MATH 106 Summer 2014

Time: **MoTuTh 1:00-3:05 pm** **Room: SOND 101**
Instructor: **Serap Tay** **Office: MP 201**

Office Hours: MoTu 11:00 – 12:00 pm or by appointment E-**Mail**: seratay1@umbc.edu
Prerequisites: Qualifying score on the math placement test
Text: **Required: ALEKS CODE - Online course component. ALEKS code can be bought in the bookstore or online at www.ALEKS.com. Follow the instructions to log into ALEKS.**
Optional: Mark Dugopolski, Elementary and Intermediate Algebra, 3rd Edition
COURSE CODE FOR ALEKS: KLQQ9-WJD3X

Chapters to be covered:
7.1-7.3, 4.1 - 4.7, 5.1 – 5.6**,** Ch. 6, 9.1-9.6, 10.1 – 10.4, Ch 11, Ch 12
Note: Chapters 4, 5, and 7 are supposed to be review.

Homework**:** **Homework throughout the semester should be completed and submitted online through ALEKS**. Details about it will be given in class. The students are required to work out all the problems assigned. **Textbook can also be accessed through ALEKS. You can buy ALEKS ACCESS CODE online or in the bookstore. Please check out WWW.ALEKS.COM for a free tutorial.**

Exams and Quizzes: There will be **one midterm and a final**. Final exam consists of two parts. Part 1 will be an in class exam, and part 2 will be take home. There will be **4 quizzes**. **Calculators are not permitted. The one lowest quiz grade will be dropped.**

Attendance: Students are expected to attend every class. The students are responsible for any material covered, announcements made in the class, and changes in the schedule regardless of their attendance.

Grading:

HW (ALEKS)	**100 points**
ALEKS Component	**25 points**
3 Quizzes worth 25 points each	**75 points**
1 Midterm worth 100 points	**100 points**
Final Exam worth 150 points	**150 points**
Total	**450 points**

90% and above	**A**	**80%-89%**	**B**
70%-79%	**C**	**60%-69%**	**D**
59% and below	**F**		

Make-Up policy: **NO MAKE UP QUIZ WILL BE GIVEN**. Zero points will be assigned for a missed quiz. **Make-up test (midterm/final) will be given only if you provide a documented evidence of an emergency situation that caused you to miss the test and let me know via e-mail before the test**.

You have to make up the test before the next class period. Otherwise, zero points will be assigned for a missed test.

ACADEMIC HONESTY: By enrolling in this course, each student is responsible for taking active part in the class discussions and follows the highest standards of honesty. Cheating, plagiarism and helping others to commit these acts are all forms of Academic dishonesty. These misconducts could result in disciplinary action. Please refer to the Student Handbook regarding academic conduct Policy. If a person is caught taking part in any of the above mentioned acts during a quiz or test, zero points will be awarded for that quiz or test.
NOTE: NO CALCULATORS or FORMULA SHEET ALLOWED IN THIS COURSE. PLEASE BRING ID TO ALL EXAMS.

Algebra and Elementary Functions (Math 106) is a pre-requisite for Finite Mathematics (Math 115), Precalculus (Math 150), and Introductory Statistics for Social Sciences (Stat 121). These three courses are the first credit bearing courses for a GFR requirement.
In order to successfully complete Precalculus, a student in Math 106 should have a solid foundation of the algebra content. Statistics shows that only one third of the students with a grade of C in Math 106 complete Math 150 with a C or a better grade. A grade of B in Math 106 enables a student to enroll in Math 150 or Elementary Calculus (Math 155). A grade of C in Math 106 will form a good foundation for a student to enroll in Math 100 or Stat 121.

FINAL EXAM: Common and cumulative. To be announced later
LAST DATE TO ADD: May 30, 2014
LAST DAY TO CHANGE FROM REGULAR GRADE TO AUDIT: May 30, 2014
LAST DATE TO DROP: May 30, 2014
Last day of classes – July 3, 2014

Weekly Schedule (Tentative):

Week 1: Review

- **Tuesday, May 27:**
  - System of equations (2 or 3 variables) – Ch 7
  - Exponents – Ch 4
- **Thursday, May 29:**
  - Polynomials – Addition, Subtraction, Multiplication – Ch 4
  - Factoring – Ch 5

Week 2: Rational Expressions- Ch 6

- **Monday, June 2: QZ 1 – Review Material**
  - Simplification
- **Tuesday, June 3:**
  - Multiplication and division
  - Addition and Subtraction
- **Thursday, June 5**
  - Complex Rational expressions

- Equations and Applications

Week 3: Radicals – Ch 9

- **Monday, June 9: QZ 2- Rational Expressions –Ch 6**
  - Rational exponents
  - Simplification
- **Tuesday, June 10:**
  - Addition and Subtraction
  - Multiplication and division
- **Thursday, June 12:**
  - Equations

Week 4: Quadratic Equations and Graphs- Ch 10

- **Monday, June 16: QZ 3 – Radicals –Ch 9**
  - Different methods of solving quadratic equations – Factoring, Square root property, Completing the square, Quadratic Formula
- **Tuesday, June 17:**
  - Applications
  - Graph – Parabola
- **Thursday, June 19: MIDTERM- Review Material**
  Rational Expressions –Ch 6
  Radicals-Ch 9

Week 5: Functions – Ch 11:

- **Monday, June 23: QZ 4- Quadratic Functions and Graphs –Ch 10**
  - Domain and Range, Functional values
  - Graphs
- **Tuesday, June 24:**
  - Transformations
- **Thursday, June 26:**
  - Operations with functions and composition of functions
  - Inverse functions

Week 6: Logarithmic and Exponential Functions – Ch 12:

- **Monday, June 30:**
  - Graphs
  - Properties
  - Equations and Applications

FINAL: TBD

Learning Goals: The learning plan divides activities in three parts -- before, during, and after class -- which apply to every covered section of the textbook:

- Before class:
  - Study the section in the textbook, and taking into account any announcements in class, in blackboard, or by e-mail specifically for this section. .

  Before you arrive in class, you should have an overview of the material in the section, have read and/or seen several examples for its use, and be ready to attempt the homework problems under the guidance of the instructor.

- During class:
  - Follow the lecture, which highlights the material and puts it into context.
  - Participate actively in class and try to work out problems at the end of class.

  By the end of class, you should have obtained answers to your questions and have an idea of how to approach the homework.

- After class:
  - Work all assigned homework problems. It may be helpful to re-view some of the worked examples in class at this point.
  - If questions arise, review the textbook, notes from class, and examples in textbook

To be reviewed

- System of equations (2 or 3 variables) – Ch 7
- Exponents – Ch 4
- Polynomials – Addition, Subtraction, Multiplication – Ch 4
- Factoring – Ch 5

Rational Expressions - Ch 6

- Simplification
- Multiplication and division
- Addition and Subtraction
- Complex Rational expressions
- Equations and Applications

Radicals – Ch 9

- Rational exponents
- Simplification
- Addition and Subtraction
- Multiplication and division

- Equations

Quadratic Equations and graphs – Ch 10

- Different methods of solving quadratic equations – Factoring, Square root property, Completing the square, Quadratic Formula
- Applications
- Graph – Parabola

Functions – Ch 11

- Domain and Range, Functional values
- Graphs and transformations
- Operations with functions and composition of functions
- Inverse functions

Logarithmic and Exponential Functions – Ch 12

- Graphs
- Properties
- Equations and Applications