SYLLABUS: WSU-TC Math 101 – Intermediate Algebra
Fall 2010
Instructor: Rik Littlefield
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Phone: 375-3493 (home)**, 509-521-6860** (cell – not recommended)
Mailbox Location: outside W144B-C
WSU office hours: none scheduled, but I'm happy to meet by arrangement!

Required Materials:

Textbooks: *Algebra 1* and *Algebra 2* (two volumes), Cliffs Study Solver, ISBN 978-0764537639 and 978-0764541353.

Other: *Math 101 Collected Handouts*, available for purchase in the Copy Center.

Course Description

Catalog entry: "*Fundamental algebraic operations and concepts.*"

Prerequisites: working knowledge of arithmetic; willingness to learn.

This course focuses on the core aspects of algebra and numbers that are needed to be successful during and after college. It emphasizes in-depth understanding of concepts and techniques used to solve a wide range of real world practical problems. The same concepts and techniques also provide a solid base for study of more advanced mathematics such as statistics and calculus, for students who choose to move in those directions.

Starting from ordinary arithmetic and common sense, students will develop a solid understanding of the fundamentals of algebra. Student construction of Microsoft Excel spreadsheets is integrated throughout the course, not only as a way of solving specific problems involving numbers, but also as a powerful way of making sure that general symbolic solutions are actually correct.

The primary learning resources for this course will be classroom presentations and discussions and supplementary material provided by the instructor. Much important material — notably everything about spreadsheets — is not covered by the textbooks and will be obtained from other sources.[1]

Assessment & Evaluation (Grading)

- Exams (55%)
  - 3 exams, evenly spaced
  - take home, open book, open notes, open web
- Homework (35%)
  - showing student's work with cross-checks and justifications
- Classroom Attendance & Participation (10%)

[1] In compensation, much un-important material that is in the texts will be skipped.

General Expectations for the Course

1. Homework is critical! This course is organized around the idea that both learning and assessment work best when students apply concepts and techniques repeatedly over an extended period. A big chunk of your grade depends on producing careful, thoughtful, clear, and well-justified solutions to regularly assigned problems.
2. You are expected to compose all assignments in your own equations, spreadsheets, words, and diagrams.
3. You are expected to acknowledge material that you get from other sources, just as if you were writing a research paper. It is certainly OK, even recommended, to consult the web and to discuss homework problems with other people — just give credit where credit is due.
4. All assignments are to be legible and easily photo-copied. (Dark pencil or computer printout is best.) Clarity is the overriding consideration. See the Homework Guidelines handout for details.
5. Late homework is always accepted and does count toward your grade. However, you will find it much easier to keep up if you do assignments on time.
6. You are expected to be professional and collegial at all times. Getting stuck, getting lost, making false starts, and making mistakes are all common events in doing math. It is important that all students (and the professor!) feel that it is SAFE to "think out loud", to thrash, and to make honest mistakes.
7. You are expected to be present and to participate fully in classroom discussions. If you don't understand, speak up! If you see a better way to work a problem, or another way to think about it, let us know!
8. You are responsible for any and all information discussed in every class. If you must miss class, then notify the instructor in advance and arrange to get notes, additional short assignments, or other information from a classmate.
9. If you have any questions or concerns, please call, e-mail, or meet with me.

Academic Integrity: I encourage you to work with classmates to understand assignments and how to solve them. However, each student must turn in original work, created from scratch without referencing another student's work. To "reproduce from understanding" is a good way to learn mathematics. Symbol-by-symbol copying is not, and no copying will be accepted. You must do your own work. Students who violate WSU's Policy on Academic Integrity may fail the course.

Disability Services Reasonable Accommodations Statement:
Reasonable accommodations are available for students who have a documented disability. Classroom accommodation forms are available through the Disability Services Office.

If you have a documented disability, even temporary, make an appointment as soon as possible with the Disability Services Coordinator, Cherish Tijerina, 372-7352, Room 269J West Building. You will need to provide your instructor with the appropriate classroom accommodation form. The form should be completed and submitted during the first week of class. Late notification can delay your accommodations or cause them to be unavailable. All accommodations for disabilities must be approved through the Disability Services Coordinator.

University Evacuation Procedures

- If you see an emergency, call 911.
- If there's a fire, pull the nearest fire alarm.
- If you hear a fire alarm, leave the building immediately.
- Evacuation routes are posted inside the door of each classroom.
- Once outside the building, go to the Cougar Garden (emergency staging area). Stay there until the evacuation is released.
- When leaving the building, take important belongings with you.

Course Content

All of the mathematics taught in this course will be motivated by real-world applications and will be taught for understanding. The objective is for students to learn techniques that they can apply independently to solve problems they care about.

Memorizing and regurgitating arcane trivia is not a goal of this course.

Most of the course time will be spent on three major groups of techniques:

- classic algebra (rearranging formulas and equations to get symbolic solutions)
- computer spreadsheets (simulation, error checking, solving equations numerically)
- graphical techniques (constructing and interpreting data plots)

Applications will be selected from a wide variety of areas having common themes:

- linear and nonlinear relationships
- rates and ratios, unit conversions
- growth and decay (money — interest and inflation!)

The exact sequencing and pacing of course content will be determined by student needs. There is no rigid day-by-day predetermined schedule.