Prerequisite MATH 432/432g or permission of instructor.

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Office Hrs MWF 1:15 – 1:45; TR 1:15 – 2:15; or by appointment.

Course Description **MATH 532** is an introduction to the study of measure theory. The course covers standard material on measure spaces, outer measure, Lebesgue measure, measurable functions, sequences and series of functions, and integration.

MATH 532 is a required course in the mathematics MS program.

Text No text is required. Course notes will be provided in pdf format at

http://people.wku.edu/david.neal/532/

Other references can be provided upon request.

Homework

Exercises will be assigned daily with some problems to be turned in for a grade. On these problems, students are expected to do their own work; plagiarism and allowing plagiarism are not allowed and will result in a grade of 0 for the assignment. A repeat offense will result in the offending students being dismissed from the class. Late homework will not be accepted for credit.

All problems require you to write a proper mathematical proof. All proofs should be written elegantly and neatly in a formal mathematical style. Complete sentences of explanation are required. Do not simply write an equation; you must explain what the equation is giving and/or why it is being used. Moreover, all equations must be properly aligned with no scratch outs.

Tests

Each test will be based on class lectures and assigned homework. Details of the tests will be outlined about a week and a half in advance of the tests. The tests will be closed-book with no formula sheets allowed and no calculators allowed.

Test Dates

Test 1: Wed Feb 24   **Test 2:** Wed Apr 7

Final Exam: Friday May 14 1:00 – 3:00 PM.

Attendance Policy

Registration in this course obligates you to be regular and *punctual* in class attendance. Repeated tardiness may be punishable by fine or suspension. Every student is expected to attend every class. If you accrue two unexcused absences, then you will receive an F in this course if you do not withdraw on your own.

Absences will be excused only if you were *physically unable* to attend class. Some examples of such situations would be:

(i) You suffered a severe gunshot wound. (If it is only a flesh wound, then you can bandage it up and come to class.)

(ii) You had a heart attack, stroke, or fell into a coma.

(iii) Your appendix burst.

(iv) You suffered a compound fracture of your femur. (If you merely fracture an arm, then you can still walk and therefore should come to class.)

(v) You were otherwise hospitalized or institutionalized.

(vi) A natural disaster such as an earthquake, tornado, or tsunami left you buried underneath rubble.

(vii) You were trapped in a car after a serious automobile accident and were awaiting the jaws of life to come rescue you.

(viii) You were bitten by a black mamba whose venom left you paralyzed.

(ix) You were kidnapped and being held for ransom.

(x) You were being held hostage by terrorists.

(xi) You were on a plane that was hijacked to Cuba.

(xii) You got marooned on a desert island while sailing on a three hour tour.

(xiii) You were abducted by aliens from the planet Tralfamadore.

(xiv) You were arrested on a case of mistaken identity. (If you really were the perpetrator and were legitimately arrested, then shame on you; it's not excused.)

(xv) You were giving birth. Congratulations, you get the day off! See you next class.

Make-Up Policy

There will be no make-up exams. So try to avoid any of the above calamities on test days.

Grades will be assigned as follows:

Assignments: 40%   **Two Tests**: 20% each   **Final Exam**: 20%

A: Average $\geq 95\%$ **B**: $87.5\% \leq \text{Avg} < 95\%$ **C**: $80\% \leq \text{Avg} < 87.5\%$ **F**: $\text{Avg} < 80\%$

Curves to this grading scale will be reserved solely
for students who have *zero* unexcused absences.

Withdrawal Date

March 19, 2010 is the last day to withdraw from the course with a grade of W or to change enrollment from credit to audit.

Disability Services

Students with disabilities who require accommodations, academic adjustments, and/or auxiliary aids or services for this course must contact the Office for Student Disability Services in DUC A-200. The OFSDS telephone number is 745-5004 (or 745-3030 TTY). Please do not request accommodations directly from the professor without a letter of accommodation from the Office for Student Disability Services.

Please feel free to see me if you ever need any other help with the class or if you'd like to discuss any other matter. Good luck in the course!