# DEPARTMENT OF MATHEMATICS
# COLLEGE OF THE SCIENCES
# CENTRAL WASHINGTON UNIVERSTIY
# Spring 2015

1. **MATH 406—Algebra for Teachers**

| CRN | Section | Class Day and Time | Room | Final Exam Day and Time |
|---|---|---|---|---|
| **36099** | **001** | **MTWR 1:00 -1:50** | **Hertz 120** | **Wednesday, June 10 12:00 – 2:00** |

2. **Course Materials:**
   - **Textbook.** *Algebra for Elementary and Middle School Teachers,* By Stump, Roebuck and Bishop. Pearson: ISBN 978-0-558-38777-8
   - **Graphing calculator.** Students are required to have a graphing calculator for this class. The TI-84 Graphing Calculator is strongly recommended, and will be the calculator used in classroom demonstrations. Calculators may **not** be shared or borrowed during test time.

3. **Instructor's Office Hours and Contact Information: Dr. Janet Shiver**

| *Office Location:* | *Office Phone:* | *Email Address:* | *Office hours:* |
|---|---|---|---|
| Boullion 115 | (509) 963- 2834 | shiverj@cwu.edu | 9:00 -10:00 |

4. **Course Expectations:** Being successful in a mathematics class generally requires good study habits, hard work/patience while attempting problem sets, and proper time management during testing situations. Each student is expected to attend every class meeting, to read the assigned sections of the text prior to class, to complete homework problems and other assignments in a timely manner, and to seek the assistance of the instructor or a tutor when difficulties are encountered.

**5.** **Course Description:** This course will focus on the development of algebraic thinking. Content will include algebraic reasoning, solving equations and inequalities, identifying, extending and generalizing patterns, sequences and series, algebraic systems, functions, elementary models, algebraic modeling in geometry, polynomial algebra, the division and Euclidean algorithms, and modular arithmetic. Class activities will involve appropriate technology including manipulatives and initiate investigations of underlying mathematical structure in the exploration of algebraic concepts.

6. **Course Objectives:** After successful completion of this course, students will be able to: (1)use algebra to investigate, represent and solve problems including using algevraic expressions, equations inequalitites and systems of equation and inequalitites; (2) Use multiple representations of functional relationships

including graphs tables, expressions and models; (3) analyze, extend and generalize (using both recursive and explicit forms) sequences ; (4)use and explain patterns of change in proportional, linear, inversely proportional, quadratic and exponential functions; and (5) will reason using the language of formal logic.

7. **Grading/Make-up Policy:**

| | | | |
|---|---|---|---|
| 25% Activities (quizzes, assignments, labs and/or mini-projects) | 50% Tests | 5% Attendance (0-1 Absence 100%, 2 absences 90%, 3 absences 80%, etc.) | 20% Comprehensive Final There are no exemptions from the final exam. |

For final weighted averages falling in the following intervals, a student will earn at least the corresponding letter grade:

[92-100] = A [90-91] = A - [88 – 89] = B+[82-87] = B [80-81] = B- [78-79]= C+
[72-77] = C [70-71] = C- [ 68-69] = D + [62-67] = D [60-61] = D- [Below 60] = F

Students are expected to attend each class period and to be on time. Any missed activities grades due to an absence or tardy will be recorded with a grade of zero. **Missed class work may not be made up.**

A missed test may not be made up without just cause. If you have a conflict (e.g. a CWU athletic event, court date, doctor's appointment, etc.) or severe illness that requires you to miss a test contact the instructor to make other testing arrangements. Arrangements should be made as soon as you know there is a conflict or, in the case of illness, by the scheduled test date. **Documentation must be provided in order to make alternate arrangements.**

8. **Absence/Tardy Policy:**
Students are expected to attend class regularly and to be on time. Students who arrive late should enter the class quietly and sit in the first available desk. Students are responsible for signing the attendance roster at each class meeting. Students who miss 3 consecutive classes or more than 4 classes may be withdrawn from the course and assigned a grade of F for excessive absences. NOTE: Extenuating circumstances will be evaluated on a case-by-case basis.

9. **Academic Honesty:** The integrity of students and their oral and written work is a critical component of the academic process. All written work submitted in this course will be individual work unless otherwise directed by the instructor. Students must properly document all outside sources used for outside of class assignments. The submission of another's work as one's own is plagiarism, and

will be dealt with using the procedures outlined in the CWU Catalog .

10. **Course Outline:** Modification of this schedule will be made at the discretion of the instructor. Announcements made in class or on the class web page will supersede this schedule.

| Week of | Class Outline | Notes: |
|---|---|---|
| March 30 | Syllabus, Logic Module | |
| April 6 | Logic Module | |
| April 13 | Logic Module | **Test 1 – Logic**<br>**No class on April 15 and 16** |
| April 20 | Expressions and Equations Module | We will have class on April 22 |
| April 27 | Expressions and Equations Module | |
| May 4 | Expressions and Equations Module | **Test 2** – Expressions and Equations |
| May 11 | Functions and Modeling Module | |
| May 18 | Functions and Modeling Module | |
| May 25 | Functions and Modeling Module | **Test 3** – Functions and Modeling |
| June 1 | Right Triangle Trig | |
| June 10 | FINAL EXAM | 12:00 -2:00 |

11. **Safety:** Fire drills may be conducted during the semester. In the event of a fire alarm signal, students will exit the building in a quick and orderly manner through the nearest hallway exit. Learn the floor plan and exits of this building. Do not use elevators. Crawl on the floor if you encounter heavy smoke. Assist disabled persons and others if possible without endangering your own life. Assemble for a head count behind Hertz, on the lawn behind the Science building.

12. **Electronic Devices Policy**: *It is common courtesy to turn all electronic devices to "off" or "silent" mode when entering the library, classrooms and auditoriums.* Please adhere to this policy. All cell phones should be kept out of site during the class. Please be sure they are placed in a pocket, purse, or backpack so they will not present a temptation during class time.

13. **Request for Disability Modifications:** Students with disabilities who wish to set up academic adjustments in this class should give me a copy of their "Confirmation of Eligibility for Academic Adjustments" from the Center for Disability Services as soon as possible so we can discuss how the approved adjustments will be implemented in class. Students without this form should contact the Center for Disability

Services, Bouillon 140 or ds@cwu.edu or 963-1202

**Tips for Success**

- **Prepare for each class.** A COLLEGE LEVEL MATH COURSE MOVES AT A FAST PACE. New topics are introduced and discussed in each class period. Professors expect students to be proficient in these topics by the next class. Too often students believe that the homework and reading for their math courses can wait until the weekend. This is a losing strategy.
- **If you must miss a class,** it is your responsibility to get notes from a classmate. Exchange phone numbers or emails with someone in class (today). Communicate with your instructor if you must miss an exam or more than one class.
- **Set aside ample time EVERY day** to spend on non-credit math homework. College instructors expect students to spend an average of 2 hours outside of class **for each hour** spent in class. Some topics will be harder to grasp than others. As a result, there will be times when you will need to spend much more than 2 hours. In general, students who do not complete every homework assignment (to the point of understanding) will not perform very well on quizzes and tests.
- **If you do not understand a topic,** get help immediately! Getting assistance early is important. A short trip to the free tutors in the library or your instructor may be all you need.
- **Form a study group** with other students from your class. Study groups can foster a greater understanding of the material and a sense of confidence.
- **READ the textbook and supplementary materials.** The text will have careful explanations of the topics along with examples and illustrations. You are responsible for anything in the assigned reading or homework problems (even if it wasn't discussed in class).