Instructor: Daryl Reynolds  
Office: ESB 837  
Phone: 304-293-9134  
Class Time: MWF 11:00-11:50 in MRB 109  
Office Hours: M 12:30-1:30; W 3:00-4:00; F 12:30-1:30 after class, and by appointment  
E-Mail: daryl.reynolds@mail.wvu.edu (I do not read Mix e-mail)  
Web Page: eCampus. Check often.

Textbook: *Fundamentals of Wireless Communication*, by D. Tse & P. Viswanath (required)  
non-printable version at http://www.eecs.berkeley.edu/~dtse/book.html

Prerequisite:  
• EE 461 or knowledge of basic digital communication concepts  
• EE 513 (mandatory co-requisite)  
• understanding of linear systems  
• knowledge of MATLAB

Course Topics

This course is designed to provide students with an understanding of point-point wireless communication theory and systems. At the end of the semester, you should be able to

• Describe and model the wireless channel, including large and small-scale fading effects, and understand the common terminology used to describe various models.  

• Examine the performance of digital modulation in fading channels  

• Determine the performance of practical digital modulation techniques operating over wireless channels  

• Describe how diversity can be used to improve performance in wireless systems.  

• Analyze theoretical and practical aspects of time, spatial, and frequency diversity.
Grading

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>0%</td>
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<tr>
<td>Computer Projects</td>
<td>20%</td>
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<tr>
<td>2 Exams</td>
<td>25% each</td>
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<tr>
<td>Final Project</td>
<td>30%</td>
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The instructor may curve at his discretion, but you are guaranteed at least the letter grade shown below if you obtain the corresponding score. No '+' or '-' grades will be given.

- A 90%
- B 80%
- C 70%
- D 60%

Missed Test Policy

You are expected to attend the exams at the scheduled time and date. If you have an unavoidable conflict, please let me know as soon as possible, but no later than one week before the exam. The decision to give a make-up examination is at my discretion. If you miss the exam without first having your absence approved, then the only acceptable excuse is for documented urgent medical reasons or approval by the appropriate university official.

Honor Code

All work submitted for the exams should be your own unaided work. You may confer with your colleagues on interpretation and approach to homework problems (including the computer assignments), but the solutions must be your own. All code that you turn in for your computer assignments must be well documented and entirely your own work (except for code that was given to you by the instructor). As a rule of thumb, if you are sharing written work (through e-mail, for example), you are probably in violation of the honor code.

Regrading

If you believe the instructor has made a mistake or was unfair in grading, you may request a regrade. However, the request must be made in writing and within one week that the assignment or exam was returned. The decision to change the grade is entirely at the discretion of the instructor.
**Attendance**

Attendance is strongly encouraged. Attendance will be recorded at random times throughout the semester and bonus points may be awarded at the discretion of the instructor. In any case, you will be responsible for all material covered in class, even if it is not in the textbook. You are also responsible for material posted on the course web page. It is your responsibility to make sure that all assignments are turned in on time and that you are aware of all announcements made in class. Please arrive to class on time.