# Syllabus for MAT 112, Algebraic Operations and Functions

## Section M902, Summer Start 2015

**Class Meeting** Mon-Thu 10:00 - 11:45 am, Hall of Languages 105

**Instructor** Sungju Moon. smoon01@syr.edu

**Office Hours** Mon-Thu 12:30 - 2:00 pm, Archbold 103D.

**Course Supervisor** Prof. Graham Leuschke. gjleusch@syr.edu

**Course Description** This course in algebra investigates variables and functions within an algebraic structure. Topics include variables, operations, linear functions, the absolute value function, quadratic functions, systems of functions, direct and inverse variation, exponents, and radicals.
*Note*: A student cannot receive credit for MAT 112 after receiving a grade C or better in any MAT course numbered above 180.

**Course Materials** These are required materials that must be prepared before class begins.

1. Textbook: Masinglia, J.O. *Algebraic Operations and Functions*, 6th edition. The textbook must be purchased at the Syracuse University Bookstore.
   *Note*: Do not purchase used copies of this book as your work will be done in the book.
2. TI-83+ or TI-84 graphics calculator.
3. 3-ring notebook binder with section dividers.

**Grading** Your final grade in this course will be based on

- Participation and Attendance (15%)
- Two Midterm Exams (15% each)
- Final Exam (20%)
- In-class Activities (15%)
- Exercises/Reflections (20%)

We will follow the standard math department grading scale.

**Exams and Final** The two exams will be held during the regular class hours. The final is mandatory. If you must miss a test or a class, it is imperative to keep me informed *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 13 during the regular class hour.

**In-Class Activities** Throughout the course, you will be asked to do activities in class. You will work as a group and your participation will be noted. All assigned in-class activities must be turned in at the end of each class meeting. 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/Reflections** You will be assigned to do problems outside the classroom (these exercises are found in the Appendix of your textbook). They will be collected on the following Monday at the beginning of class. Late assignments will not be accepted. In addition, you will also get reflective writing assignments. The reflective writing exercises will be based on mathematical ideas encountered in class. All graded exercises and reflective writings must be included in your notebook.

**Notebook** Your notebook will be collected occasionally and will be part of your participation grade. For full credit, it must contain the following items organized by sections:

1. Class Activities (after they have been torn out from the textbook)
2. Exercises and Reflective Writings
3. Exams and Pop Quizzes

The notebook binders will be collected on the day of the exams.

**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, it is your responsibility to find out what you have missed from one of your classmates. Since much of the class is experimental, it would be impossible to derive the same benefits by merely examining someone's class notes or reading the textbook.

**Getting Help** If you are struggling with any particular problem or failing to grasp any concept, *please ask*! Because the due dates for exercises coincide with the exam dates, you will not be able to get adequate feedback on those before the exam unless you come into my office and ask. I am available in my office during my regular office hours and by appointment. The quickest way to reach me is via email and in person. 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. You may also attend help sessions offered by the consultants.

**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 309 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** This 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://supolicies.syr.edu/ethics/acad_integrity.htm`

**Cell Phones** All electronic devices other than the calculator should be turned off and put away during class. Calculators on cell phone are not to be used on tests or quizzes.

**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, Prof. Graham Leuschke.

## Tentative Schedule

| Date | Activities | Readings (Appendix) | Exercises (Appendix) | Exercises Due |
|---|---|---|---|---|
| Mon 07/06 | 1.1 - 1.4 | 1.1 - 1.3 | 1 - 4 | 07/13 |
| Tue 07/07 | 1.5 - 1.7 | 1.4 - 1.7 | 5 - 8 | 07/13 |
| Wed 07/08 | 1.8 - 1.9 | | 9 - 11 | 07/13 |
| Thu 07/09 | 2.1 - 2.4 | 2.1 - 2.3 | 1, 2 | 07/20 |
| Mon 07/13 | 2.6 - 2.8 | 2.3 - 2.4 | 3, 4 | 07/20 |
| Tue 07/14 | 2.9 - 2.12 | 2.5 - 2.6 | 5, 6 | 07/20 |
| Wed 07/15 | 2.13 - 2.14 | | | |
| Thu 07/16 | 3.1 - 3.3 | 3.1 - 3.2 | | |
| Mon 07/20 | Exam 1 | Ch. 1 - 2 | | |
| Tue 07/21 | 3.1 - 3.3 | | 1 - 6 | 07/27 |
| Wed 07/22 | 4.1 - 4.2 | 4.1 - 4.2 | 1 - 2 | 07/27 |
| Thu 07/23 | 4.3 - 4.4 | 4.3 - 4.5 | | |
| Mon 07/27 | 4.5 - 4.6 | 4.6 - 4.8 | 2 - 6 | 08/03 |
| Tue 07/28 | 4.7 - 4.8 | | 7 - 12 | 08/03 |
| Wed 07/29 | 4.9 - 4.11 | | 13 - 20 | 08/03 |
| Thu 07/30 | 5.1 - 5.2 | | | |
| Mon 08/03 | Exam 2 | Ch. 3 - 4 | | |
| Tue 08/04 | 5.3 - 5.4 | 5.3 - 5.4 | 1 - 9 | 08/10 |
| Wed 08/05 | 6.1 - 6.2 | 6.1 - 2.1 | 1 - 14 | 08/10 |
| Thu 08/06 | 7.1 - 7.2 | 7.1 - 7.4 | 1, 2 | 08/10 |
| Mon 08/10 | 7.3 - 7.4 | 7.6 - 7.7 | 3 - 5 | 08/13 |
| Tue 08/11 | Review | | | |
| Wed 08/12 | Review | | | |
| Thu 08/13 | Final | Cumulative | | |