Term: (Fall 2019) 08-Week Course
Course: MATH-1314-47002
Course Dates: 8/26/2019-10/16/2019
Class Location: C281

Instructor: Clay Taylor
Phone: 972-391-1047
Email: claytaylor@dcccd.edu
Office & Office Hours: By Appointment

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

Course Drop Date: 10/03/2019
Certification Date: 08/31/2019
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.)

Prerequisites: College level ready in Mathematics algebra-based level.

Textbook and Other Course Materials:
  OR
- My Math Lab - Microsoft Windows 7 and 8 users should use one of the following browsers with MyMathLab courses--Chrome, Firefox or Internet Explorer 10 and 9. Click here for other system requirements.
- Students are required to have access to a TI-83 or TI-84 calculator. Graphing calculators may not be allowed during some examinations.

**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 equations.

**Grading Policy:**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>35%</td>
<td>Homework</td>
</tr>
<tr>
<td>40%</td>
<td>Major Test</td>
</tr>
<tr>
<td>25%</td>
<td>Final Exam</td>
</tr>
<tr>
<td><strong>100 %</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Grading Rationale:**

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90 – 100 %</td>
</tr>
<tr>
<td>B</td>
<td>80 – 89 %</td>
</tr>
<tr>
<td>C</td>
<td>70 – 79 %</td>
</tr>
<tr>
<td>D</td>
<td>69 – 60 %</td>
</tr>
<tr>
<td>E or F</td>
<td>0 – 59 %</td>
</tr>
</tbody>
</table>

**Policy on Missed Tests and Assignments:** There will be ample time to complete the homework assignments. Missed tests will be given within 3 days of the original test date in the Testing Center on the first floor of the C building. Should there be an exception to this, advise your professor as soon as possible.

**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.

**Attendance Policy:**
You are expected to regularly attend all classes in which you are enrolled. Students have the responsibility to attend class and to consult with the instructor when an absence occurs. There will be an attendance sheet that must be signed at the beginning of each class. If possible inform your professor that you will be out. This will allow the opportunity to discuss any assignments that will be missed.

**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. Cell phone use is strictly forbidden during class time. All cellphones should be silenced. However, the use of a vibrating phone call alert is acceptable. Should you receive a phone call during class time, please leave the classroom immediately and conduct your call from outside the classroom.

**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](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>Sections</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1, 1.5-1.7, 2.1-2.2, 2.5-2.8</td>
<td>Real number system, Equations, Relations and Functions; Circles</td>
</tr>
<tr>
<td>3.1-3.6</td>
<td>Polynomial and Rational functions; Theory of Functions</td>
</tr>
<tr>
<td>4.1-4.5</td>
<td>Exponential, Logarithmic and Special functions</td>
</tr>
<tr>
<td>6.3-6.5, 8.1-8.3, 8.5</td>
<td>Progressions, The Binomial Theorem, Matrices, Determinants, mathematical reasoning skills, Sequences, Series and Applications</td>
</tr>
</tbody>
</table>

Revised: 06/21/19