

# DATA COMMUNICATIONS

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

## COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	University of Baghdad/ College of Science for Women
2. University Department/Centre	Computer Science Department
3. Course title/code	Data Communications/ 405 CDO
4. Programme(s) to which it contributes	Computer Science
5. Modes of Attendance offered	Physical Attendance
6. Semester/Year	Fourth Year/ First Semester
7. Number of hours tuition (total)	60 total (30 theoretical, 30 practical)

8. Date of production/revision of this specification	22/6/2016
9. Aims of the Course	
<p>The given course aim to definition students to main technique used in data communications which have been obtained from a number of Methodology sources For the purpose of establishing the foundations and rules for the methodology course.</p>	

10. Learning Outcomes, Teaching ,Learning and Assessment Method
<p>E- Knowledge and Understanding</p> <p>A1. Identify the General principles of data communications.</p> <p>A2. A detailed explanation of the rules and the types of transmission media used for data transmission.</p> <p>A3. Types of drives used in data transmission.</p> <p>A4. The methods used to protect data in networks.</p> <p>A5. Learn how to analysis of data across the interior of communication devices.</p>
<p>B- Subject-specific skills</p> <p>B1. Knowing the types of transmission media used for data transmission.</p> <p>B2. Knowledge of types of networks used in data communication.</p> <p>B3. Identify ways to access data across communication devices.</p>

## Teaching and Learning Methods

- Education: provide lectures and printed sources from the modern, diverse and rich sources including examples
- Education: Harnessing smart blackboard to the goal of teaching students and explain the steps the solution and extraction results
- Education: resolving some questions, with intent to contain mistakes and make the students extracted error
- Learning: asking questions and inquiries and making the student turn into a teaching explanation and solution on the blackboard at that point, brainstorming method
- Learning: questions directly and consequently all students to learn the extent of interaction and the rest to be paid attention to
- Learning: Each specific group and explain its interaction between students with questions and answers and provide an environment that enables the student to lecture management or debate

## Assessment methods

- Quizzes (quiz) semi-weekly
- Reporting and in the form of aggregates by a report for each set and presented over students
- Questions sudden and overlapping put up with to explain Article
- laboratory tests on the computer and is written to enable the student to the solution without a computer
- monthly and quarterly tests

## C. Thinking Skills

C1-providing range solutions to the same problem and discussed both individually and determine the appropriate method of solution to the problem at hand with a stand on the disadvantages of the rest of the solutions

C2- put forward solutions contain inaccuracies and identifying these mistakes After discussion and processed

C3-oral exceptional questions that need exceptional answers where heavyweight grades are assigned and some tipoff grades also provides

C4- choose the most appropriate algorithm used to manipulate the

image checking out the image descriptions

### Teaching and Learning Methods

Discussions that arise during the time of lecture, and an attempt to involve the largest possible number of students in the conversations and discussion, and direct the discussions to be objectively purpose.

### Assessment methods

- Oral evaluated by involving students in discussions
- Quizzes (quiz)
- laboratory tests on the computer and is written
- exams monthly and quarterly

D. General and Transferable Skills (other skills relevant to employability and personal development)

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D1- distribution of specific topics for each group of students to prepare research reports from the the World Wide Web, the sources or the library and drafted in accordance with the basis of the approved formulation research.

D2-giving leadership debate administration, however, the group discussion and enable them to drive and manage the dialogue

D3- alert on errors in the answers to the oral and discuss them to learn their mistake.

D4- alert on errors in the answers of students in the written exams to clarify to the student.

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
١	٢		Introduction to Distributed Systems	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٢	٢		Properties of a Communications System, Transmission Media	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٣	٢		Properties of Signals, Digital Transmission, Multiplexing	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٤	٢		Communication Network Types and Topologies	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٥	٢		Public Telephone Networks	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand

٦	٢		Terminal Network	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٧	٢		Communications System Theory	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٨	٢		Theoretical Limits on Channel Capacity, Queuing Theory, Error Detection and Correction	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٩	٢		Block Coding	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
١٠	٢		Cyclic Coding	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
١١	٢		Convolution Coding	According to point 10 hereinabove and on	According to point 10 hereinabove and on demand



				demand	
۱۲	۲		Introduction to the ISO Reference Model	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
۱۳	۲		Digital Coding: ON/OFF RZ, Bipolar RZ, Manchester Split, Manchester Differential and Polar RZ	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
۱۴	۲		Introduction to the ISO-OSI Reference Model with a Physical Layer Example	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
۱۵	۲		Coding in the DATA Link Layer	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand

12. Infrastructure	
<p>Required reading:</p> <ul style="list-style-type: none"> <li>· CORE TEXTS</li> <li>· COURSE MATERIALS</li> <li>· OTHER</li> </ul>	<p>1-Data Communications and Networking[Behrouz A. Forouzan] 4th edition,2007</p> <p>2-Computer Networks, fourth edition Tanenbaum, A., 2003.</p> <p>3-Understanding Data Communications and Networks, Shay, W., 1995.</p> <p>4-Data communications, Computer Networks and OSI, Halsall, F., 1996.</p> <p>5-Computer Networks and Internets, Comer, D., 1999.</p>
Special requirements (include for example workshops, periodicals, IT software, websites)	Matlab
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	Mathematics, Computer Organization
Minimum number of students	Subject to classroom size, 25 student as minimum

Maximum number of students

Subject to classroom size, maximum 35 students