Syllabus for Summer Start 2014 MAT 112, Algebraic Operations and Functions

Section 901

Class Meetings: Monday, Tuesday, Wednesday, and Thursday 8:00-9:45am
Hall of Languages Room 105

Instructor: Instructor: Maureen Jeffery
Office: 103 D Archbold
Office hours: 9:45-10:30am
Email: mejeffer@syr.edu

Course Description:

This course in algebra uses TI-83+ or TI-84 graphics calculator as a tool in investigating variables and functions within an algebraic structure. Topics include variables, operations, linear functions, the absolute value functions, quadratic functions, systems of functions, direct and inverse variations, exponents, and radicals.

NOTE: *A student cannot receive credit for MAT 112 after receiving a grade of C or better in any MAT course numbered above 180. The last day to withdraw from the course is August 1, 2014.*

Required Materials (Must be prepared before class begins):

(1) Textbook: Masingila, J. O. (2004), *Algebraic Operations and* Functions (6th edition). Boston, MA: Pearson Custom Publishing – must be purchased at the Syracuse University Bookstore NOTE: Do not purchase used copies of this book since work is done in the book.
(2) TI-83+ or TI-84 graphics calculator – may be purchased at a variety of stores (e.g., Orange Student Bookstore, Staples) and may be purchase at the Syracuse University Bookstore. There are calculators to check out in the library.

Required Supplementary Materials:

- 3-ring notebook binder with section dividers
- A thin folder in which to hand in units/exercises to be graded

Course Philosophy: The emphasis in this course is on learning mathematical concepts through solving problems, and it is our conviction that problems are best solved in a cooperative learning situation. Hence, you will often work in groups, an arrangement that we believe has the following advantages:

- Group problem solving with is often broader, more creative, and more insightful than individual efforts
- Interaction with others may stimulate additional problems, insights, and discoveries
- Students can motivate one another to excel and to accept more challenging problems
- Motivation to persevere with a problem may be increased
- Socialization skills are developed and practiced
- Students are exposed to a variety of thinking and problem-solving styles different from their own
- Students learn to depend on themselves and each other (rather than on the instructor) for problem solutions
- Conceptual understanding is deeper and longer lasting when ideas are shared and discussed

Learning Outcome Goals:

(1) To help you develop an adult-level perspective and insight into the nature of algebraic concepts and procedures;
(2) To improve your ability to engage in mathematical thinking, reasoning, communication, and problem solving;
(3) To involve you in using technology as a tool to explore and learn mathematics;
(4) To encourage you to become a reflective doer of mathematics;
(5) To encourage you to learn mathematics through problem solving; and
(6) To assess your learning in a variety of ways.

Grade scale: Based on the standard math department grading scale.

93 - 100 A, 90 - 92 A-, 87 - 89 B+, 80 - 82 B-, 77 - 79 C+, 73 - 76 C, **...**

Grading: Your grade in this course will be based on class participation and your performance on biweekly quizzes, two midterms, final exam, activities, exercises/reflective writing, and your notebook (which includes activities, exams, quizzes, exercises, and reflective writing). The relative weight assigned to each is designated below:

Final Exam (20%)

Exam 1 (15%)

Exam 2 (15%)

Quizzes (15%)

In-class Activities (10%)

Exercises/Reflection (10%)

Class Participation (10%)

Notebook (5%)

Exams and Final Exam: The two exams will each last one hour during one of regular class hours. The final is mandatory. If you must miss a test or class, it is imperative that you call before the test begins. Reasons for missing a test must be documentable. Each case will be handled on an individual basis. Tests that have been returned should be kept in your notebook along with the quizzes. The specific time for final exam is August 8, 2014 during your regular class hour.

Quizzes: There will be a weekly quiz held every Thursday that will test your mastery of basic skills associated with the current topic. There are no make-ups for missed quizzes. All quizzes should be kept in your notebook.

In-class Activities: Throughout the course, you will be asked to do activities in class. All assigned in-class activities must be completed and will be graded. Some activities will be graded based on completeness others on accuracy. All graded assignments must be included in your notebook in the appropriate section.

Exercises/Reflective Writing: You will be assigned to do problems outside the classroom (these exercises are included in your textbook). These exercises will be collected on the due date found on the last page of this syllabus and will be graded. In addition to exercises, you will also get reflective writing assignments. One important way to learn mathematics is by verbalizing your ideas through oral and written means. Thus, reflective writing is an integral part of this course and of gaining an adult-level perspective on the mathematics in this course. There will be a reflective writing exercise based on mathematical ideas encountered in class. All graded exercises and reflective writings must be included in your notebook in the appropriate section.

Notebook: Your notebook will be a very important part of the course. In general, it will contain the following items (sections):

- Class Activities (after they have been torn out from the textbook)
- Exercises and Reflective Writings
- Quizzes and Exams

You will need to bring the notebook neatly and organized, with your name on the front, on the day of the exams (Exam1, Exam 2, and the final). If you take the test at the ODS office I will need your binder **BEFORE** the test, in my mailbox. Thanks in advance!

Class Attendance and Participation: In this course, you will be learning mathematics by struggling with and solving problems. Attendance at and participation in class is crucial, for active involvement is an integral part of this course. If you have to miss a class you need to find out from a classmate what was covered. In most class periods, we will be using manipulative, TI-83 or TI-84 calculator or Calculator-based Laboratories™ to explore mathematical concepts.

Since much of the class is experiential, it would be impossible to derive the same benefits by merely examining someone's class notes or reading the textbook. Thus, you are EXPECTED TO ATTEND AND PARTICIPATE IN CLASS. Attendance will be taken. Class participation counts for 10% of your course grade and attendance will be figured into this grade.

Students with Disabilities: If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), http://disabilityservices.syr.edu, located in Room 303 of 804 University Avenue, or call (315) 443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue students with documented disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. You are also welcome to contact me privately to discuss your academic needs although I cannot arrange for disability-related accommodations. Making arrangements with ODS takes time. Do not wait until just before the first test.

Academic Integrity: The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see http://academic integrity.syr.edu

Getting Help: Your instructor will be holding regular office hours and will make appointments with students having class conflicts with their scheduled office hours. In addition, the Mathematics Department offers regular math clinics. These will be set up by the second day of classes and will be posted outside the math office.

Cell Phones: All electronic devices other than the calculator should be turned off and put away during class. Calculators on cell phones are not to be used on tests or quizzes. As an instructor, I reserve the right to take away credit for the day's assignments or dismiss you from class if cell phone use becomes a chronic problem because this is distracting and can detract from your education.

Resolving Problems: Please inform your instructor of any problems that you have with this course. Problems not satisfactorily resolved with your instructor should be brought to the attention of the course supervisor without delay. The course supervisor of this course is Professor Andrew Vogel.

For Additional Help: You may also attend help sessions offered by math consultant. Here is the list of consultants you may reach for extra help. They will be located in the Ernie Davis Residence Hall 6-9pm Sunday through Wednesday.

James Robinson	jerobi02@syr.edu
Joshua Jones	jdjone03@syr.edu
Cearra Jones	cajone05@syr.edu

Course and Homework Schedule for summer 2014 MAT 112

Date	Activities	Readings (Appendix)	Exercises	Deadline for Exercises
M 6/30	1.1, 1.2, 1.3, 1.4	1.1, 1.2, 1.3	1, 2, 3, 4	7/7
7/1	1.5, 1.6, 1.7	1.4, 1.5, 1.6, 1.7	5, 6, 7, 8	7/7
7/2	1.8, 1.9		9, 10, 11	7/7
7/3	Quiz, 2.1, 2.2, 2.3, 2.4	2.1, 2.2, 2.3	1, 2	7/14
M 7/7	2.6, 2.7, 2.8	2.3, 2.4	3, 4	7/14
7/8	2.9, 2.10, 2.11, 2.12	2.5, 2.6	5, 6	7/14
7/9	2.13, 2.14		7-16, 17(extra credit)	7/14
7/10	Quiz, 3.1, 3.2, 3.3	3.1, 3.2	1, 2, 3, 4, 5, 6	7/21
M 7/14	Review			
7/15	Exam 1 (2.15, 2.16)			
7/16	4.1, 4.2	4.1, 4.2	1, 2	7/21
7/17	Quiz , 4.3, 4.4	4.3, 4.4, 4.5		
M 7/21	4.5, 4.6	4.6, 4.7, 4.8	3, 4, 5, 6	7/28
7/22	4.7, 4.8		7, 8, 9, 10, 11, 12	7/28
7/23	4.9, 4.10, 4.11		13-20	7/28
7/24	Quiz, 5.1, 5.2	5.1, 5.2		
M 7/28	5.3, 5.4	5.3	1, 2, 3, 4, 5, 6, 7, 8, 9	8/4
7/29	Exam 2			
7/30	6.1, 6.2	6.1, 6.2	1-14	8/4
7/31	Quiz, 7.1, 7.2	7.1, 7.2, 7.3, 7.4	1, 2	8/4
M 8/4	7.3, 7.4	7.6, 7.7	3, 4, 5	8/6
8/5	Review			
8/6	Review			

Final Exam will be held on August 7th, the last day of your class.

****Subject to Change****