



The University of Southern Queensland

Course specification

The current and official versions of the course specifications are available on the web at <http://www.usq.edu.au/coursespecification/current>.
Please consult the web for updates that may occur during the year.

Description: Network Fundamentals and Routing

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
CSC	3407	86226	1, 2009	EXT	1.00	Toowoomba

Academic group:	FOSCI
Academic org:	FOS003
Student contribution band:	2
ASCED code:	020113

STAFFING

Examiner: Yan Li
Moderator: David Lai

RATIONALE

Explosive growth in computer networks in the last several decades has changed the uses of computers dramatically. The largest computer network, the Internet, is now connecting millions of computers in the world, providing services like email, file transfer, hypermedia information retrieval across all kinds of different platforms. This course is the introductory course in computer networking. It concentrates on basic concepts and protocols of computer networks. This course serves as a foundation for all further courses in the computer networking program.

SYNOPSIS

This course addresses the layered structure of computer communication networks. It focuses on networking basics, routers and routing basics and the most widely used TCP/IP protocol suite. After this course, the students will have not only general knowledge about computer networks but also the understanding and practical skills of cabling and managing routers and TCP/IP Internetworking.

OBJECTIVES

On successful completion of this course students will be able to:

1. demonstrate an understand networking basics (Assignment 1 and exam);
2. describe and explain the nature and roles of protocols and services at the application, network, data link and physical layers using OSI and TCP reference models (Assignment 1 and exam);
3. demonstrate an understanding of Ethernet fundamentals (Assignment 1 and exam);
4. illustrate TCP/IP protocol suite and subnetting (Assignment 1 & 2 and exam)
5. manage and configure Cisco routers (Assignment 2 and exam);
6. explain routing and routing protocols (Assignment 2 and exam).

TOPICS

	Description	Weighting (%)
1.	Network terminologies, protocols and standards	10.00
2.	Roles and functionalities of network layers in OSI and TCP layered models	20.00
3.	IP Addressing and Subnetting	15.00
4.	Ethernet	10.00
5.	Routers and Router Programming	10.00
6.	Routing and Routing Protocols	35.00

TEXT and MATERIALS required to be PURCHASED or ACCESSED

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at <http://bookshop.usq.edu.au> click 'Semester', then enter your 'Course Code' (no spaces).

2009, 'Introductory/Study Book Course CSC3407 Network Fundamentals and Routing' (Available: <http://www.sci.usq.edu.au/courses/CSC3407/>).

Dye, McDonald, Ruff 2007, *Network Fundamentals course (CCNA Exploration 1): Network Fundamentals, CCNA Exploration Companion Guide (Cisco Networking Academy Program)*, 2nd edn, Cisco Press, Indianapolis, IND.

((ISBN-10: 1-58713-208-7) (ISBN-13: 9781587132087) Publication Date: October 2007)

Graziani, R & Johnson, A 2008, *Routing Protocols and Concepts course (CCNA Exploration 2): Routing Protocols and Concepts, CCNA Exploration Companion Guide (Cisco Networking Academy)*, 2nd edn, Cisco Press, Indianapolis, IND.

((ISBN-10: 1-58713-206-0) (ISBN-13: 9781587132063) Publication Date: December 2007)

REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

Cisco Systems, Inc. 2004, 'CCNA 1 and 2 Lab Companion, Revised (Cisco Networking Academy Program)'³ (Available: <http://www.ciscopress.com/authors/bio.asp?a=0dc527ab-8853-42b>).

((ISBN-10: 1-58713-149-8))

Empson, S 2005, 'CCNA Command Quick Reference (Cisco Networking Academy Program)' (Available: <http://www.ciscopress.com/authors/bio.asp?a=a6ec7dae-2106-487>).

((ISBN-10: 1-58713-159-5))

Odom, W & Knott, T 2006, *Networking Basics CCNA 1 Companion Guide (Cisco Networking Academy Program)*, Cisco Press, Indianapolis, IND.

Odom, W & McDonald, R 2006, *Routers and Routing Basics CCNA 2 Companion Guide (Cisco Networking Academy Program)*, Cisco Press, Indianapolis, IND.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Directed Study	65.00
Examinations	2.00
Private Study	107.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
ASSIGNMENT 1	20.00	20.00	09 Apr 2009
ASSIGNMENT 2	20.00	20.00	05 Jun 2009
2 HOUR RESTRICTED EXAMINATION	100.00	60.00	END S1 (see note 1)

NOTES

1. Examination dates will be available during the semester.

IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:
It is the students' responsibility to attend and participate appropriately in all activities (such as lectures, tutorials, laboratories and practical work scheduled for them, and to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration.
- 2 Requirements for students to complete each assessment item satisfactorily:
To complete each of the assessment items satisfactorily, students must obtain at least 50% of the marks available for each assessment item.
- 3 Penalties for late submission of required work:
If students submit assignments after the due date without (prior) approval of the examiner then a penalty of 5% of the total marks gained by the student for the assignment may apply for each working day late up to ten working days at which time a mark of zero may be recorded. No assignments will be accepted after model answers have been posted.
- 4 Requirements for student to be awarded a passing grade in the course:
To be assured of receiving a passing grade a student must achieve at least 50% of the total weighted marks available for the course.
- 5 Method used to combine assessment results to attain final grade:
The final grades for students will be assigned on the basis of the weighted aggregate of the marks obtained for each of the summative assessment items in the course.
- 6 Examination information:
Candidates are allowed access only to specific materials during a Restricted Examination. The only materials that candidates may use in the restricted examination for this course

- are: writing materials (non-electronic and free from material which could give the student an unfair advantage in the examination); calculators which cannot hold textual information (students must indicate on their examination paper the make and model of any calculator(s) they use during the examination);
- 7 Examination period when Deferred/Supplementary examinations will be held:
Any Deferred or Supplementary examinations for this course will be held during the next examination period.
 - 8 University Regulations:
Students should read USQ Regulations 5.1 Definitions, 5.6. Assessment, and 5.10 Academic Misconduct for further information and to avoid actions which might contravene University Regulations. These regulations can be found at the URL <http://www.usq.edu.au/corporateservices/calendar/part5.htm> or in the current USQ Handbook.

ASSESSMENT NOTES

- 9 The due date for an assignment is the date by which a student must despatch the assignment to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the Examiner.
- 10 In accordance with University policy, the Examiner may grant an extension of the due date of an assignment in extenuating circumstances.
- 11 The Faculty will NOT accept submission of assignments by facsimile.
- 12 Students who do not have regular access to postal services or who are otherwise disadvantaged by these regulations may be given special consideration. They should contact the examiner of the course to negotiate such special arrangements
- 13 In the event that a due date for an assignment falls on a local public holiday in their areas, such as a Show holiday, the due date for the assignment will be the next day. Students are to note on the assignment cover the date of the public holiday for the Examiner's convenience.
- 14 Students who have undertaken all of the required assessments in a course but who have failed to meet some of the specified objectives of a course within the normally prescribed time may be awarded the temporary grade: IM (Incomplete - Make up). An IM grade will only be awarded when, in the opinion of the examiner, a student will be able to achieve the remaining objectives of the course after a period of non directed personal study.
- 15 Students who, for medical, family/personal, or employment-related reasons, are unable to complete an assignment or to sit for an examination at the scheduled time, may apply to defer an assessment in a course. Such a request must be accompanied by appropriate supporting documentation. One of the following temporary grades may be awarded IDS (Incomplete - Deferred Examination: IDM (Incomplete Deferred Make-up); IDB (Incomplete - Both Deferred Examination and Deferred Make-up).

OTHER REQUIREMENTS

- 1 Students will require access to e-mail and the Internet.
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