

ROUTE SHEET
PERMANENT COURSE CHANGE/APPROVAL
(Attach course change request form)

Prefix & Number IS 650 Course Title Networks and Communications

Abbreviation for Schedule (20 characters): Networks and Comm

Nature of course request (Mark all that apply)

- | | | |
|----------------------------------------------------|------------------------------------------------------|-----------------------------------------------------|
| <input checked="" type="checkbox"/> Add a course | <input type="checkbox"/> Prerequisite change | <input type="checkbox"/> LACC course |
| <input type="checkbox"/> Delete a course | <input type="checkbox"/> Number/Prefix change | <input type="checkbox"/> Undergraduate course |
| <input type="checkbox"/> Title change | <input type="checkbox"/> Description change | <input checked="" type="checkbox"/> Graduate course |
| <input type="checkbox"/> Writing Intensive (WI) | <input type="checkbox"/> Multicultural Diversity (D) | <input type="checkbox"/> 400/500 course |
| <input type="checkbox"/> Quantitative Literacy (Q) | <input type="checkbox"/> Honors course (H) | <input type="checkbox"/> Other: _____ |

1) Faculty Sponsor Signature [Signature] Date 5/8/14
2) Dept./Program Coordinator [Signature] Date 5/8/14
3) Division Chair [Signature] Date 5/8/14
Curriculum Chair [Signature] Date 5/8/14

- 4) Faculty Senate Committees: The Curriculum Committee reviews all course proposals except for honors and graduate courses, which are reviewed instead by the Honors Committee or Graduate Committee. All 400/500 "split" courses must be approved by both the Curriculum and Graduate Committees. All curriculum committee decisions are forwarded to the Senate Executive Committee.

a) Curriculum Committee Chair _____ Date _____

___ N/A ___ Approved ___ NOT Approved

b) Graduate Committee Chair _____ Date _____

___ N/A ___ Approved ___ NOT Approved

c) Honors Committee Chair _____ Date _____

___ N/A ___ Approved ___ NOT Approved

5) Faculty Senate President _____ Date _____

___ Approved by the Senate Executive Committee

___ Approved by the Senate ___ NOT Approved (Return to sponsor)

6) Appropriate Dean _____ Date _____

___ Approved ___ NOT Approved (Return to Faculty Senate President)

7) Provost/VPAA _____ Date _____

___ Approved ___ NOT Approved (Return to Faculty Senate President)

REQUEST FORM

PERMANENT COURSE APPROVAL

Initiated by (print): Jie Liu Date: May 9, 2014

ADDING A COURSE

| Prefix/Number | Descriptive Title | Cr. Hours |
|---------------|-----------------------------|-----------|
| IS 650 | Networks and Communications | 4 |

Catalog Description:

This course provides a comprehensive examination of how computers and computing infrastructure is linked together to enable effective communication and sharing of resources. Topics include the fundamental protocols and technologies that underlie modern computer networks; conceptual abstract layered model for understanding the functionality of the network; local area networks; and the Internet.

Prerequisites: None, although IS 600 is highly recommended

Course Goals and Objectives:

Upon completion of this course, students will be able to

- understand the principles underlying layered systems architectures and their applications to both computers and networks
- understand and define the terminology of computer networks
- understand the differences and similarities between the core elements of an IT infrastructure solution, such as clients, servers, network devices, wired and wireless network links, topologies and specialized devices
- configure a network solution for a simple LAN
- apply the core concepts of networking and communication to solve simple network operation problems and transport calculations
- fundamentally understand the operation of local networks and the Internet and be able to apply this understanding to common issues and important problems faced by individuals and organizations using the Internet

Justification for adding the course (e.g. alignment with other institutions, program revision, etc.):

Students in the M & IS program have previously taken CS 650 Networks and Communications. That course will remain and will be revised to contain more technical material suitable for students with a B.S. in Computer Science or Software Engineering.

This course is the M & IS version of that course. The technical component will be reduced while increasing the breadth of coverage of topics. This will make the course appropriately suitable for students with a Business, MIS or other non-CS background.

Briefly describe other WOU faculty/programs consulted (attach additional sheet(s) if necessary).

Faculty in the Computer Science Division has been consulted.

Faculty and Facilities Needed:

1 instructor, 1 smart classroom. No new faculty will be needed.

Attach brief course outline

Networks and Communication

CREDIT 4 credits

INSTRUCTOR Dr. Jie Liu

ITC 302B

(503)838-8989

(503)838-8332 (fax)

liuj@wou.edu

<http://www.wou.edu/~liuj>

OFFICE HOURS See website for current hours.

CLASS TIME 10:00 to 11:50 Tuesdays and Thursdays in ITC 303

TEXTBOOK TBA

Course Description

This course provides a comprehensive examination of how computers and computing infrastructure is linked together to enable effective communication and sharing of resources. Topics include the fundamental protocols and technologies that underly modern computer networks; conceptual abstract layered model for understanding the functionality of the network; local area networks; and the Internet. **Prerequisites: None, although IS 600 is highly recommended**

Course Topics

This course typically covers the following topics

- Types of networks, network organization
- Core network components
- Protocols
- OSI Layered Model, including
- Physical layer – wired, wireless communications
- Data link layer – Ethernet
- Network layer – IP, addressing and routing
- Transport layer – TCP

- Application layer – HTTP, SNMP, SMTP
- Network device configuration
- LAN topics – subnetting, DHCP
- WAN, Internet topics – DNS, TLD, registries
- IP scarcity, IPv4 and IPv6
- Applications – Business IT, cloud, security, performance

Learning Outcomes

Upon completion of this course, students will be able to

- understand the principles underlying layered systems architectures and their applications to both computers and networks
- understand and define the terminology of computer networks
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Course Requirements

The course grade will be determined according to the following breakdown:

| | |
|-------------------------|------|
| Labs and Exercises | 15 % |
| Lesson review questions | 10 % |
| Quizzes | 20 % |
| Midterm #1 | 25 % |
| Project | 5 % |
| Midterm #2 | 25 % |

The following grading scale and distribution will be used to assign a letter grade:

| | |
|----------|----|
| 100%-92% | A |
| 91%-90% | A |
| 89%-88% | B+ |
| 87%-82% | B |
| 81%-80% | B- |
| 79%-78% | C+ |
| 77%-72% | C |
| 71%-70% | C- |
| 69%-68% | D+ |
| 67%-62% | D |
| 61%-60% | D- |
| 59%-0% | F |

Labs and Exercises

Labs and Exercises must be done individually, unless otherwise stated. General discussions are strongly encouraged. Review questions are due on the Tuesday of the week immediately after the completion of the chapter. No late review questions are accepted without prior arrangement with the instructor.

Quizzes and Exams

There will be three quizzes and two midterms. You may bring a half sheet of notes to each midterm.

Academic Honesty

Code of Student Responsibility 574-031-0030 Specific Standards and Policies

The following list of prohibited forms of conduct is not all inclusive since it is not possible to list all potential violations. The University requires that all students behave in a manner congruent with established community standards and in a manner conducive to the development of the individual. Actions detrimental to the mission of the University and the legitimate activities of the academic community which constitute the University are in violation of this Code and may be subject to judicial procedures.

1. Academic dishonesty, which includes but is not limited to:

Cheating intentional use or attempted use of artifice, deception, fraud, and/or misrepresentations of ones academic work;

Fabrication unauthorized falsification and/or invention of any information of citation in any academic exercise;

Facilitating dishonesty helping or attempting to help another person commit an act of academic dishonesty. This includes students who substitute for other persons in examinations or represent as their own papers, reports, or any other academic work of others;

Plagiarism representing without giving credit the words, data, or ideas of another person as ones own work in any academic exercise. This includes submitting, in whole or in part, prewritten term papers of another of research of another, including but not limited product of commercial vendor who sell or distribute such materials. And the appropriation of and/or use of electronic data of another person or persons as ones own, or using such data without giving proper credit for it; or

Any use or attempted use of electronic devices in gaining an illegal advantage in academic work in which use of these devices is prohibited, and such devices include but are not limited to cell phones, laptops, etc.