

PROPOSAL NO. 99-718  
CURRICULUM PROPOSAL FORM

(C)

**\*DEADLINES:**

REGULAR COURSE PROPOSALS: OCTOBER 23, 1998 FOR FALL, 1999 AND FEBRUARY 19, 1999 FOR SPRING, 2000  
SHORT-TERM COURSE PROPOSALS: DECEMBER 11, 1998 FOR FALL, 1999 AND MARCH 26, 1998 FOR SPRING 2000

**PROPOSAL TITLE:** Online Introduction to Systems

**SPONSOR/S:** Computer Science, Nancy Trakheim

**DEPARTMENT:** 0706.505

**CHECK ALL THAT APPLY:**  
 UNDERGRADUATE      GRADUATE

**COLLEGE:** \_\_\_\_\_  
 If LAS:      History/Humanities  
                Math/Sciences  
                Social/Behavioral Sciences

\* \* \* \* \*

**TYPE OF PROPOSAL (Check ALL that Apply)**

<input type="checkbox"/> General Education	<input checked="" type="checkbox"/> New Course (NOT Gen. Ed.)
<input type="checkbox"/> New Course in _____ Bank	<input type="checkbox"/> Name Change (Dept., School, Major)
<input type="checkbox"/> Existing course, Add To _____ Bank	<input type="checkbox"/> Changes in Degree Requirements
<input type="checkbox"/> Multicultural/Global Designation	<input type="checkbox"/> Changes Involve Gen. Ed. requirements
<input type="checkbox"/> Writing Intensive Designation	<input type="checkbox"/> Minor Changes to Existing Courses
<input type="checkbox"/> New Minor/Concentration/Specialization	<input type="checkbox"/> Course is NOT General Education
<input type="checkbox"/> New Major/Degree Program	<input type="checkbox"/> Course IS General Education
<input type="checkbox"/> Short Term Course Proposal	

**DEPARTMENT**  
 (SIGNATURE INDICATES APPROVAL) See Trakheim

---

**DEPT. CURRICULUM CHAIR / DATE**                      **DEPT. CHAIRPERSON / DATE**

<p><b>COLLEGE CURRICULUM COMMITTEE</b>                  DATE OF OPEN HEARING (if necessary): <u>2/25/99</u></p> <p><input checked="" type="checkbox"/> APPROVED  <input type="checkbox"/> NOT APPROVED</p> <p>COMMENTS:</p> <p><u>Nancy Trakheim</u>     <u>5/7/99</u>                  SIGNATURE                      DATE</p>	<p><b>ACADEMIC DEAN (&amp; GRADUATE DEAN, for New Graduate Programs Only)</b></p> <p><input type="checkbox"/> APPROVED  <input type="checkbox"/> NOT APPROVED</p> <p>COMMENTS:</p> <p>_____                  SIGNATURE (Academic Dean)     DATE</p> <p>_____                  SIGNATURE (Graduate Dean)     DATE</p>
---	--

UNIVERSITY CURRICULUM COMMITTEE

2/25/99 (college level only)

APPROVED

NOT APPROVED

COMMENTS:

Jacqueline Rice  
SIGNATURE

5/29/99  
DATE

SENATE

Date announced at Senate 3-2-99

Voted upon at Senate:

Approved

Not Approved

Date:

EXECUTIVE VICE PRESIDENT/PROVOST

APPROVED

NOT APPROVED If no, reasons are as follows:

STUDENT CREDIT HOURS \_\_\_\_\_ FACULTY LOAD HOURS \_\_\_\_\_ EQUALIZED CREDIT HOURS \_\_\_\_\_

OFFICIAL COPY & APPROVAL SHEET FILED (DATE): \_\_\_\_\_

DATE/SIGNATURE EXECUTIVE VICE PRESIDENT/PROVOST

C. J. ... 6/28/99

REGISTRAR

DATE APPROVED COURSE DESCRIPTION RECEIVED \_\_\_\_\_

HEGIS TAXONOMY & COURSE NUMBER ASSIGNED 0706.505

DATE/SIGNATURE OF REGISTRAR

Robert A. ... 7/7/99

NOTIFICATION FORWARD:

SENATE CURRICULUM COMMITTEE CHAIRPERSON

DEPARTMENT CHAIRPERSONS

ACADEMIC DEAN(S)

REGISTRAR

SPONSOR(S)

DEPARTMENT

(SIGNATURE INDICATES APPROVAL)

*Mary Ann Williams* 10-23-98 *D. C. Stone* 10/23/98  
DEPT. CURRICULUM CHAIR / DATE DEPT. CHAIRPERSON / DATE

COLLEGE CURRICULUM COMMITTEE

DATE OF OPEN HEARING (if necessary) \_\_\_\_\_

----- APPROVED

----- NOT APPROVED

Comments:

\_\_\_\_\_  
SIGNATURE DATE

ACADEMIC DEAN (& GRADUATE DEAN, for New Graduate Programs Only)

----- APPROVED

----- NOT APPROVED

Comments:

\_\_\_\_\_  
SIGNATURE (Academic Dean) DATE

\_\_\_\_\_  
SIGNATURE (Graduate Dean) DATE

**Rowan University**  
**Department of Computer Science**

**Course Proposal**

**Wireless Networks and Systems**

1. Details

- |                                   |   |
|-----------------------------------|---|
| a. Course Title:                  | Wireless Networks and Systems   |
| b. Sponsor:                       | Andrea Lobo, Computer Science Department  |
| c. Credit Hours:                  | 3   |
| d. Course Level:                  | Graduate  |
| e. Curricular effect:             | Restricted elective for Computer Science majors   |
| f. Prerequisites:                 | Computer Networks (0706.###), or Data Communications and Networking (0706.410), or permission from the instructor |
| g. Suggested time, Implementation | One section every two years, or more often as demand dictates   |
| h. Resources:                     | Faculty, equipment, and library resources are adequate  |

2. Rationale

Wireless technologies have seen enormous improvements in miniaturization and battery consumption in the last decade. As the technology has facilitated more sophisticated consumer products, wireless networks and systems are becoming increasingly important and widespread. This course prepares students to understand deployed and proposed wireless networks and systems, and the underlying communications technologies that make them possible.

This course proposal is consistent with the Computer Science Department's goal to offer restricted electives for our majors, and courses of interest to graduate computer science professionals in the region. This course may also be useful to students in the Master's in Engineering program.

3. Essence of the course

a. Objectives in relation to student outcomes

Students will be able to:

- Describe wireless communications;
- Understand the details of important deployed and proposed wireless networks and systems;
- Understand the issues that are critical to wireless system performance;
- Understand the Quality of Service capabilities of wireless systems;
- Prepare and deliver a technical presentation on a topic in wireless networks and systems.

b. Topic outline

Radio, infrared, analog, digital, very short distance, and satellite communications  
Wireless local area networks  
Wireless bridges  
Wireless access to the Internet  
Ad hoc networks  
Cordless telephones  
Wireless access and control  
Landline systems  
Satellite voice and paging systems  
Global communications systems  
Deployed cellular systems  
Third Generation Personal Communication Systems  
Performance of wireless systems and technologies  
Quality of Service capabilities of wireless systems

c. Evaluation and grading procedure of students

Students will be evaluated based on one or more in-term examinations, one or more projects, and a final examination. Each student will present the results of one project to the class.

d. Course evaluation

This course will be evaluated by the Department's curriculum committee.

e. Texts

- i. Goodman, David, *Wireless Personal Communications Systems*, Addison-Wesley, 1997.
- ii. Solomon, James, *Mobile IP: The Internet Unplugged*, Prentice Hall, 1998.

4. Results of consultation

We have consulted with the Computer Science Department and Prof. John Schmalzel, Chair of Electrical Engineering.

## 5. Catalog Description

0706.5##

3 s.h.

### Wireless Networks and Systems

(Prerequisites: 0706.5## (Computer Networks), or 0706.410, or permission from the instructor)

This course prepares students to understand wireless networks and systems, and the underlying communications technologies that make them possible. The course covers descriptive material on wireless communications technologies, and important deployed and proposed wireless networks and systems. Wireless system performance and Quality of Service capabilities are addressed. Students will prepare and deliver technical presentations on state-of-the-art topics in wireless networks and systems.