

Course Syllabus
Math 1001-04: Quantitative Skills and Reasoning
Fall Semester, 2015
University of West Georgia

Instructor: Dr. David G. Robinson, Humanities #221, 678-839-4137
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Office Hours: *MWF* 11:10 – 11:50 a.m., 1:30 – 3:20 p.m.

Class Meetings: *MWF* 10 – 10:52 a.m., Boyd #303
These will consist primarily of lectures and discussions. All reading will be assigned in advance of the meeting thereon. (See attached schedule.)

Text/Resources:

- Blitzer, Robert, *Thinking Mathematically*, 5th/6th Ed., Prentice Hall, 2011/2015
- Scientific calculator (**TI-30XII** or better)
- Publisher's *Student Solutions Manual* - **Optional**
- *MyMathLab* resources - **Optional**

Prerequisites: None

General Course Description:

From the course catalog: "This course is a general overview of mathematical concepts used in quantitative reasoning and is not intended to supply sufficient algebraic background for students who intend to take Precalculus or the Calculus sequences for mathematics and science majors ... Emphasis is on processing information in context from a variety of representations, understanding of both the information and the processing, and understanding which conclusions can be reasonably determined."

Topics:

Proofs and Problem-Solving (Chapters 1 and 2): Inductive and deductive reasoning, direct and indirect proofs, disproofs by counterexample, estimation/approximation, *Polya's* 4-step method of problem solving, logical operations, syllogisms.

Set Theory (Chapter 2): set notation, set cardinality, membership and inclusion, families of sets, set operations, Venn diagrams, set identities, inclusion/exclusion principle, applications to logic and probability.

Logic (Chapter 3): Propositions, logical implication and equivalence, conditionals, logical quantifiers, categorical statements, negation, conjunction, disjunction, truth tables, syllogisms, valid and sound arguments.

Financial Math (Chapter 8): percent change, tax computations, simple and compound interest, annuities and installment loans.

Probability (Chapter 11): counting, permutations and combinations, probability distributions, laws of chance, odds.

Statistics (Chapter 12): Sampling, frequency distributions, graphs, Measures of central tendency, measures of dispersion, normal distributions, empirical rule.

Evaluation

Procedures: Your understanding of the material will be evaluated on the basis of your performances on *five written tests*. (See attached schedule for details.)

Homework problems from the text or from class will be assigned regularly but not collected or graded. These are for practice, self-evaluation and class discussion. Be prepared to discuss them as soon as possible after they are assigned.

Evaluation

- Criteria:** Grades on all work will be based upon
- accuracy of information (including calculations and use of terminology)
 - depth and breadth of solutions
 - logic and clarity of arguments
 - neatness and clarity of presentation
 - correctness of grammar and spelling
 - thoroughness and timeliness of work
 - intellectual honesty and creativity
 - difficulty of the assignment/test

Grades: My scale for converting numerical grades (i.e., percentage points) to letter grades will be as follows:

89-100 A, 77-88 B, 65-76 C, 50-64 D, below 50 F

Your final grade will be based on your five *test scores*. However, you may also earn up to *five points* of 'extra credit' by maintaining a *superior record of attendance*, i.e., *one point per period of zero absences from class meetings between successive tests*. [Note: An absence here means a class day in which you are not present - in body or mind! - for the duration of the class meeting, *regardless of the reason*.]

Important Policies and Electronic Communication Information:

- Attendance is important! However, should you find for some reason that you must miss a class meeting, remember that you are still responsible for any and all material you may have missed during your absence.
- *Tests must be taken at the prescribed times (see attached schedule), except by permission from the instructor. Such permission will be given only under the direst of circumstances (serious illness, e.g.) and only if your request is granted before the test is over. Otherwise you will receive a score of zero for that test.*
- If you find yourself falling behind in the course, do not delay in seeking out assistance and/or advice from someone (the Instructor, a tutor, etc.) who is competent in the subject area and who has your best interests at heart! **The Math Tutoring Center is in Boyd #205 and is open daily at the posted times.**
- **All electronic correspondence between student and instructor about matters pertaining to this course should be by way of your UWG e-mail account. In particular, all documents for this course may be downloaded from the UWG website by opening the "files" folder for this course in the "myCOURSES" section of the "myUWG" site.**
- I assume you will abide by the *UWG Honor Code*. This means among other things that you will not submit any work for a grade that is not your own work. Violators of the code will receive no credit for the work in question and, in more serious cases, may be expelled from the course with a grade of 'F'.
- For complete information on your rights and responsibilities in this or any other course at UWG go to <http://tinyurl.com/UWGSyllabusPolicies>.