NUMBER SYS/THEORY FOR TEACHERS
Math 205-001/003- CRN 34673/34675 (3 Hours)
Spring 2010

Instructor: Hope Marchionda
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Course Hours: MWF 9:10-10:05 and MWF 11:30-12:25 in STH 3122
Office Hours: Tentatively 8:30-9:00, 10:15-11:15 on MWF and 12:30-1:30 on MW and by appointment

Materials:
- You must have regular access to the internet for the following:
  o Email – important communications
  o Blackboard - the course website for notes, assignments, and other pertinent information.

Course Description:
This course is the first of a three course sequence which includes topics related to the K-8 mathematics curriculum. In this course particular topics of interest include: Development of conceptual understanding of elementary place value, operations on whole numbers and integers, number theory, and basic algebra and functions. This course is for students in the early grades (K-5), middle grades (5-9) or EXED teacher certification programs only.

Prerequisites:
A “C” or better in a general education mathematics course (Math 109 or Math 116 or equivalent) is a requirement. Please note: A student must complete Math 205 with a grade of “C” or better to enroll in Math 206.

Attendance:
Regular attendance is strongly recommended and will be part of your participation grade. Attendance will be taken at each class meeting. In the event you must miss a class, YOU are responsible for finding out what work you missed during your absence. Attendance is sometimes taken at odd times of the class period; therefore, if you arrive late or leave early, it is your responsibility to make sure that I correctly mark your attendance for the day. Participation is an important component in the learning process and if you are not in class then you are not participating. Also keep in mind that absenteeism and tardiness are poor qualities for those planning to become a teacher to possess. Furthermore, students with excessive absences do not normally do as well on tests.

Important Dates:
February 1st – Last day to drop the course without a grade
March 8th-12th – Spring Break - No class!
March 19th – Last day to drop the course with a W or change to an audit – there will be no exceptions

Academic dishonesty will not be tolerated. This includes any form of cheating or plagiarism. The policy is found on the web at http://www.wku.edu/coursecatalog/index.php?subcategoryid=75

Please Note: 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
Course Design:
This course will be divided into three modules with the following tentative tests dates:

**Module 1: Numerations Systems, Whole Numbers**
- Procedural Knowledge – January 29th
- Module Test - February 26th

Chapter 1: Reasoning About Quantities
Chapter 2: Numeration Systems
Chapter 3: Understanding Whole Number Operations
Chapter 4: Some Conventional Ways of Computing

**Module 2: Integers and Number Theory**
- Procedural Knowledge – March 5th
- Module Test – April 5th

Chapter 5: Using Numbers in Sensible Ways
Chapter 10: Expanding Our Number System
Chapter 11: Number Theory

**Module 3: Algebraic Thinking, Functions, and Applications**
- Procedural Knowledge – April 9th
- Module Test – May 5th

Chapter 12: What is Algebra?
Chapter 13: A Quantitative Approach to Algebra and Graphing
Chapter 14: Understanding Change: Relationships among Time, Distance, and Rate
Chapter 15: Further Topics in Algebra and Change

**FINAL EXAM**
- **Section 001:** May 10th 8:00-10:00
- **Section 003:** May 13th 10:30-12:30

The class will focus on mathematics content with special emphasis on conceptual understanding. Students are expected to possess procedural knowledge (skills) prior to taking these courses; consequently, skills will not be remediated within the course unless this is a byproduct of instruction. To help insure that students possess the appropriate procedural knowledge, modules will begin with an out-of-class pretest devoted to testing “basic skills.”

In addition to earning a 76% average to pass the course with a C or better, you must also earn a 76% or higher on all procedural knowledge and module assessments and a 70% or higher on the final exam. A limited number of retakes will be allowed on some assessments and will be described later in this document. If a student needs to retake a procedural knowledge or module test, then he/she will need to meet with the instructor to work out remediation plans. If a student repeats a test, the highest grade that will be recorded for that student is 76%. The rationale is twofold: (1) Students who passed initially cannot take a retake in order to “see the test” and then try to better their scores; and (2) students who can make an A or B on the first try should not have the same grade as one who repeats the test.
Please note that because your final grade will not be based solely on tests, you could make at least a 76% on all tests and a 70% on the final exam and still not pass the class.

Assessment / Evaluation:

Grading Scale: 92 – 100% A    84 – 91% B   76 – 83% C   68 – 75% D   0 – 67% F

The course grade will be computed as follows:

- **Tests (51%)**: There will be 3 module tests. All students will take each of these tests on the scheduled date and tests will be completed in the allotted time. The only exceptions will be for students that have written permission from the Office of Student Disability Services. You must make a 76% or higher on each module test to pass the class. If you do not make a 76% on your first attempt, you may retake the test **one** time. This retake must be completed outside of class and before the end of the next module.

  Please note: There will be no planned make-up tests and missing a test will result in a zero. Only under the most **extenuating** circumstances will a make-up test be considered if the instructor is aware of the absence in **advance**.

- **“Basic Skills” Tests (5%)**: A module may have a “basic skills” test. You must make a 76% or higher on these tests to pass the class. These will be taken without a calculator and will be given outside of class on your own time. If you do not pass a skills test the first time with a 76% or higher, you will be allowed to retake the test **two** times on your own time. These retakes must be completed before the module is completed.

- **Writing Assignments (9%)**: You will have several writing assignments during the semester. The requirements for each will vary and will be communicated at the time the assignment is made.

- **Assignments (9%)**: During the semester we will focus on a number of problem solving strategies. For each strategy introduced, problems will be assigned, collected and graded. In addition to these small assignments, there will be longer problem solving assignments given every few weeks that will be collected and graded. In addition, reading each chapter is expected and problems will be assigned on a daily basis and should be taken seriously. Regularly assigned homework or classwork may be collected at any time. Assignments will be collected at the end of each chapter and a grade will be assigned based on the work you have completed. Late assignments will not be accepted. **Pencil** and **loose leaf** paper must be used on all hand written assignments and will **not** be accepted otherwise.

- **Participation (5%)**: Participation will be measured by attendance, participation in group work, volunteering to put problems on the board, explaining problems on the board, and participation in Blackboard discussions.

- **Final Exam (21%)**: A comprehensive final exam will be given at the time designated by the university. A grade of at least 70% must be made on the final to pass this course.

**SUMMARY:**

In order to pass the course with a grade of C or better you must

- Attain a minimum grade of 76% on each of the three module tests,
- Attain a minimum grade of 76% on each skills test,
- Attain a minimum grade of 70% on the final exam, AND
- Attain an overall average of 76% for all work in the class.