOMES

On completion of the course a student should be able to:

- Apply employability skills to vocational situations;
- Demonstrate appropriate business communication skills;
- Apply critical thinking skills to a workplace situation;
- Demonstrate an understanding of the role of the IT professional

13. HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

14. HOW THE COURSE WILL BE ASSESSED

Portfolio - 40% weighting, 2500 words. An employability portfolio. This will consist of a range of employability exercises, eg skills audit, CV, covering letter, organisational research. Assesses outcomes A and D.

Report - 60% weighting, 3500 words. A professional business communication in the form of a report relating to an appropriate area of IT. Assesses outomes B,C,D.

15. TOPICS

1. Recognising employability skills
2. Understanding IT careers
3. Preparing for job hunting
4. Developing a career plan.
5. Critical reading and note-making
6. Critical thinking
7. Analytical writing.
8. Understanding business communications
9. Communicating effectively in writing.
10. The role of the IT professional
11. Professional bodies, ethical & legal considerations.
12. Subjects considered will relate to the school-wide PDP activity and associated portfolio development.

16. Prescribed Book

Author	Title	Publisher	Date	ISBN	Comment
Cottrell, Stella	Critical Thinking Skills	Palgrave Study Skills	2005	1403996857	Good supporting text
Cottrell, Stella	Skills for Success: The Personal Development Planning Handbook	Palgrave Study Skills	2010	0230250181	Good supporting text
Floridi, I	The Cambridge handbook of Information and Computer Ethics	Cambridge University Press	2010	0521717728	

MILLENNIUM UNIVERSITY

COURSE OUTLINE

1.	**Programme**	**BSc E Commerce**
2.	**Department**	**Computer Science**
3.	**Course Title**	**Purchasing and Supply Chain Management**
4.	**Course Code**	**LSCM2301**
5.	**Course Duration**	**Semester**
6.	**Lecture hours per week**	**3**
7.	**Tutorial Hours per week**	**1**
8.	**Course Credits**	**3**
9.	**Level**	**3**
10.	**Method of assessment**	**Final Examination 60%**
		Continuous Assessment 40%

11. DESCRIPTION AND AIM OF COURSE

The role and contribution of purchasing, more commonly known today as procurement, has evolved considerably in recent years. Successful organisations now realise the competitive advantage that effective procurement and supply chain management can offer. This practical course provides students with the fundamental building blocks for developing a contemporary procurement function whilst understanding the necessary capabilities to support the supply chain integration strategies. In particular this course explores the procurement process, further highlighting the knowledge and skills required to become an effective buyer.

12. LEARNING OUTCOMES

On completion of the course a student should be able to:

- Understand contemporary thinking regarding the importance of effective procurement and supply chain management throughout entire supply chains.
- Demonstrate the knowledge of the characteristics of procurement practice in different organisational environments.
- Determine the key issues surrounding global sourcing.

13. HOW THE COURSE WILL BE DELIVERED

The formal timetabled components of the course comprise of 42 hours of lectures and tutorials.

14. HOW THE COURSE WILL BE ASSESSED

The students will be expected to sit a 3 hour examination consisting 70 per cent of the marks and an assignment making up 30 per cent of the marks.

15. TOPICS

1. The role and scope of procurement and supply chain management (SCM)
2. the evolution and development of procurement and supply chain management
3. key variables governing effective procurement and supply chain management
4. source selection and management
5. procurement performance measurement
6. procurement research
7. outsourcing
8. international procurement
9. ethical dilemmas in procurement
10. legal aspects of procurement and SCM
11. public sector procurement

16. Prescribed Book

- Baily, P., Farmer, D., Crocker, B., Jessop, D., and Jones, D(2008) *Procurement Principles and Management* 10th edition. FT Prentice Hall
- Lysons K and Farrington B (2006) *Purchasing and Supply Management,* 7th edition, FT Prentice-Hall
- Day, M (editor) (2003) *Handbook of Purchasing Management,* 3rd edition, Gower
- Baily, Farmer, Jessop and Jones, (2005), *Purchasing Principles and Management,* 9th edition, FT Prentice-Hall

MILLENNIUM UNIVERSITY

COURSE OUTLINE

1.	**Programme**	**BSc E Commerce**
2.	**Department**	**Computer Science**
3.	**Course Title**	**Algorithmic and Design and Problem**
4.	**Course Code**	**ECOM2302**
5.	**Course Duration**	**Semester**
6.	**Lecture hours per week**	**3**
7.	**Tutorial Hours per week**	**1**
8.	**Course Credits**	**3**
9.	**Level**	**3**
10.	**Method of assessment**	**Final Examination 60%** **Continuous Assessment 40%**

11. COURSE AIMS

The aims of this course are:

- To introduce the notion of an algorithm and to help the students see computer programs as algorithms albeit written in a format understandable to a computer or programmer.
- To extend the use of top down design and stepwise refinement techniques in algorithm design.
- To illustrate the use of flowcharts and pseudo code in expressing an algorithm and their mapping onto imperative code.
- To introduce the students to a variety of sorting and searching algorithms.
- To provide an intuitive feel for the workings of some algorithms by executing them on a functional language interpreter.
- To explore the ideas of algorithm performance and efficiency.

- To encourage the students to think on how certain problems or puzzles may be represented and solved, first on paper and afterwards how this representation and solution could be mapped onto data structure and algorithm.
- To introduce and explore issues relating to state based search.

12. LEARNING OUTCOMES

On successful completion of the course, students will be able to:

- Design algorithms for some simple problems.
- Be well grounded in the use of top down design, stepwise refinement and the use of modularity.
- Use structure charts in top down design and describe an algorithm with flowcharts and pseudo code.
- Have knowledge of several sorting and searching algorithms.
- Analyse some algorithms estimate their run time performance.
- Implement some algorithms in a functional language. This will also result in a basic competency in an alternative programming paradigm.
- Analyse some puzzles and demonstrate how state based search can be used to find a solution.
- Have knowledge of two quite different computational paradigms

13. HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

14. HOW THE COURSE WILL BE ASSESSED

Description	Weight [%]
Exam	60
Non Exam	40

15. TOPICS

1. Notion of an algorithm, difference between an algorithm and a program.
2. More on top down design, stepwise refinement, structure charts. Algorithm description using pseudo code and flowcharts. Translating flowchart or pseudo code into imperative code.
3. Specify and design elementary sorting and searching algorithms, and introduce binary search trees. Implementation of these algorithms in a functional language.
4. Performance analysis of simple algorithms. Imperative versus functional paradigm.
5. Puzzles, problem solving stages, eight-puzzle. State space, state representation and state space search.

16. Background Reading and Resource List

- **Algorithmic composition : a guide to composing music with Nyquist**

Simoni, Mary Ann Arbor, MI : University of Michigan Press, 2012

- **Algorithmic information theory mathematics of digital information processing**

Seibt, Peter. Berlin ; New York : Springer, c2006.

MILLENNIUM UNIVERSITY

COURSE OUTLINE

1.	**Programme**	**BSc E Commerce**
2.	**Department**	**Computer Science**
3.	**Course Title**	**Database Techniques**
4.	**Course Code**	**ITC2303**
5.	**Course Duration**	**Semester**
6.	**Lecture hours per week**	**3**
7.	**Tutorial Hours per week**	**1**
8.	**Course Credits**	**3**
9.	**Level**	**3**
10.	**Method of assessment**	**Final Examination 60%**
		Continuous Assessment 40%

11. COURSE AIMS

In today's world, data is power, but the real secret to success is having power over your data. Effective data storage and retrieval skills is must have for any IT specialist as databases are so ubiquitous, therefore students need to understand the fundamentals of designing and building robust and flexible database applications. This course aims to start to develop the student's ability to apply system building tools and techniques in order to eventually construct high quality systems to meet the needs of business. The course is practically based and uses a case study approach to give students the grounding they require to take courses at a higher level.

12. LEARNING OUTCOMES

On completing this course successfully you will be able to:

- Prepare a database design to model a given user requirement.
- Map a database model to a database schema.
- Use the basic facilities of a Relational Database Management System to construct a database.
- Build and test a variety of database queries.

13. HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

14. HOW THE COURSE WILL BE ASSESSED

A 2-hour closed book examination (70%)
Coursework: 3000 words. A theoretical and practical exercise of designing and implementing a relational database. (30%)
In order to achieve a Pass mark in the course, students must normally achieve a mark of at least 35 in both their coursework and their examination, with an overall mark of 40 or above. In order to be eligible for a Compensatable Fail mark for the course, students must normally achieve a mark of at least 30 in both their coursework and examination, with an overall mark between 35-39.

15. TOPICS

1. Database technology, its principles, benefits, techniques and practical applications.
2. Relational Database Management Systems.
3. Basic Database modelling (ERD); tables, attributes, relationships, keys.
4. Database schema design.
5. Structured Query Language (SQL).

16. Prescribed Book

- An introduction to database systems - Date, C. J. 2004 Book
- Database systems: a practical approach to design, implementation, and management - Connolly, Thomas M., Begg, Carolyn E. c2010 Book
- Database design and programming with Access, SQL, Visual Basic and ASP. - Carter, John 2003 Book

ECOM2401- Logic in Computer Science

Department	**Computer Science**
Course Code	**ECOM2401**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**3**
Method of assessment	**Final Examination and Assignment**

COURSE AIMS

- To introduce the notation and concepts of formal logic.
- To describe and emphasise the role of formal logic in Computer Science and Information Systems.
- To promote the importance of formal notations as the necessary means of ensuring clarity, precision and absence of ambiguity.
- To provide a solid foundation for courses that make use of formal logic such as artificial intelligence, formal methods, knowledge representation, multi-agent systems, ontology languages, and advanced web technologies.

LEARNING OUTCOMES

At the end of this course the student should be able to:

- Translate natural language descriptions and reasoning processes to and from logical equivalents in the propositional and predicate logic.
- Evaluate first-order predicate logic formulae in relational stuctures and understand the relationship to relational databases.
- State and apply a proof system (either tableaux or sequent) for propositional and predicate logic.

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

HOW THE COURSE WILL BE ASSESSED

Two class tests (eac h 25 minutes) will be used to provide students with formative and summative feedback on their understanding of the material and methods taught on this course. A written examination at the end of the course will assess the academic achievement of students.

Written examination 80%
2 Class Test 10% each: 20%

TOPICS

1. Introduction: the unusual effectiveness of logic in computer science

2. Propositional logic

   (a) Reminder: syntax and semantics of propositional logic,

   (b) SAT, logical consequence, logical equivalence, and normal forms,

   (c) a proof system for propositional logic.

3. Introduction to First-order Predicate Logic

   (a) syntax of first-order predicate logic,

   (b) semantics of first-order predicate logic,

   (c) evaluating first-order predicate logic and relational databases,

   (d) a proof system for first-order predicate logic,

(e) undecidability of first-order predicate logic.

4. Outlook: the unusual effectiveness of logic in computer science

Prescribed Book

- Michael Huth and Mark Ryan, Logic in Computer Science: Modelling and Reasoning about Systems. Cambridge University Press (most recent edition).
- John Kelly, The Essence of Logic. Prentice Hall (most recent edition).

ECOM2402- Operating Systems Concepts

Department	**Computer Science**
Course Code	**ECOM2401**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**3**
Method of assessment	**Final Examination and Assignment**

COURSE AIMS

This course will serve as an introduction to Operating Systems. It provides an overview of the major components of a computer system and their interaction with the systems software. The course provides a fundamental understanding of the concepts of operating systems. Students will also learn how and why operating systems have evolved over years and the impact this has had on modern operating systems. The concepts will be reinforced with practical laboratory exercises in operations systems functionality, user interaction and management. This will be further backed up by a focus on command line interaction with various operating systems. Practical assignments will be given to develop practical operating systems skills. The course will, at a basic level introduce networked, client-server and

distributed operating systems to the student. The course will provide the fundamentals for Advanced Operating Systems and the groundwork for other courses in computer science that assume a general understanding of operating systems principals and practice.

The aims of this course are to:

- Introduce the student to the principals of operating systems design.
- Give the students a working knowledge of a modern operating system
- Provide the student with a sound knowledge of the various components and interactions of a modern operating system
- Facilitate a competency in practical interaction with an operating system

LEARNING OUTCOMES

On completing this course successfully you will be able to:

- Explain the benefits of an operating system in a computing environment
- List and describe the major components of an operating system and their basic functions
- Discuss the fundamental trade-offs involved in the design of operating systems
- Differentiate between the concept of processes and threads of control
- Classify scheduling policies with examples from different operating systems
- Appraise memory management techniques and virtual memory implementations
- Examine various file systems and illustrate their relationship with the IOCS
- Compare and contrast the strengths and weaknesses of different modern operating system
- Discuss networked, client-server and distributed operating systems and how they differ from single user operating systems
- Display and perform proficient command line interaction with various operating systems

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

HOW THE COURSE WILL BE ASSESSED

Description	Weight [%]
Non Exam	40
Exam	60

TOPICS

1. Introduction: Definition of an operating system, abstract views of an operating system, functions of an operating system, event-driven systems, efficiency & system performance goals, evolution of operating system designs, classes of operating systems and examples of operating systems.
2. Process and Threads: Process and programs, programmer?s view of processes, operating systems view of processes, concurrency, process states, thread of control,

interacting processes.

3. Scheduling: Non pre-emptive scheduling policies, pre-emptive scheduling policies, scheduling in practice, real-time scheduling, example scheduling in UNIX, Linux and Windows.
4. Memory Management: Memory hierarchy, address spaces, static and dynamic memory, memory allocation to a process, continuous memory allocation, non-continuous memory allocation, swapping and relocation, paging, segmentation, paging with segmentation. Virtual memory basics, demand paging, page replacement policies, memory allocation to a process, page faults.
5. File System & IOCS: Files and file operations, directories and directories operations, pathnames and filenames, multiple file systems, file types, file sharing, links and shortcuts, file locking, file attributes, disk structure, examples of UNIX, Linux and
6. Windows file systems. Architecture of the IOCS, device drivers, types of devices, buffering, device driver structure.
7. Multiprocessor Systems: Multiprocessor systems, multicomputer systems, clients and servers, distributed file systems, distributed processing, introduction to thin client computing.
8. Laboratory Work: In addition to the lecture material studied in class, a weekly lab session focusing on Linux and UNIX-like operating systems will be scheduled. This session will be a hands-on approach to understanding and using the basics of Linux and UNIX-like operating systems. Topics covered include basic Linux commands, working with file systems, process management, proficient knowledge of the vi editor, working with shells, a brief introduction to shell scripting.

Prescribed Book

- Silberschatz, Abraham. Hoboken, N.J. : Wiley, 2013. 9th ed., international student version.

- iOS 8 for programmers : an app-driven approach with Swift. Deitel, Paul J.Harlow ; U.K. Pearson Education, 2014. Third edition.

ECOM2403- Database Development

Department	**Computer Science**
Course Code	**ECOM2403**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**3**
Method of assessment	**Final Examination and Assignment**

COURSE AIMS

The aim of this course is develop students' ability to design, implement and test database transaction code, employ appropriate database abstraction strategies and utilise stored procedures and triggers.

LEARNING OUTCOMES

On completion of the course a student should be able to:

- Encapsulate procedural database operations using stored procedures, stored function and triggers.
- Demonstrate an understanding of basic transaction management, and an ability to construct transactions in a database-oriented program.

- Demonstrate an understanding by constructing a data access abstraction layer in an application program.
- Demonstrate an understanding of a selected set of current database development technologies and issues

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

HOW THE COURSE WILL BE ASSESSED

Coursework; weighting% - 100; pass mark - 40%;

TOPICS

1. Database Procedural Programming
2. Stored Procedures, Functions, Triggers, DB Objects, Cursors, Collection Objects, Packages
3. JDBC and Database Objects
4. Connection, Statements, Processing Result Sets, Accessing Stored Procedures
5. Contemporary Database Development Topics
6. Case Studies, Best Practice, New Technologies
7. Database Abstraction
8. Abstraction, Data Access Objects

Prescribed Book

- Boronczyk, T. 2009, Beginning PHP 6, Apache, MySQL 6 Web Development, Wrox [ISBN: 9780470471395]
- Harrison, G. & Feuerstein, S. 2006, MySQL Stored Procedure Programming, O'Reilly [ISBN: 0596100892]

ICT2402- Data Information and Knowledge

Department	**Computer Science**
Course Code	**ICT2402**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**3**
Method of assessment	**Final Examination and Assignment**

COURSE AIMS

To ensure the students become familiar with the wide range of database systems demonstrate an ability to use them and write programmes around them aimed at delivering solutions to business that provide information and, directly or indirectly, knowledge to the business and out along its supply chains. To further ensure that students are able to manage, prepare process and present data that informs and supports business decision-making.

LEARNING OUTCOMES

On completion of the course a student should be able to:

1. Demonstrated an extended understanding of and able to classify the main architectural components of business information technology systems.
2. Demonstrated the ability to apply the theory and practice of database design to a given business problem following a detailed analysis of need and explored the various options available for the implementation.
3. Demonstrated the ability to apply the theory and practice of systems design to a given business problem following a detailed analysis of need and explored the various options available for the implementation.
4. Understand and able to devise systems that integrate both contemporary and legacy software to provide solutions to business problems.
5. Demonstrate SFIA level three competences in the commercial application of business

scale database products and their associated software development.
6. Able to apply software development (programming) principles in two or more programming languages.
7. Able to understand and observe the need for change control, version control and release management in the evolution of systems.
8. Demonstrate an ability to develop and deploy test plans up to level 3 of the SFIA framework.

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

HOW THE COURSE WILL BE ASSESSED

Coursework 1 - 50% weighting. 3000 words. Assignment report.
Coursework 2 - 50% weighting. 3000 words. Case Study Project.
40% overall pass mark.

TOPICS

1. The natures of DATA, INFORMATION & KNOWLEDGE
2. Database design methods practices and theories
3. Normalisation
4. SQL
5. Introduction to Data mining methods and systems
6. Database servers and systems, database as backend to WEB sites and as other information systems Programming for DB applications
7. ORACLE and SQL server languages and nuances
8. Legacy systems on Mainframe
9. Mini and company servers
10. Systems integration methodologies
11. Systems analysis, documentation of developments with databases.
12. Web programming
13. Web design
14. Portal technologies.
15. Functions and uses of DBMS and comparisons with file-based approach database language data models and conceptual modelling relational model and object model databases.
16. Data representation and Meta data.
17. Decision support theory in the context of data gathering, processing and presenting.

Prescribed Book

- Data Rich, Information Poor: *Information Systems: A Manager's Guide to Harnessing Technology- Chapter 11* Publisher: Flat World Knowledge
- The Business Intelligence Toolkit: *Information Systems: A Manager's Guide to Harnessing Technology- Chapter 11,* Publisher: Flat World Knowledge

- Data Warehouses and Data Marts: *Information Systems: A Manager's Guide to Harnessing Technology- Chapter 11*
- Publisher: Flat World Knowledge: *Information Systems: A Manager's Guide to Harnessing Technology- Chapter 11*: Publisher: Flat World Knowledge

LAWS2410- Information Technology Law

Department	**Computer Science**
Course Code	**LAWS2410**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**3**
Method of assessment	**Final Examination and Continuous Assessment**

DESCRIPTION AND AIM OF COURSE

- Encourage a critical understanding of the features of Information Technology law in four key areas (regulation of Internet content, intellectual property law, cybercrime, and privacy and security
- Offer an opportunity to explore some of the legal and public policy challenges posed by the Internet, and information and communications technology;
- Examine the fundamental principles of law that impact upon regulation in an information society with particular reference to contract, tort, intellectual property, criminal law, privacy, and data protection;
- Present a context within which to investigate the inter-action between substantive law and other forms of regulation.
- consider how fundamental rights operate in a networked environment.

LEARNING OUTCOMES

On completion of the course a student should be able to

Knowledge and Understanding

Having successfully completed this course, you will be able:

- to synthesise the main principles of law in relation to key IT issues (regulation of content online, intellectual property law, cybercrime, and privacy and security).

- to describe the interaction between law and alternative mechanisms for regulating activities in a networked environment.
- to explain the challenges and opportunities for national law in regulating a transnational medium.

Cognitive (thinking)

Having successfully completed this course, you will be able to:

- Analyse the application of substantive law and regulation to IT activities.
- Evaluate critically the effectiveness of law in relation to key IT issues.
- Critically analyse the interaction between law and alternative regulatory mechanisms and actors.
- Assess the social context of IT law and other forms of regulation.

Practical subject-based skills

Having successfully completed the course, you will have:

- Developed research skills and knowledge of technical and legal IT resources in preparation for classes
- Developed the ability to apply substantive IT law to factual problems.
- Developed the ability to critically review national and international IT law and policy, and
- Developed competence in the use of key online and offline IT legal resources.

Key transferable skills:

Having successfully completed the course, you will be able to:

- Undertake critical analysis of legal material
- Research, formulate and propose appropriate reforms of the law
- Communicate and discuss complex ideas and arguments in written and oral form.
- Exercise time management skills.

HOW THE COURSE WILL BE DELIVERED

The formal timetabled components of the course comprise of 42 hours of lectures and tutorials.

HOW THE COURSE WILL BE ASSESSED

The students will be expected to sit a 3 hour examination making up 1000 per cent of the marks.

TOPICS

1. Introduction to Internet Regulation and Governance
2. Data Protection and Online Surveillance
3. Freedom of Expression Online

4. Cybercrime
5. E-Commerce
6. Intellectual Property Rights Online

Prescribed Book

- Murray, A Information Technology Law, (2nd ed, 2013)

Other illustrative texts:

- Lloyd I. Information Technology Law (7th Edn, 2015)
- Graham J H Smith Bird & Bird, Internet Law and Regulation (4th Edition 2007)
- Reed, C Computer Law (7th edition, 2012)
- Bainbridge D, Information Technology and Intellectual Property Law (2014)

ECOM3501- E- Marketing

Department	**Computer Science**
Course Code	**ECOM3501**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**4**
Method of assessment	**Final Examination and Continuous Assessment**

COURSE DESCRIPTION AND AIM

To examine how organisations can use the Internet to support their marketing activities, covering aspects of the subject ranging from environmental analysis to strategy development and implementation.

This course is based on and designed to develop students' skills in critical reading of journal articles and presentational skills (through assessments). Interpersonal skills are developed through teamwork exercises in class and through the group work assignment.

LEARNING OUTCOMES

On completion of the course a student should be able to:

- Understand all the major aspects of marketing on the internet, including internet marketing communications, relationship marketing on the Internet, and online service quality.
- Understand strategic issues and the development of E-marketing performance.
- Discuss and critique marketing case studies that bring various examples from the online marketing world including social media marketing and mobile marketing.

HOW THE COURSE WILL BE DELIVERED

The formal timetabled components of the course comprise of 42 hours of lectures and tutorials.

HOW THE COURSE WILL BE ASSESSED

40 % Case Study- 60 % Examination

ASSESSMENT CRITERIA

Threshold

Satisfactory standard: No major omissions or inaccuracies in the deployment of information/skills. Some grasp of theoretical/conceptual/practical elements. Integration of theory/practice/information present intermittently in pursuit of the assessed work's objectives.

Good

Average Standard: Much of the relevant information and skills mostly accurately deployed. Adequate grasp of theoretical/conceptual/practical elements. Fair integration of theory/practice/information in the pursuit of the assessed work's objectives. Some evidence of the use of creative and reflective skills.

Excellent

Excellent standard: An outstanding performance, exceptionally able. The relevant information accurately deployed. Excellent grasp of theoretical/conceptual/practice elements. Good integration of theory/practice/information in pursuit of the assessed work's objectives. Strong evidence of the use of creative and reflective skills.

TOPICS

1. Defining the field
2. Introduction to the course and e-marketing as a strategic tool
3. E-marketing strategy
4. E-marketing environment
5. Social media marketing
6. The e-marketing mix
7. The consumers perspective
8. The marketers perspective
9. Online retailing
10. Mobile marketing

Prescribed Book

- e-Marketing : applications of information technology and the internet within marketing / Cor Molenaar.
- E-marketing Judy Strauss, Raymond Frost

ECOM3502- Enterprise Systems

Department	**Computer Science**
Course Code	**ECOM3502**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**4**
Method of assessment	**Final Examination and Assignment**

COURSE AIMS

The aims of this course are to gain understanding of various Enterprise Systems courses and how they are able to be applied in a business context. The course will present the evolution, components and architecture of Enterprise Systems and help you to understand the benefits and drawbacks of implementing such systems and how they can assist organisations to improve their overall efficiency. This course will also help you to refine your communication skills and group work skills, and assist you in the development of your research skills.

LEARNING OUTCOMES

On completion of the course a student should be able to:

- Demonstrate an understanding of the issues in systems use of an Enterprise Systems package (e.g. SAP) to support business operations decision making.
- Understand the scope of common Enterprise Systems courses (e.g., MM, SCM, CRM, HRM, procurement),
- Discuss the challenges associated with implementing enterprise systems and their impacts on organisations
- Develop models for selected business process in enterprise systems.
- Communicate and assess an organisation's readiness for enterprise system implementation with a professional approach in written form
- Describe the selection, acquisition and implementation of enterprise systems

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

HOW THE COURSE WILL BE ASSESSED

Coursework 1 - 40% weighting.
Final Exam 60% mark.

TOPICS

1. Introduction to Enterprise Systems
2. Systems Integration + Big Data
3. Enterprise Systems Architecture
4. Development Life Cycle Implementation Strategies
5. Software and Vendor Selection
6. Operations and Post Implementation
7. Program and Project Management
8. Organizational Change and Business Process Reengineering
9. Supply Chain Management and Customer Relationship Management

Prescribed Book

- Enterprise Systems Engineering Advances in the Theory and Practice *Jr., George. Rebovich Brian E White Hoboken : Taylor and Francis, 2010*

- Enterprise systems *for management Luvai F. Motiwalla Jeffrey Thompson 1953- 2nd ed., Boston : Pearson, c2012*

ECOM3503- Software Engineering 1

Department	**Computer Science**
Course Code	**ECOM3503**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**4**
Method of assessment	**Final Examination and Assignment**

COURSE AIMS

The aim of this course is to expand the software engineering techniques from software Engineering I course, and apply them to developing a design specification for a small system.

LEARNING OUTCOMES

On Completion of this course, the learner will be able to:

- Produce a detailed set of Object Oriented Design specifications
- Design Data Management Objects
- Implement a test process and develop test cases
- Identify and apply simple Design patterns in software development
- Relate and apply Design Models for object system development
- Evaluate and use the various tools available to the software engineer

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

HOW THE COURSE WILL BE ASSESSED

Description	Weight [%]
Non Exam	30
Exam	70

TOPICS

1. Refining the Requirements model
2. Class Diagram with attributes, operations and their specification

3. Object interaction and collaboration
4. Representing software behaviour, Sequence Diagram with message modeling
5. Collaboration Diagram
6. Detailed Design , associations, boundary and control classes
7. Software design principles, decomposition, decoupling, cohesion, reuse, and portability
8. Design patterns
9. Testing and project management
10. Tiered architectures

Background Reading and Resource List

- Software engineering metrics
  London ; New York : McGraw-Hill Book Co., c1993-Rating:

ICT3501- Principles of Security

Department	**Computer Science**
Course Code	**ICT3501**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**4**
Method of assessment	**Course Work and Final Examination**

DESCRIPTION AND AIM OF COURSE

In order to be able to operate as an information systems security practitioner, students must understand security threats and how to manage the risk that they may pose to an information system. The aim of the course is to provide students with knowledge of methods for managing security technologies to a recognised international standard e.g the 10 domains of the world-wide CISSP (Certified Information System Security Professional). The real world approach will be provided with the help of articles and scenarios to aid the students.

LEARNING OUTCOMES

On completion of the course a student should be able to

- Understand information systems threats, vulnerabilities and risks.
- Understand the management of creating/maintaining a security policy.
- Appraise methods of deployment of security controls/methods/technologies.
- Determine courses of action to solve problems in real-world security scenarios.

HOW THE COURSE WILL BE DELIVERED

The formal timetabled components of the course comprise of 42 hours of lectures and tutorials. A number of classes are designated to provide students with the opportunity to gain hands on experience of a computerized accounting package.

HOW THE COURSE WILL BE ASSESSED

coursework; grading mode - numeric; weighting% - 100; pass mark - 40; word length -3000; outline details - case study based; last item of assessment

TOPICS

- Issues, threats and their impact on a business environment.

- Risk Management: Identification and analysis techniques as well as control strategies.
- Business Continuity: Contingency planning and disaster recovery planning.
- Compliance with standards/the law/regulatory framework such as Information
- Security Policy: ISO27001 all sections, Computer Misuse legislation (UK, USA).
- Professional and ethical codes of conduct: ACM, BCS, etc.

Prescribed Book

Author	Title	Publisher	Date	ISBN
Whitman,M.E and Herbert, J.M.	Management of Information Security.	Cengage Learning	2010	0-8400-3160-2

ECOM3504- Human Centric Computing

Department	**Computer Science**
Course Code	**ECOM3504**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**4**
Method of assessment	**Final Examination and Assignment**

COURSE AIMS

- To provide guidelines, concepts and models for designing and evaluating interactive systems.
- To provide an introduction to designing and implementing graphical user interfaces.

LEARNING OUTCOMES

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

- Identify or describe the tasks and issues involved in the process of developing interactive products for people, and the techniques used to perform these tasks;
- Identify or describe and compare different styles of interaction for graphical user interfaces
- Evaluate and critique existing interactive systems, in accordance with human-centric guidelines
- Illustrate how event-driven software can be designed using standard, formal techniques
- Construct Web pages that conform to current Web standards
- Write Java programs that demonstrate simple examples of graphical user interfaces.

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

HOW THE COURSE WILL BE ASSESSED

50% Continuous Assessment

50% Final Examination

Continuous assessment will be used to test to what extent p ractical skills have been learnt. A final examination at the end of the course will assess the academic achievement of students.

TOPICS

1. **Introduction**

What is human-centric computing? Principles of Human Computer Interaction; the human in the loop; user models; cognitive issues.

2. **The process of developing interactive products**
    - Lifecycle models; requirements; data gathering involving users; task analysis; design; purpose of evaluation and methods for conducting it.
    - Principles, standards and guidelines for interface design.
    - Case studies of development tasks in practice.

3. **Interactions**
    - Interaction styles: key based, menu based, form fill-in, command languages, natural language, direct manipulation, iconic l anguages.
    - Cultural considerations and constraints.
    - Affective computing; virtual characters; groupware and cooperative activity.

4. **Interface software design**
    - Event-driven software, state transition diagrams, statecharts.

5. **Implementing interfaces**
    - Overview of HTML and CSS; markup validation for Web standards.
    - Graphical user interfaces in Java: the Java AWT and Swing packages, components of GUIs; events and event-handlers; the Model-View-Controller architecture; Java applets.

Recommended Texts

- B. Shneiderman, C. Plaisant, M. Cohen, and S. Jacobs: *Designing the user interface: strategies for effective human-computer interaction*. Addison-Wesley (latest edition).
- Y. Rogers, H. Sharp, and J. Preece: *Interaction design: beyond human-computer interaction*. John Wiley (latest edition).
- R. Morelli and R. Wade: *Java, Java, Java: object-oriented problem solving*. Pearson/Prentice Hall (latest edition).

ECOM3601- Research Methods

Department	**Computer Science**
Course Code	**ECOM3504**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**4**
Method of assessment	**Assignment and Final Examination**

COURSE AIMS AND DESCRIPTION

The aim of the course is develop a critical appreciation of research methods and their applications in a business information management environment. Students will be able to demonstrate how to select appropriate methods, data collection and analysis techniques appropriate to meet research aims and objectives. Students will also develop literature searching and evaluation techniques which will then be applied in an in depth investigation. This investigation is designed to provide students with the opportunity to explore the technology and business issues involved in the development and implementation e-business initiatives in a turbulent business environment. Students will also develop an understanding of how e-business concepts and strategies are applied in a real case study requiring the application of appropriate research and analysis techniques.

The course will introduce students to qualitative and quantitative research methods and research project management. Students will also develop the ability to carry out small-scale research and reflect on the role of research. They will explore recent and current research in a subject related to business information management, as context for carrying out their own research.
They will also have the opportunity to research in some depth aspects of the rapidly changing e-business environment. This will enable them to critically evaluate e-business concepts and strategy.

LEARNING OUTCOMES

On completion of this course the student will be able to:

- Demonstrate, and apply secondary research methods using appropriate language, references and arguments.
- Critically evaluate various research approaches, methods and techniques.
- Understand and evaluate the strategic importance of Internet technology in the transformation of business models, the development of virtual organisations and how the Internet impacts the value chain.
- Explain and critically evaluate business concepts such as supply chain management, e-procurement and customer relationship management in an e-business context.

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials.

HOW THE COURSE WILL BE ASSESSED

Students will sit a 3 hour examination and submit an assignment.

TOPICS

The Role of Secondary Research
Literature searching
Reviewing literature
Structured Literature Reviews

Nature of Research
Research approaches and methodologies;
Research strategies and design;
Research methods
Data analysis
Planning

Strategy
Strategy development for e-business;
E-business model development;
Value chain / value system analysis;

Evaluation of E-business Concepts
Virtual organisations;
Virtual value chains and systems;
Supply chain management;
Customer relationship management

Prescribed Book

Chaffey D. (2011), E-Business and E-Commerce Management, 5th Edition, Harlow, Prentice Hall.

Crotty, M. (1998) The foundations of social research: meaning and perspective in the research process. Sage

Gill, J. & Johnson, P. (2010) Research methods for managers. 4th ed. Sage.

Hart, C. (1998) Doing a literature review: releasing the social science research imagination. Sage.

Hussey, J. & Hussey, R. (2003) Business research: a practical guide for undergraduate and postgraduate students. 2nd ed. Macmillan Business

Li Feng (2007) What is e-Business?: How the Internet Transforms Organizations, Blackwell

Oates, B. J. (2006) Researching information systems and computing. Sage
Pickard, A J (2007) Research methods for information. Facet

Turban E., King D., McKay J., Marshall P., Lee J. & Viehland D. (2008), Electronic Commerce: A Managerial Perspective. Prentice Hall

Journal Articles
Levy Y. and Ellis T.J. (2006) A Systems Approach to Conduct an Effective Literature Review in Support of Information Systems Research, Information Science Journal Vol.9 (181-212)

ECOM3602- Distributed Systems

Department	**Computer Science**
Course Code	**ECOM3602**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**4**
Method of assessment	**Assignment and Final Examination**

DESCRIPTION AND AIM OF COURSE

This course is intended to provide an understanding of the technical issues involved in the design of modern distributed systems. Besides conveying the central principles involved in designing distributed systems, this course also aims to present some of the major current paradigms (see learning outcomes below).

LEARNING OUTCOMES

At the end of the course the student will be expected to have:

- an appreciation of the main principles underlying distributed systems: processes, communication, naming, synchronisation, consistency, fault tolerance, and security.
- familiarity with some of the main paradigms in distributed systems: object-based systems, file systems, and coordination-based systems.

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials.

HOW THE COURSE WILL BE ASSESSED

20% Coursework

80% Final Examination

TOPICS

1. Introduction to Distributed Systems

   - Hardware concepts (multiprocessor & multicomputer systems)
   - Software concepts (operating systems & middleware)
   - Client-Server model

2. Communication

- Layered protocols
- Remote procedure calls & object invocation
- Message- & stream-oriented communication

3. Processes

- Threads
- Clients & servers

4. Naming

- Naming entities
- Locating mobile entities

5. Synchronisation

- Logical clocks & clock synchronisation
- Election algorithms
- Mutual exclusion
- Distributed transactions

6. Consistency and replication

- Overview of consistency models
- Distribution protocols
- Consistency protocols

7. Fault tolerance

- Failure masking by redundancy
- Reliable client-server communication
- Recovery

8. Security

- Secure channels
- Access control

9. Object-based Systems

- Two examples (CORBA and Java RM!) of an object-based system will be discussed and compared

10. File systems

- Two examples (NFS and Coda) of a distributed file system will be discussed and compared

11. Coordination-based systems

- Two examples (TIB/Rendezvous and Jini) of a coordination-based system will be discussed and compared

Background Reading and Resource List

- Andrew S Tanenbaum, Maarken van Steen Distributed Systems: principles and paradigms, Prentice Hall (also available from Pearson Education), 2002.

ECOM3603- E- Advertising

Department	**Computer Science**
Course Code	**ECOM3603**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**4**
Method of assessment	**Assignment and Final Examination**

DESCRIPTION AND AIM OF COURSE

The course provides a comprehensive overview of advertising and promotion from an integrated marketing communications (IMC) perspective. It creates a clear understanding of traditional advertising and promotional tools, and shows how other key elements within the marketing communications mix (e.g., advertising, direct marketing, promotion and the Internet) can be integrated. Attention is given to key subjects such as market research, media planning, creative strategies for traditional and non-traditional markets, advertising agency practices, competitive positioning, and how each influences the effectiveness of an advertiser's campaign. A primary goal of the course is to shift the perceptual focus of class members from an audience to creators of advertising and promotion strategies for businesses. There is a hands-on practicum in which class participants prepare advertising campaigns for clients.

LEARNING OUTCOMES

On completion of the course a student should be able to:

- To develop a clear understanding of traditional advertising and promotional tools.
- To understand how key elements within the marketing communications mix (e.g., advertising, promotion, direct marketing and the Internet) are integrated.
- To learn how consumer behavior, creative strategies, the communication process, market research, and program evaluation tools are used to design effective advertising and promotion programs.
- To know how broadcast media (e.g., television, radio), print media (e.g., magazines, newspapers), support media (e.g., outdoor advertising), direct marketing (e.g., postal mail), and interactive media (e.g., the Internet) are used in advertising and promotion.
- To translate theory into practice by analyzing a number of pragmatic examples and case studies of real-world advertising experiences.
- To participate in a hands-on practicum in advertising and promotion by preparing an advertising campaign for a client.
- To shift the perceptual focus of class members from an audience (as when watching television commercials or reading magazines) to creators of advertising and promotion strategies for businesses.
- To become familiar with the social, ethical and economic aspects of advertising and promotion.

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials.

HOW THE COURSE WILL BE ASSESSED

- **Exercises: 30%**
  The ability to apply the knowledge and skills of new media technologies
- **Project: 50%**
  The ability to demonstrate an understanding of online usability by creating and designing online contents for advertising purposes with good time management
- **Class participation: 20%**
  The commitment to participate in all lectures, workshops and contribute to class discussions

TOPICS

This subject introduce students different forms of online technologies:

1. Email, banner ad, website, forum, newsgroup, search engine etc.
2. Usability engineering: process of developing usable websites
3. Design online customer experience
4. Online branding through case studies; and
5. Beyond the Internet: design in a converging world.

Prescribed Book

- Chak, A. (2003). *Submit now: Designing persuasive web sites*. New Riders Press.
- Curran, S. (2003). *Convergence design: Creating the user experience for interactive television wireless and broadband.* Massachusetts: Rockport Publishers.
- Nielsen, J. (1999). *Designing web usability: The practice of simplicity*. CA: New Riders Press.
- Krug, S. (2000). *Don't make me think: A common sense approach to web usability*. CA: New Riders Press.
- Lynch, J. & Horton, S. (2002). *Web style guide: Basic design principles for creating web sites.* Yale University Press.

- Roberts, R. (2005). *sisomo: The future on screen*. New York: Power House Books.
- Plummer, J., Rappaport, S., Hall, H. & Barocci, R. (2007). The Online Advertising Playbook. WILEY.

Magazines / Journal

- Communication Arts
  Creativity

Internet References / Web Sites

www.designinteract.com

www.commarts.com

www.creativity-online.com

www.bannerblog.com.au

www.marketing-interactive.com

www.adverblog.com

www.adsoftheworld.com

www.oneclub.com

www.newwebpick.com

www.thefwa.com

ECOM3604- Advanced Object Oriented Programming

Department	**Computer Science**
Course Code	**ECOM3603**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**4**
Method of assessment	**Assignment and Final Examination**

DESCRIPTION AND AIM OF COURSE

To introduce data structures and advanced programming language features within the context of a high-level programming language (Java). To demonstrate principles, provide indicative examples, develop problem-solving abilities and provide students with experience and confidence in the use of advanced features to implement algorithms in a contemporary software setting.

LEARNING OUTCOMES

By the end of this course, students should: be familiar with data structures and advanced programming concepts within Java; should be able to carry out the construction of software artefacts utilising these concepts; and should be capable of carrying out the development of complex elements, such as user interfaces, multiprocessing, and fault-tolerant components.

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials.

HOW THE COURSE WILL BE ASSESSED

Written examination 50% - 2 practical exercises each worth 25% of the final grade: 50%

TOPICS

1. Overview of object-oriented languages and Java
2. Abstract Data Types
3. Classes and class hierarchies in Java
4. Robustness and error-handling
5. Concurrency
6. Input/Output and Network Programming in Java [6 lectures]

Prescribed Book

Ralph Morelli. Object-Oriented Problem Solving: Java, Java, Java. 2nd edition, Prentice Hall,

2003.

ECOM3605- E- Commerce Group Project

Department	**Computer Science**
Course Code	**ECOM3605**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**4**
Method of assessment	**Final Examination and Assignment**

OUTLINE DESCRIPTION OF COURSE

Students will work in small groups to produce a working e-Commerce software application. The deliverables and working methods will be prescribed. The aims of the course are:

- To provide experience of group working
- To provide experience of all aspects of the development of a moderately sized software system.
- To prepare students for their individual projects
- To consolidate material from the earlier semesters

.LEARNING OUTCOMES

On completion of the course a student should be able to:

- An understanding of working as part of a team.
- Improved personal, interpersonal and communication skills.
- A more in depth understanding of the process of the software development process especially in the context of e-Commerce applications.
- An ability to specify the requirements of an e-Commerce software system.
- Experience in the design of an e-Commerce software system.
- Practical experience in the implementation and evaluation of a moderately sized software system.
- An awareness of project management issues.
- Understanding of the process and role of software documentation
- Experience in the writing of a sizeable report on a software project.

HOW THE COURSE WILL BE DELIVERED

The formal timetabled components of the course comprise of 42 hours of lectures and tutorials.

HOW THE COURSE WILL BE ASSESSED

Intermediate deliverables and project report 100%

TOPICS

1. Introduction to the project framework
2. Meeting skills
3. Project planning
4. Project monitoring
5. Requirements Specification for e-Commerce applications
6. Presentation skills
7. Design considerations for e-Commerce applications
8. Group dynamics and negotiation; Quality management
9. Configuration management
10. Documenting testing
11. Report writing.

Prescribed Book

- C. W. Dawson, Computer Projects: A Student's Guide. Prentice Hall 2000.

ECOM4701- Internet Principles

Department	**Computer Science**
Course Code	**ECOM4701**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**5**
Method of assessment	**Final Examination and Assignment**

COURSE AIMS

- To introduce networked computer systems in general, and the Internet in particular.
- To introduce the basic principles that govern their operation.
- To introduce the design and organisation principles of successful computer networks.
- To introduce the key protocols and technologies that are used in the Internet.

LEARNING OUTCOMES

On completion of the course a student should be able to:

By the end of this course, students should:

1. Understand the basic theoretical principles of computer communications networks (eg the notion of band width, Shannon's law etc)
2. Understand how the notion of layering and abstraction apply to the design of computer communication networks
3. Understand the structure and function of the OSI seven layer model of computer networks
4. Understand the organisation of the Internet, and how this organisation relates to the OSI seven layer model
5. Understand the principles of the key protocols that govern the Internet.

HOW THE COURSE WILL BE DELIVERED

The formal timetabled components of the course comprise of 42 hours of lectures and tutorials.

HOW THE COURSE WILL BE ASSESSED

Students will sit a 3 hour examination (70%) and complete a written assignment totalling (30%) of the mark. Continuous assessment will be used to test to what extent practical skills have been learnt, in particular, assessment tasks will be solved individually or in small groups. A wr itten examination at the end of the course will assess the academic achievement of students.

TOPICS

1. Introduction to Computer Networks and the Internet
2. The OSI seven layer model:
    a. application & presentation layers, including DNS, email, WWW, and multimedia protocols
    b. the transport layer – including the TCP & UDP protocols
    c. the network layer - including routing and congestion handling, quality of service
    d. the data link layer – including error correction, and the medium access sublayer
    e. the physical layer – physical communications media
3. Network security issues, including public key encryption, cryptography, authentication & integrity.

Prescribed Book

James F. Kurose and Keith W. Ross (2010): Computer Networking: A Top-Down Approach (5th edition), Addison-Wesley.

ECOM4702- Software Development Tools

Department	**Computer Science**
Course Code	**ECOM4702**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**5**
Method of assessment	**Final Examination and Assignment**

COURSE AIMS

- To introduce students to a range of techniques and tools, beginning to be used in modern, large-scale industrial software development.
- To provide coverage of tools already being used in industrial settings.
- To describe how the development and deployment of high quality, robust products is supported through software development tools.

LEARNING OUTCOMES

At the end of the course the student should be able to:

- express the general ideas, advantages, and methods of using software development tools;
- use Ant, JUnit and Eclipse both individually and jointly as tools for Automated Testing, Continuous Integration and Test Driven Programming;
- solve problems related to Automated Testing, Continuous Integration and Test Driven Programming using software development tools JUnit, Ant and Eclipse.

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

HOW THE COURSE WILL BE ASSESSED

Written examination 80%
Class test 10%
1 Lab based assessment 10%

TOPICS

The course will cover the following aspects of modern contemporary software engineering. Each one will be analysed in terms of its utility in software development, its implementation in a specific software tool. (Note that this list of topics is indicative only.)

1. Introduction and general methodological questions
2. Source code control
3. Web testing tools
4. Eclipse and Java
5. Eclipse and JUnit
6. Introducing Ant
7. Ant: Datatypes and Properties
8. Ant: Nested Builds
9. More on Testing and JUnit
10. Ant, Testing and JUnit
11. Ant: Capturing JUnit test results
12. Eclipse an d Ant

Prescribed Book

- E. Hatcher and S. Loughran: *Java Development with Ant*. Manning Publications (most recent edition) or
- S. Loughran and E. Hatcher: *Ant in Action*. Manning Publications (most recent edition).
- D. Gallardo, E. Burnette and R. McGovern: *Eclipse in action : a guide for Java developers*. Manning Publications (most recent edition).
- P. Tahchiev, F. Leme, V. Massol and G. Gregory: *JUnit in Action.* Manning Publications (second or most recent edition).
- Further reading:
- R. Hightower and N. Lesiecki: *Java Tools for Extreme Programming*. Wiley (most recent edition).
- K. Beck: *Test Driven Development*. Addison-Wesley (most recent edition).

ICT4702- E- Business Innovation and Evolution

Department	**Computer Science**
Course Code	**ICT4702**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**5**
Method of assessment	**Final Examination and Assignment**

COURSE DESCRIPTION AND AIMS

Students entering the business management world where IT remains the largest transformational business force will often be challenged to innovate and develop new business models that exploit the capabilities of e-business in the context of the wider digital economy and it various facets. This course will equip students with the knowledge and skills to innovate and evolve, to present and justify concepts ideas and methods to a variety of audiences. They will learn how to design and build e-business models and take a creative leadership role in deploying IT for Business to Consumer and Business to Business value.

The broader aims of the course are:

- To equip students with high level skills, capabilities and knowledge that would enable them to contribute strongly to innovation and change in increasingly technology centred organisations, and to be able to relate to and communicate within the context of innovation and business evolution.
- To investigate state of the art technology in e-business from both a theoretical and practical standpoint.
- To examine a range of e-business models focussing on how they interact with each other in supporting the various business activities
- To examine technology innovation and evolution, and how they affect Business to Business and Business to Consumers applications.

LEARNING OUTCOMES

On completion of the course a student should be able to:

Academic Knowledge

- Show a systematic, reflective and integrative understanding of the ways in which Information and Communication Technology (ICT) can influence e-business development. +lt01.
- Understand the role of enterprise and innovation, and the concept of innovation networks, in business and organisational success. +lb02.
- Understand, evaluate and reflect upon the key issues and problems of business

application development, and the need for higher level skills that support innovation and the evolving business. +lt08/+lt01.

- Understand and be able to relate the consequences of e-business innovation with respect to economic growth, employment, and international competitiveness. +lb02.
- Show a comprehensive and holistic understanding of business model innovation and evolution. +lt01.

Intellectual Skills

- Demonstrate a conceptual grasp of a range of e-business models. +lb06/+lt01.
- Critically evaluate a range of industrial applications in relation to current e-business literature. +lt01.
- Critically analyse innovation practice and theory in a variety of contexts. +lt01/+lt07.
- Critically evaluate organisational and management issues concerned with innovative product, service and process innovation. +lt06.
- Subject Practical Skills
- Develop and systematically apply innovation and wider creative methods, models, and techniques to support innovation in the evolving organisation. +lb05/+lb03/.
- Critically evaluate innovation practice and processes, and their relationship to current strategic practice. +lb04/+lb05/+lb03/+lp03/+lb01/+lp04.
- Demonstrate innovation practice in a small range of organisational contexts. +lb05/+lb03/+lp03/+lb01/+lp04/+sb02/sb05/lp02.
- Critically evaluate and be able to deploy key drivers of and success factors for successful e-business innovation in the context of the modern business environment. +lt08.

Transferable Skills

- Independently gather, examine synthesis and organise material from a variety of sources, and critically evaluate the extent to which it might contribute to current developments in the field. +li07/+li04.
- Demonstrate an ability to collaborate effectively with other through team work. +sb02/+sb03/+sp04.
- Prepare a coherent and well structured written report and deliver an oral presentation on research findings. +li02/+li01.

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

HOW THE COURSE WILL BE ASSESSED

Coursework 1 - 30%, 3000 words. Individual report.
Coursework 2 - 30%, 3000 words. Group report and presentation.
Exam - 40%

TOPICS

1. Business model innovation and evolution
2. Innovation and entrepreneurship
3. SME and e-business
4. Network organisation and service ecosystems
5. Services innovation
6. Innovation and diffusion
7. Innovation and performance
8. Principles of innovation and wider theoretical perspectives
9. Managing innovation as part of product and process development and wider business improvement.
10. Harnessing and managing creativity across organisations.

Prescribed Book

- Management and innovation of e-business, A. Cordella, A. Martin, M. Shaikh S. Smithson, IS3167, 2790167, 2011
- The E-Business (R)evolution: Living and Working in an Interconnected World (2nd Edition)2nd Editio by Daniel Amor

ECOM4703- Advanced Web Technologies

Department	**Computer Science**
Course Code	**ECOM4703**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**5**
Method of assessment	**Final Examination and Assignment**

COURSE AIMS

- To provide guidelines, concepts and models for designing and evaluating applications utilising advanced web technologies
- To introduce Artificial Intelligence and Semantic Web techniques which can be applied to the application of advanced web technologies
- To introduce the notion of semantic web applications intended to be used by software.

LEARNING OUTCOMES

On successful completion of the course the participant will have developed:

- Have an understanding of the basic formal methods and techniques for designing and implementing advanced web applications
- Have an appreciation for Artificial Intelligence and Semantic Web research related to advanced web technology applications
- Be able to apply specific methods and techniques in the design and development of an application of advanced web technology for a case study

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

HOW THE COURSE WILL BE ASSESSED

20% Continuous Assessment

80% Final Examination

TOPICS

1. Introduction to advanced web technologies
2. Search engines and search issues
3. XML processing
4. RDF
5. OWL and its applications
6. SPARQL
7. Ontology modelling
8. Linked data and their applications

Prescribed Book

- Web design in a nutshell : a desktop quick reference / Jennifer Niederst.
- Castledine Earle, Sharkie CraigJQuery Novice to Ninja, Sitepoint 2012 978-0-98711530-1-2
- Forta Ben, MySQL Crash CourseSams 2006 978-0-672-32712-4
- Gotz, VeruschkaColor & type for the screen, Digital Media Design 1998 2880463297
- Yank KevinPHP & MYSQL Novice to Ninja, Sitepoint 1012 978-0-9871530-8-1

ECOM4704- Dissertation

Department	**Computer Science**
Course Code	**ECOM4704**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**5**
Method of assessment	**20% Oral Presentation**
	80% Supervisor's Assessment of the Project

COURSE AIMS AND OBJECTIVES

The aim of this course is to enable students to develop research skills and produce an original piece of academic work in their selected area.

1. Project Structure and Content

A. Students in consultation with members of staff will select an area of interest in which they would like to pursue a research project and they will then be assigned a member of staff as a supervisor. The supervisors will be allocated in accordance with their areas of specialization. The dissertation topic will be sufficiently well focussed to facilitate an in depth study but broad enough to develop an informed overview of the topic area. The supervisor will among other things assist the student in:

- clarifying the objectives of the research
- suggest study topics and information sources
- review the proposed methodology
- establish a time table for the research
- advise the student about appropriate standards and data analyses
- Review draft copies of the dissertation and provide feedback

B. There will be regular meetings between students and supervisors, which will mainly revolve around the progression of the dissertation work as well as around problem solving and design characteristics related to the work. Students will be provided with guidance on the production of the dissertation and help

with the analysis of their results. The dissertation will be assessed by the supervisor. The following guide will be used by a supervisor to assess a dissertation:

- selection, planning and justification of the research topic
- critical analysis of the literature review.
- a sound choice of appropriate research methods: data gathering instruments and data collection.
- Data analysis techniques and presentation of research findings.
- discussion and interpretation of research findings.
- drawing of conclusions and recommendations.
- quality of writing.
- oral presentation of the research project.

C. The dissertation will be between 8, 000 to 10, 000 words excluding bibliography and appendices. All dissertations will be submitted typed.

17. Prescribed Readings

Author	Title	Publisher	Date	ISBN
Allison, Brian et al	Research Skills for Students (Transferable & Learning Skills)	Routledge	1996	9780749418755
Collie, Craig	The Business of TV Production	Cambridge University Press	2007	9780521682381
Cottrell, Stella	Critical Thinking Skills: Developing Effective Analysis and Argument	Palgrave Macmillan	2005	9781403996855
Dawson, Christian W	Projects in computing and information	Addison-Wesley	2009	9780273721314

	systems: a student's guide			
England, Elaine, Finney, Andy	Managing Interactive Media: Project Management for Web and Digital Media	Addison Wesley	2007	9780321436931
Handler Miller, Carolyn	Digital Storytelling - A Creator's Guide to Interactive Entertainment 2nd Edition	Focal Press	2008	9780240809595
Irving, David.K, Rea, Peter. W	Producing and Directing the Short Film and Video	Focal Press	2006	9780240807355
Light Honthaner, Eve	The Complete Film Production Handbook	Focal Press	2001	9780240804194
Lynch, Patrick and Horton, Sarah	Web Style Guide, 3rd Edition	Yale University Press	2009	9780300137378
McLeod, Fiona and Thomson, Richard	Non-stop Creativity and Innovation: How to Generate Winning Ideas	McGraw-Hill	2001	9780077098674
Musburger,Robert B., Kindem,Gorham	Introduction to Media Production: The Path to Digital Media Production	Focal Press	2004	9780240806471
Rugg, Gordon and Petre, Marian	A Gentle Guide to Research Methods	Open University Press	2006	9780335219285

Sheridan, Sherri	Developing Digital Short Films (Voices That Matter)	New Riders	2004	9780735712317
Swetnam, Derek	Writing Your Dissertation: The Bestselling Guide to Planning, Preparing and Presenting First-Class Work	How To Books Ltd	2000	9781857036626

ECOM4801- Strategic Management

Department	**Computer Science**
Course Code	**ECOM4801**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**5**
Method of assessment	**Final Examination and Assignment**

COURSE DESCRIPTION

The course aims to explore the strategic relevance of Information Systems in modern organisations, and to give students a thorough grounding in the role of Information Systems in achieving competitive advantage, with special reference to e-commerce systems. To provide a framework within which the strategic management of information, information systems and information technology can take place. To provide students with the tools necessary for them to understand and formulate strategy, with a view to achieving competitive advantage, through e-commerce.

LEARNING OUTCOMES

On successful completion of this course the learner will be able to:

- Understand the importance of information systems/information technology as a source of strategic advantage and/or strategic necessity.
- Understand and apply the tools required for strategic analysis.
- Evaluate business, technological and market strategies that have led to success or failure, and understand the reasons why.
- Construct the main elements of an eCommerce business strategy for competitive advantage in a local, national and international context.

HOW THE COURSE WILL BE DELIVERED

The formal timetabled components of the course comprise of 42 hours of lectures and tutorials.

HOW THE COURSE WILL BE ASSESSED

Examination 60%, Coursework 40% consisting of a Group Presentation (20%) and an Individual online test (20%)

TOPICS

A. Historical Perspective and emergence of eCommerce

- The DP and IT eras.
- The rise of the Information Economy Information as a source of competitive advantage and competitive necessity
- Information as a strategic weapon Strategic application of information technology/information systems.
- Emergence of eCommerce.
- eCommerce policy.
- Economic and cultural drivers.
- Technical convergence and current markets and trends.

B. Overview of Strategic Management

- Concepts and levels of strategy Strategic management and planning.
- Developing strategic vision and business mission.
- Components of a strategic plan.

C. The External Business Environment

- Impact of the external environment on the firm.
- Globalisation and technological innovation.
- Dealing with uncertainty and the implications for strategy.

D. The eCommerce paradigm

- Conventional and Web media characteristics and economic principles.
- Power shift to consumers.
- Redefining space, time and money
- Electronic channels and markets
- Implications for strategy.

E. Strategic Analysis

- Industry and competitive analysis.
- Porters five-forces model of competition.
- Company situation analysis.
- SWOT analysis.
- Strategic cost analysis
- Value chain analysis, core competencies and competitive advantage

F. eCommerce Business Strategy

- eCommerce value chain.
- Internet business models.
- Internet business strategies.
- Threats and opportunities.

- Portfolios of applications.

G. Implementing Strategy

- Framework for implementing strategy
- Building a capable organisation.
- Creating strategy-supportive policies and Instituting best practices and commitment to continuous improvement.
- Measuring strategic performance

Prescribed Book

- Grant, R.M. 2014, Contemporary Strategy Analysis,, 8th, A. John Wiley and Sons
- McKeen, J.D. Smith, H.A. 2009, IT Strategy in Action., Pearson Education. NJ
- Turban, E, King, D. 2012, Electronic Commerce – Managerial and Social Networks Perspectives., 7th Ed., Prentice Hall
- Johnson, G. et al 2014, Exploring Strategy., 10th Ed., Pearson Education.
- Laudon K, et al 2015, E-Commerce Business Technology Society, 11th Ed.

ECOM4802- Software Project Management

Department	**Computer Science**
Course Code	**ECOM4802**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**5**
Method of assessment	**Final Examination and Assignment**

COURSE AIMS

Students completing this course will be able to assess the issues involved in and apply appropriate techniques to managing software projects.

LEARNING OUTCOMES

On successful completion of the course the participant will be able to:

- Discuss the fundamental issues of software project management
- Create project plans using appropriate planning techniques
- Track Project progress using monitoring and control techniques
- Identify common sources of risk in software projects and discuss risk management techniques.

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

HOW THE COURSE WILL BE ASSESSED

Course Work	40.00%
End of Course Formal Examination	60.00%

TOPICS

1. **Project management overview**
   Definition, skills, triple constraint, approaches, reasons for project failure
2. **Project Lifecycle**
   Process groups and knowledge areas, relationship with software development lifecycle
3. **Estimating**
   Purpose, difficulties, techniques - story points, velocity, use case points

4. **Release Planning**
Agile planning onion, feature and date driven release planning, prioritising user stories,

5. **Iteration Planning**
Velocity and commitment driven iteration planning

6. **Project monitoring and control**
Tracking release and iteration plans - burndown charts, burnup charts, task board

Prescribed Book

- Jim Highsmith 2009, Agile Project Management: Creating Innovative Products, 2 Ed., Addison Wesley Professional [ISBN: 9780321658395]
- Mike Cohn 2005, Agile Estimating and Planning [ISBN: 9780131479418]
- Mike Cohn 2009, Succeeding with Agile: Software Development Using Scrum, Addison Wesley Professional [ISBN: 9780321579362]
- Ian Sommerville 2010, Software Engineering, 9 Ed., Addison Wesley [ISBN: 9780137035151]

ECOM4803- Database Design and Management

Department	**Computer Science**
Course Code	**ECOM4803**
Course Duration	**Semester**
Lecture hours per week	**3**
Tutorial Hours per week	**1**
Course Credits	**3**
Level	**5**
Method of assessment	**Final Examination and Assignment**

COURSE AIMS

The aim of this course is to introduce more advanced database concepts and provide the necessary knowledge and practical skills of creating and maintaining the database including database objects and data. It also teaches how to protect the database by designing a backup and recovery strategy; diagnose and tune common database performance problems.

LEARNING OUTCOMES

On successful completion of the course the participant will have developed:

- Critically evaluate the concepts and tools of the database management system.
- Demonstrate systematic knowledge of the database architecture.
- Design database backup and recovery strategy.
- Develop critical awareness of issues relating to database management and practical skills to solve common database administration problems.

HOW THE COURSE WILL BE DELIVERED

Formal teaching is by means of of 42 hours of lectures and tutorials per semester.

HOW THE COURSE WILL BE ASSESSED

Practical Exam - 100%

TOPICS

1. Exploring the database architecture
2. Creating the database
3. Managing the database instance
4. Managing database storage structures
5. Managing transactional processing and locking mechanism

6. Database security
7. Monitoring the database and using the advisors
8. Backup and recovery concepts
9. Investigating, reporting, and resolving problems.

Prescribed Book

- Database administration : the complete guide to practices and procedures / Craig S. Mullins.
- Database design & management using Access / Nick Dowling.
- Database systems : a practical approach to design, implementation, andmanagement./ Thomas M. Connolly, Carolyn E. Begg.