Math 11010: Algebra for Calculus. Fall 2013

CRN 16502 Section 605

TR: 2.00-3:15 pm. Main 213

**Instructor:** Dr. Gro Hovhannisyan, Office: 440, Main Hall.

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**Office Hours**: MTWR 10.00-11.00, other time by appointment

**Text: Algebra and Trigonometry by Beecher, Penna, Bittinger**

ISBN 978-0-321-69398-3 This book (package) is coming with the software that has the text and the code for My Math Labs Plus ( MMLP).

**Course:** Chapters 2, 3-5, 10, 11 (some sections will be skipped)

**Prerequisite:** Minimum C (2.0) grade in MATH 10007 or MATH 10024; or 40-49 on ALEKS level two assessment; or 55-66 on ALEKS singular assessment

**Class requirement and expectations:** You need at least a scientific calculator. Regular attendance and consistent studying are required through the term. If you have to miss a class you still remain responsible for making up what you missed.

**Regular homework.** Regular homework should be done by using homework assignments from My Labs Plus website <http://kent.mylabsplus.com>

If you have difficulties try to get help in the Tutoring Center, or in class, or see me during my office hours. Some extra homework assignment is given in the chart below.

**Exams.** There will be three tests and a comprehensive final exam. All exams are in class with closed books and notes. Retakes or make-ups are possible, on exceptional basis and with a valid excuse. If you have to miss a test, you have to talk to me and justify your absence. If you are absent when tests are returned, it is your responsibility to get your work back, and to discuss it with me.

**Grade Distribution**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A** | **A-** | **B+** | **B** | **B-** | **C+** | **C** | **C-** | **D+** | **D** | **F** |
| **93-100** | **90-92** | **87-89** | **83-86** | **80-82** | **77-79** | **73-76** | **70-72** | **63-69** | **60-62** | **0-59** |

**Borderline Cases:** If your total score is less than 1% away from a higher grade, you may get that grade if you deserved it by your overall performance or extra credit points in the class throughout the term**.**

**Academic Honesty**: Use of the intellectual property of others without attributing it to them is considered a serious academic offense.  Cheating or plagiarism will result in a failing grade for the work or for the entire course.  Repeat offenses result in dismissal from the University. University guidelines require that all infractions be reported to the Student Conduct Officer on our campus.

**Students with Disabilities:** University policy 3-01.3 requires that students with disabilities be provided reasonable accommodations to ensure their equal access to course content. If you have a documented disability and require accommodations, please contact the instructor at the beginning of the semester to make arrangements for necessary classroom adjustments. Please note, you must first verify your eligibility for these through Student Accessibility Services (contact 330-244-5047 or visit<http://stark.kent.edu/student/resources/accessibility.cfm>  for more information on registration procedures).

**Classes Canceled – Campus Closings:** Announcements of class cancellations and/or campus closings will be made on the campus home page.  In the case of an emergency, weather-related or otherwise, please check the web page at stark.kent.edu for information on the buildings and times of the closing. While information may be broadcast by radio and television, this should be confirmed by the web page, which is the official announcement of the campus and which will be the information used to determine issues related to student attendance, rescheduling of tests, and other concerns.

**How to succeed in your math class.** If you want to succeed, you will attend this class regularly, study consistently throughout the term, do homework on your own and seek out help every time you need it.

Learn from your and others mistakes. Every returned test is an opportunity to learn from your mistakes made. To learn from the mistakes of others (your teacher) is a higher level of learning.

Be critical of your work. Sometimes students say they do all the homework, understand everything in class and follow all my guidelines, but they still fail. If you are experiencing this I would suspect that you need to work harder, and practice more problems that is assigned.

**Class Schedule**

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| --- | --- | --- | --- | --- |
|  |  |  | **Section** | **Extra homework** |
|  | **Aug 27** | **T** | **1.4 Lines 1.5 Linear equations** | **7-55 EOO, 65; 15-35 EOO** |
|  | **Aug 29** | **R** | **1.6 Linear inequalities**  **2.1 Piecewise functions** | **11-15**  **35-45 EOO (every other odd)** |
|  | **Sep 3** | **T** | **2.2 Algebra of functions 2.3 Composition of functions** | **51-67 ODD; 21-37 EOO** |
|  | **Sep 5** | **R** | **2.4 Symmetry and transformations** | **7-47 EOO** |
|  | **Sep 10** | **T** | **Review** |  |
|  | **Sep 12** | **R** | **Test 1** |  |
|  | **Sep 17** | **T** | **3.1 Complex number system**  **3.2 Quadratic equations** | **55-85 EOO;**  **37-87 EOO** |
|  | **Sep 19** | **R** | **3.3 Quadratic functions** | **5-15 ODD** |
|  | **Sep 24** | **T** | **3.4 Rational & radical equations** | **11-71 EOO** |
|  | **Sep 26** | **R** | **4.2 Graphing polynomial functions** | **13-33 ODD** |
|  | **Oct 1** | **T** | **4.3 Polynomial division**  **4.4 Zeros of polynomials** | **5-10**  **55-65 ODD** |
|  | **Oct 3** | **R** | **4.5 Rational functions**  **4.6 Rational inequalities** | **51-61**  **35-75 EOO** |
|  | **Oct 8** | **T** | **Review** |  |
|  | **Oct 10** | **R** | **Test 2** |  |
|  | **Oct 15** | **T** | **5.1 Inverse functions** | **47-65 EOO** |
|  | **Oct 17** | **R** | **5.2 Exponential Functions** | **15-35 EOO** |
|  | **Oct 22** | **T** | **5.3 Logarithmic Functions** | **5-55 EOO** |
|  | **Oct 24** | **R** | **5.4 Properties of Logarithms** | **23-73 EOO** |
|  | **Oct 29** | **T** | **5.5 Exponential and Logarithmic Equations** | **19-59 EOO** |
|  | **Oct 31** | **R** | **5.6 Applications** | **9-15 ODD** |
|  | **Nov 5** | **T** | **Review** |  |
|  | **Nov 7** | **R** | **Test 3** |  |
|  | **Nov 12** | **T** | **10.1 Parabola** | **1-11 ODD** |
|  | **Nov 14** | **R** | **10.2 Ellipse 10.3 Hyperbola** | **1-37 EOO; 1-27 ODD** |
|  | **Nov 19** | **T** | **11.1 Sequences** | **1-39 EOO** |
|  | **Nov 21** | **R** | **11.2 Arithmetic Sequence** | **1-21 EOO** |
|  | **Nov 26** | **T** | **11.3 Geometric Sequence** | **1-39 EOO** |
|  | **Dec 3** | **T** | **11.7 Binomial theorem** | **1-39 EOO** |
|  | **Dec 5** | **R** | **Review** |  |
|  | **Dec 10** | **T** | **Final exam 1 pm** |  |
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Learning Outcomes

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| --- | --- |
| **Knowledge** | Represent functions verbally, numerically, graphically and algebraically, including linear, quadratic, polynomial, rational, root/radical/power, piecewise-defined, exponential, and logarithmic, functions. |
|  | Perform operations on functions and transformations on the graphs of functions. |
|  | Analyze the algebraic structure and graph of a function, including those listed above to determine intercepts, domain, range, intervals on which the function is increasing, decreasing or constant, the vertex of a quadratic function, asymptotes, whether the function is one-to-one, whether the graph has symmetry (even/odd), etc., and given the graph of a function to determine possible algebraic definition. |
|  | Find inverses of functions listed above and understand the relationship of the graph of a function to that of its inverse. |
|  | Solve a variety of equations and inequalities, including polynomial, rational, exponential, and logarithmic, including those arising in application problems. |
|  | Identify and express the conics (quadratic equations in two variables) in standard rectangular form, graph the conics, and solve applied problems involving conics. |
|  |  |
| **Insight** | Use functions, including those listed above, to model a variety of real-world problem solving applications. |
|  | Understand the difference between an algebraic equation of one, two or more variables and a function, and the relationship among the solutions of an equation in one variable, the zeros of the corresponding function, and the coordinates of the *x*-intercepts of the graph of that function. |
|  | Represent sequences verbally, numerically, graphically and algebraically, including both the general term and recursively. |
|  |  |
| **Engagement** | Consider and explain the role of mathematics in understanding business and social problems |
|  | Improve their confidence in and attitude toward math because of the sense-making emphasis in the course. |
|  | Participate actively in class discussions. |
|  |  |
| **Responsibility** | Develop confidence and competence in communicating mathematical knowledge to peers. |

GOOD LUCK!