

UNIVERSITIES OF COMPUTER STUDIES
THE SYLLABUS FOR 2018-2019 ACADEMIC YEAR
(Five-year-academic Plan)

English

Third Year (B.C.Sc. / B.C.Tech.)

Objectives: To improve students' proficiency in four skills and help them complete preparation for the IELTS test.

Students Learning Outcomes: Getting motivation in their language learning and applying what they have learnt in their real life situation

Topic covered: Four skills with grammar, vocabulary input and skills practice to help students to deal successfully with the tasks

Credit unit: 3 credits

(a) Course Description

1. Cambridge ESOL IELTS 8 Examination Papers

Test 1: Listening, Reading - A chronicle of timekeeping, Air traffic control in the USA, Telepathy, Writing, Speaking

Test 2: Listening, Reading - Sheet glass manufacture: the float process, The little ice age, The meaning and power of smell, Writing, Speaking

Test 3: Listening, Reading - Striking back at lightning with lasers, The nature of genius, How does the biological clock tick?, Writing, Speaking

Test 4: Listening, Reading - Land of the Rising Sun, Biological Control of Pests, Collecting Ant Specimens Writing, Speaking

(Teachers should emphasize on Speaking and Listening Activities in IELTS Text Book.)

2. Cambridge Grammar for IELTS

Unit 5 – Future 1

Unit 6 – Future 2

Unit 7 – Countable and Uncountable

Unit 8 – Referring to nouns

(b) Syllabus

1. Cambridge ESOL IELTS 8 Examination Papers

Test 1: Listening, Reading - A chronicle of timekeeping, Air traffic control in the USA, Telepathy, Writing, Speaking

Test 2: Listening, Reading - Sheet glass manufacture: the float process, The little ice age, The meaning and power of smell, Writing, Speaking

Test 3: Listening, Reading - Striking back at lightning with lasers, The nature of genius, How does the biological clock tick?, Writing, Speaking

Test 4: Listening, Reading - Land of the Rising Sun, Biological Control of Pests, Collecting Ant Specimens Writing, Speaking
(Teachers should emphasize on Speaking and Listening Activities in IELTS Text Book.)

3. Cambridge Grammar for IELTS

Unit 5 – Future 1

Unit 6 – Future 2

Unit 7 – Countable and Uncountable

Unit 8 – Referring to nouns

(c) Textbooks

1. Cambridge ESOL IELTS 8 Examination Papers
2. Cambridge Grammar for IELTS: Grammar reference and practice by Diana Hopkins and Pauline Cullen

(d) References

1. Cambridge ESOL IELTS 8 Examination Papers
2. Cambridge Grammar for IELTS: Grammar reference and practice by Diana Hopkins and Pauline Cullen

2018-19 Academic Year
English Department
Course Description
Third Year (Second Semester)

Department Code:	ENG
Subject Code:	E 302
Course Title	1. IELTS 8 (Examination Papers) Cambridge ESOL 2. CAMBRIDGE GRAMMAR for IELTS
Course Coordinator	Daw Aye Aye Khine
Credit Unit	3 credits (lecture 2+ Tuto 1+ Lab 1) 1 Lecture = 1 credit 1 Tutorial= 0.5 credit 1 Lab = 0.5 credit
Prerequisite/s	None
Objectives	1. to motivate students in English Language learning 2. to develop four skills in English Language learning
Student Learning Outcomes	Students are motivated in their language learning and are positioned right at the edge of their competence are pushing it forward.
Topics Covered	1. Proficiency skill based on CLT 2. Four skills with grammar and vocabulary input are informed by publications related to the Common European Framework of Reference.
Text book and Reference	1. IELTS 8 (Examination Papers) Cambridge ESOL 2. CAMBRIDGE GRAMMAR for IELTS (By DIANA HOPKINS with PAULINE CULLEN)
Lesson Plan	First Semester - IELTS- Test 1, 2 - IELTS Grammar Unit 5, 6 Second Semester - IELTS- Test 3, 4 - IELTS Grammar Unit 7, 8
Assessment Plan	Second Term - Exam (50%) Listening Test (10%) Speaking (10%) (Assignment) Writing (10%) Attendance (10%) Quiz (10%)

UNIVERSITIES OF COMPUTER STUDIES
LECTURE PLAN FOR 2018-2019 ACADEMIC YEAR
B.C.Sc. / B.C.Tech. Third Year

E English

Second semester

Textbooks: 1. IELTS 8 (Examination Papers) Cambridge ESOL
 2. CAMBRIDGE GRAMMAR for IELTS
 (By DIANA HOPKINS with PAULINE CULLEN)

Period : 15 weeks

No.	Chapter	Page	Period
1	IELTS 8: Test 3: - Listening	56 to 64	3.5
2	IELTS 8: Test 3: - Reading Passage 1 (Striking Back at)	65 to 69	3.5
3	IELTS 8: Test 3: - Reading Passage 2 (The Nature of Genius)	70 to 73	3.5
4	IELTS 8: Test 3: - Reading Passage 3 (How does the Biological ..?)	74 to 77	3.5
5	IELTS 8: Test 3: - Writing & Speaking	78 to 80	3.5
6	Grammar for IELTS: Unit 7 Countable &Uncountable	55 to 63	3.5
7	Grammar for IELTS: Unit 7 Countable &Uncountable	55 to 63	3.5
8	IELTS 8: Test 4 - Listening	81 to 87	3.5
9	IELTS 8: Test 4 - Reading Passage 1 (Landof the Rising Sum)	88 to 92	3.5
10	IELTS 8: Test 4 - Reading Passage 2 (Biological Control of Pests)	93 to 96	3.5
11	IELTS 8: Test 4 - Reading Passage 3 (Collecting Ant Specimens)	97 to 100	3.5
12	IELTS 8: Test 4 - Writing & Speaking	101 to 103	3.5
13	Grammar for IELTS: Unit 8 (Referring to nouns)	64 to 72	3.5
14	Grammar for IELTS: Unit 8 (Referring to nouns)	64 to 72	3.5
15	Revision		3.5

Note: Grammar folder is suggested for teachers to study in advance and description of graphs. bar charts, pie charts must be taught for Academic Writing task.

CST-302

COURSE DESCRIPTION

Course code number	CST-302	Course Title	Mathematics of Computing III
Semester hours	4 hours	No. of Credit Units	3
		Course Coordinator	

Course Description

This course covers matrices, vectors, determinants, linear systems, matrix eigenvalue problems, mathematical software design considerations, rudiments of floating point arithmetic, systems of linear equations, interpolation and data fitting, integration and quadrature, linear least squares and regression.

Textbook

Advanced Engineering Mathematics, 10th edition, by E.Kreyszig

Course Outcomes

Students will be able to:

1. Know the important characteristics of matrices, concepts of vector spaces and properties of special categories of matrices.
2. Know how to use characteristics of a matrix to solve a linear system of equations or study properties of a linear transformation.
3. Acquire a working knowledge of algorithms for approximating solutions of scientific computing problems.

Major Topics Covered in the Course

1. Matrices, Vectors, Determinants. Linear Systems
2. Matrices Eigen Value Problems
3. Solution of Equations by Iteration
4. Interpolation
5. Numeric Integration and Differentiation

Assessment Plan for the Course

Attendance	-	10%
Quizzes	-	10%
Assignment	-	10 %
Test	-	10%
Final Exam	-	60%

Class Attendance and Participation Policy:

- **Attendance**

Class attendance is **mandatory**. Most of the material you will learn will be covered in the lectures, so it is important that you not miss any of them. You are expected to show up **on time** for class, and **stay for the whole lecture**. Students are expected to attend each class, to complete any required preparatory work (including assigned reading) and to participate actively in lectures, discussions and exercises.

- Mobile phones **must** be silenced and put away for the entire lecture unless use is specified by the instructor. You may not make or receive calls on your cell phone, or send or receive text messages during lectures.
- You are responsible for all material sent as email. Ignorance of such material is no excuse. You are responsible for all materials presented in the lectures.
- Your conduct in class should be conducive towards a positive learning environment for your class mates as well as yourself.

- **Quizzes, assignments, tests and Exam**

Your performance in this class will be evaluated using your scores for attendance, quizzes, homework assignments, two tests and one final examination. There are no planned extra credit projects or assignments to improve your grade.

We will take a short quiz for every lecture.

There will be 12 homework assignments, roughly one per week. Please show all your work and write or type your assignments neatly. Credit cannot be given for answers without work (except on true-false, always-sometimes-never, or other multiple choice questions).

Test will start after two or three chapters finished and the coordinator will announce the date for the test.

Any assignment or quiz or test is simply missed, regardless of the reason why (e.g. illness, work, traffic, car trouble, computer problems, death, etc.), and **earns a grade of zero**. You are strongly encouraged to complete all assignments and attend all quizzes so that you can

check that you understand the material and can throw out bad grades, or grades for which you had to miss an assignment or quiz for a valid reason. **Late submissions will not be accepted for any graded activity for any reason.**

- **There are no extra credit opportunities.**

Students may not do additional work nor resubmit any graded activity to raise a final grade.

- **Exam**

The exam will be conducted on-campus, in a classroom. The dates/times/locations will be posted on Board as soon as possible.

For this course, the following additional requirements are specified:

All work submitted for a grade must have been prepared by the individual student. Students are expressly prohibited from sharing any work that has been or will be submitted for a grade, in progress or completed, for this course in any manner with a person other than the instructor and teaching assistant(s) assigned to this course). Specifically, students may not do the following, including but not limited to:

- Discuss questions, example problems, or example work with another person that leads to a similar solution to work submitted for a grade.
- Give to, show, or receive from another person (intentionally, or accidentally because the work was not protected) a partial, completed, or graded solution.
- Ask another person about the completion or correctness of an assignment.
- Post questions or a partial, completed, or graded solution electronically (e.g. a Web site).
- All work must be newly created by the individual student for this course. Any usage of work developed for another course, or for this course in a prior semester, is strictly prohibited without prior approval from the instructor.
- Posting or sharing course content (e.g. instructor provided lecture notes, assignment directions, assignment questions, or anything not created solely by the student), using any non-electronic or electronic medium (e.g. web site, FTP site, any location where it is accessible to someone other than the individual student, instructor and/or teaching assistant(s)) constitutes copyright infringement and is strictly prohibited without prior approval from the instructor.

Tentative Lesson

No	Topics	Week	Remark
I	Chapter 7 Linear Algebra: Matrices, Vectors, Determinants. Linear Systems		
1	7.1 Matrices, Vectors: Addition and Scalar Multiplication	Week 1	
2	7.2 Matrices Multiplication		Assignment 1
3	7.3 . Linear Systems of Equations. Gauss Elimination	Week 2	Assignment 2
4	7.4 Linear Independent. Rank of a Matrix. Vector Space	Week 3	Assignment 3
5	7.6 For Reference : Second- and Third-Order Determinants	Week 4	
6	7.7 Determinants. Cramer's Rule		Assignment 4
7	7.8 Inverse of a Matrix. Gauss-Jordan Elimination	Week 5	Assignment 5
II	Chapter 8 Linear Algebra: Matrices Eigen Value Problems		
8	8.1 The Matrix Eigenvalue Problem. Determining Eigenvalues and Eigenvectors	Week 6	Assignment 6
9	8.3 Symmetric, Skew-Symmetric and Orthogonal Matrices	Week 7	
	Test I		Test I
III	Chapter 19 Numerics in General		
10	19.1 Introduction	Week 8	
11	19.2 Solution of Equations by Iteration		Assignment 7
12	19.3 Interpolation	Week 9	Assignment 8
13	19.5 Numeric Integration and Differentiation	Week 10	Assignment 9
IV	Chapter 20 Numeric Linear Algebra		
14	20.2 Linear Systems: LU-Factorization, Matrix Inversion	Week 11	Assignment 10
15	20.3 Linear Systems: Solution by Iteration	Week 12+13	
16	20.4 Linear Systems: Ill-Conditioning, Norms		Assignment 11
17	20.5 Least Squares Method	Week 14	
18	20.6 Matrix Eigenvalue Problems: Introduction		
19	20.7 Inclusion of Matrix Eigenvalues		Assignment 12
20	20.8 Power Method for Eigenvalues	Week 15	
	Test II		Test II

CST - 301 : Operating Systems **Second Semester**

Text Books : Operating Systems Internals and Design Principles (7th Edition) by William Stallings

Course Code Number	CST-301 Second Semester	Course Title	Operating Systems
Semester Hours	4 Hours	No of Credit Units	3
Prerequisite	None		

Course Description

The course aims to explore the importance of the operating system and its function. The different techniques used by the operating system to achieve its goals as resource manager. Topics include: Operating System Overview, Process Description & Control, Threads, Uniprocessor Scheduling and File Management.

Course Aim

Aim of this course:

- To introduce basic concepts of Operating System, its functions and services
- To familiarize various views and management policies adopted by O.S. as pertaining with processes, memory, I/O and File.
- To learn the mechanisms of OS to handle processes and threads and their communication
- To understand the scheduling technique use in OS and access the performance of difference scheduling policies

Learning Outcomes

Student will be able to

- Understand the structure of OS and basic architectural components involved in OS
- Know the applications to run in parallel either using process or thread models of different OS
- Understand how to manage files, memory, I/O, processes and threads.
- Understand the various scheduling policies and evaluate their performance.

References:

1. Modern Operating Systems by A. Tanenbaum, 1992, Prentice-Hall.
2. Operating System Concepts (7th edition) By Abraham Silberschatz, Peter Baer Galvin, Greg Gagne

Course Organization

Student participation in the course will involve the following activities:

1. Attending the lectures
2. Tutorial
3. Assignment
4. Practical
5. Moodle /Quiz
6. Exams

Assessment plan for the course

- | | | |
|----|-------------|-----|
| 1. | Paper Exam | 50% |
| 2. | Attendances | 10% |
| 3. | Tutorial | 10% |
| 4. | Assignment | 10% |
| 5. | Practical | 10% |
| 6. | Moodle/Quiz | 10% |

Periods : 45 periods for 15 weeks (50 minutes for 1 period)

No.	Chapter	Page	Period	Detail Lecture Plan
	Chapter 2 Operating System Overview	48 to 76	7	Lectures + Tutorial + Exercises
1.	2.1 O/S objectives and functions OS as a user / computer interface OS as a resource manager	48 to 52	1	
2.	2.2 The evolution of O/S Serial Processing Simple batch system Multi-programmed batched system Time Sharing system	52 to 62	1	
3.	2.3 Major Achievements Processes	62 to 70	2	

	Memory management Information Protection & Security Scheduling and Resource Management			
4.	2.4 Developments leading to Modern Operating Systems	71 to 73	1	
5.	2.5 Virtual Machines	74 to 76	1	
6.	Tutorial and Review Chapter 2		1	All review questions
	Chapter 3 Process Description & Control	108 to 143	8	Lectures + Tutorial + Exercises
7.	3.1 What is A Process Processes and Process Control Block 3.2 Process States The Creation and Termination of Processes	108 to 116	1	
8.	A Five States Model	116 to 120	2	
9.	Suspended Processes The need for swapping 3.3 Process Description	121 to 134	2	
10.	3.4 Process Control	134 to 140	1	
11.	3.5 Execution of the OS Non process kernel Execution within user process Process based O/S	140 to 143	1	
12.	Tutorial and Review Chapter 3		1	All review questions
	Chapter 4 Threads	158 to 169	4	Lectures + Tutorial + Exercises
13.	4.1 Processes & Threads Multithreading Threaded Functionality Threaded states Thread synchronization	158 to 164	1	Explain Detail
14.	4.2 Types of Threads User level threads Kernel level threads Combined Approaches	164 to 169	2	
15.	Tutorial and Review Chapter 4		1	All review questions
	Chapter 7 Memory Management	307 to 326	4	
16.	7.1 Memory management requirements	307 to 310	1	
17.	7.2 Memory Partitioning	310 to 321	1	
18.	7.3 Paging 7.4 Segmentation	321 to 326	1	

19.	Problem 7.2, 7.6, 7.7, 7.12, 7.14 Tutorial, Exercise and Review Chapter 7		1	All review questions
	Chapter 9 Uniprocessor Scheduling	396 to 429	8	
20.	9.1 Types of Scheduling Long Term Scheduling Medium Term Scheduling Short Term Scheduling	396 to 400	1	Explain Detail methods of Scheduling
21.	9.2 Scheduling Algorithms Short term scheduling Criteria The Use Of Priorities Table 9.2	400 to 403	1	Explain Detail User-Oriented and System – Oriented.
22.	Alternative Scheduling Policies Table 9.3 First Come First Served Round Robin	403 to 410	1	Explain detail characteristics of various scheduling policies and selection function
23.	Shortest Process Next Shortest Remaining Time Highest Response Ratio Next Feedback	410 to 414	2	Explain Detail with Figures
24.	Problems 9.1, 9.2, 9.3, 9.4, 9.16 Tutorial and Review chapter 9	426 to 429	2	All Review Questions
	Chapter 11 I/O Management & Disk Scheduling	475 to 506	9	Lectures + Tutorial + Exercises
25.	11.1 I/O Devices 11.2 Organization of the I/O Function 11.3 Operating System Design Issues	475 to 483	1	
26.	11.4 I/O Buffering (Single buffer, Double Buffer, Circular Buffer)	483 to 486	1	
27.	11.5 Disk Scheduling Disk Performance parameters Disk Scheduling policies	487 to 494	1	
28.	Example of Disk Scheduling policies FIFO, SSTF, SCAN, C-SCAN		2	
29.	11.6 RAID RAID Level 0 RAID 0 for high data transfer capacity RAID 0 for high I/O request Rate RAID Level 1, RAID level 2, RAID Level 3 Performance, RAID Level 4, RAID level5 , RAID Level 6	494 to 502	2	

30.	11.7 Disk Cache , Design Consideration	502 to 506	1	
31.	Problems Tutorial and Review Chapter 11		1	All review questions Problems 11.3
	Chapter 12 File Management	522 to 550	5	Lectures + Tutorial + Exercises
32.	12.1 Overview 12.2 File Organization and Access	522 to 532	1	
33.	12.3 B-Trees 12.4 File Directories	532 to 539	1	
34.	12.5 File Sharing 12.6 Record Blocking	540 to 543	1	
35.	12.7 Secondary Storage Management	543 to 550	1	
36.	Tutorial and Review questions Chapter 12		1	All review questions