Term: (Fall 2019) 2rd- 8 Week Course
Course: MATH-1314-48420
       DMAT-0315-48420
Course Dates: 10/22/2019 – 12/12/2019
Class Location: Classes are ONLINE Classes meet in Ecampus and ALEKS
https://ecampus.dcccd.edu/ and https://www.aleks.com/

Instructor: Zeinab Rahmanabadi
Phone: (972) 860-7164
Email: zeinabrahmanabadi@dcccd.edu
Office & Office Hours: Eastfield College C-building Room C207
TR 12:30 pm – 3 pm

STEM Division: C-Building, Room 202 | 972-860-7297

Course Drop Date: 11/29/19
Certification Date: 10/28/19
Disclaimer: The instructor reserves the right to amend this syllabus as necessary.

Institutional Policies: Eastfield College Institutional Policies
(https://www.eastfieldcollege.edu/au/fastfacts/legal/pages/policies-for-syllabi.aspx)

Course Description:
In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included. This course is the prerequisite for MATH 1316. This course is cross-listed as Math 1414. The student may register for either Math 1314 or Math 1414, but may receive credit for only one of the two. (3 or 4 Lec.)
The corequisite for this course is DMAT 0315-48420 (3 Lec.)

Corequisite/Concurrent
This is a corequisite course and requires continuous concurrent enrollment with DMAT 0315.

Textbook and Other Course Materials
(course access code is free, no need to purchase any things)
• Required: registration on https://www.aleks.com/. (I will provide the access code for you and you can find the instruction in blackboard.)
- Recommended Textbook: College algebra second edition By Julie Miller and Donna Gerken (Student will have access to Electronic copy of the text book for free)
- Students are required to have access to a TI-83 or TI-84 calculator. Graphing calculators may not be allowed during some examinations. (You don’t need to buy a graphing calculator, you can use online graphing calculator or check out calculator from Eastfield College Library at room number is L200)

Aleks Technical Support:
https://mhedu.force.com/aleks/s/alekscontactsupport
https://www.aleks.com/faqs/technical#system_requirements

Student Learning Outcomes:
Upon successful completion of this course, students will:
1. Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses.
2. Recognize and apply polynomial, rational, radical, exponential and logarithmic functions and solve related equations.
3. Apply graphing techniques.
4. Evaluate all roots of higher degree polynomial and rational functions.
5. Recognize, solve and apply systems of linear equations using matrices.

Core Objectives:
MATH 1314 develops the following Core Objectives:

1. **Critical Thinking** - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
2. **Communication** - to include effective development, interpretation and expression of ideas through written and visual communication.
3. **Empirical and Quantitative Skills** - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

Core Objective Development Statements: MATH 1314 develops **Critical Thinking**, **Communication**, and **Empirical and Quantitative Skills** by requiring students to solve and analyze applications of various functions and systems of equation.

Grading Policy:

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<thead>
<tr>
<th>Objective in Aleks</th>
<th>15%</th>
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<tbody>
<tr>
<td>Time spend in Aleks</td>
<td>10%</td>
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<tr>
<td>Homework in Aleks</td>
<td>10%</td>
</tr>
<tr>
<td>Scheduled Knowledge check in Aleks</td>
<td>10%</td>
</tr>
<tr>
<td>Tests</td>
<td>30%</td>
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<tr>
<td>Final exam</td>
<td>25%</td>
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Grading Rationale: 90—100 A
80—89 B
70—79 C
0—69 F

Final Exam:
A comprehensive, departmental final examination, which will represent at least 25% of the class grade, will be administered in all Math 1314 classes.

Policy on Missed Tests and Assignments: All of the tests and assignment will be online in Aleks. They are usually open in windows of 3 days so everyone has access to complete the test and assignment in their convenience time. If there are needs for extension for an assignment or test, students need to contact the instructor.
Attendance Policy:
You must have completed a topic in ALEKS BY MIDNIGHT ON 10/28/19 to be certified in the course. If you have not completed a topic in ALEKS by midnight on 10/28/19 you WILL NOT be certified in the course and this may impact your financial aid! Classroom attendance is not required for this course; however, students are required to remain actively engaged with course curriculum. (Remember there is 10% of your overall grade just for time you spend in Aleks.)

Standard of Conduct/Classroom Etiquette:
No food, drinks or tobacco products are allowed in Eastfield College classrooms. However; if your class is in a non-lab classroom your instructor may allow for food or drink.

ADDITIONAL RESOURCES
The Math Tutoring Center provides FREE TUTORING to current Eastfield College students enrolled in a Mathematics or Developmental Mathematics course. Students are encouraged to take advantage of this free resource for additional help in their course work. Please visit the Math Tutoring Center located in the Learning Commons in L200, check eastfieldcollege.edu/tutoring, or call 972-860-7174 for more information. In addition, TI-84 calculators are available for daily check-out in the library. Click on the following website for more information: https://www.eastfieldcollege.edu/services/academic-support/tutoring/pages/default.aspx

Learning Goals:
This is a mathematics course in which you will learn to use, understand, and communicate about mathematical information. The course has five goals:

- **Communication goal:** You will interpret and communicate quantitative information and mathematical concepts using language appropriate to the context and intended audience.
- **Problem Solving goal:** You will make sense of problems, develop strategies to find solutions, and persevere in solving them.
- **Reasoning goal:** You will reason, model, and make decisions with mathematical and quantitative information.
- **Evaluation goal:** You will critique and evaluate quantitative arguments that utilize mathematical and quantitative information.
- **Technology goal:** You will use appropriate technology in a given context.

COURSE OUTLINE:

<table>
<thead>
<tr>
<th>Topics</th>
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<tr>
<td>Radical Expressions and Functions; Rational Numbers as Exponents; Simplifying Radical Expressions, Addition, Subtraction, Multiplication and Division of Radical Expressions; Solving Radical Equations; Applications Involving Powers and Roots: Pythagorean Theorem; Increasing, Decreasing, and Piecewise Functions</td>
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<tr>
<td>Symmetry; Transformations; The Complex Numbers; Quadratic Equations, Functions, Zeros, and Models; Analyzing Graphs of Quadratic Functions; Polynomial Functions and Models; Graphing Polynomial Functions; Polynomial Division; The Remainder Theorem and the Factor Theorem; Theorems about Zeros of Polynomial Functions; Rational Functions; Polynomial and Rational Inequalities</td>
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<tr>
<td>The Composition of Functions; Inverse Functions; Exponential Functions and Graphs; Logarithmic Functions and Graphs; Properties of Logarithmic Functions; Solving Exponential and Logarithmic Equations; Applications and Models; Growth and Decay; Compound Interest</td>
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<td>Circles; Sequences and Series; Arithmetic Sequences; Geometric Sequences and Series; The Binomial Theorem</td>
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