Course Title:
Pre-Calculus

Course Description:
Pre-Calculus. Three credits. An integrated and rigorous study of the algebra and trigonometry needed to successfully attempt calculus. Emphasis on functions, their analysis and their applications. Level of algebraic sophistication developed above that found in MATH 1710. Topics include exponentials and logarithms, analysis of graphs, and word problems.

MATH 1730 is an active learning class. This means you will be directly engaged in the learning process rather than listening to lecture. The student workbook breaks each topic into a series of investigations, and we will be working through several of these investigations each day. Each investigation will proceed through four learning steps:

- **Launch** – the investigation problem is introduced and connections made to previously covered material
- **Explore** – students probe and dissect the problem and develop or identify potential solutions
- **Present** – students present potential solutions to the class
- **Discuss** – students and the instructor work with each other to identify or develop correct solutions from those presented and understand how and why they are correct

To help with this learning process, you will be assigned to small groups and will be expected to be an active participant in your group. In addition, you will engage in the “launch” and “explore” phases of a few investigations prior to coming to class to help organize your thoughts before group investigations.

Course Prerequisites:
MATH 1710 or successful completion of high school precalculus course.

Instructor Information:

Instructor:

Office:

E-mail/Phone:

Office Hours:

Webpage:
**Attendance Policy:**
Attendance is required at each class meeting. Participation in University sanctioned activities or in military duties and situation where the institution’s policy on inclement weather is applicable are considered excused absences. However, non-attendance does not relieve a student of the responsibility for work covered or assigned. The instructor will keep a record of attendance for each student.

**Required Materials:**
Textbook: *Pathways to Calculus* workbook and access code. The workbook contains an access code for the online textbook. The workbook can be purchased at the campus bookstore, Philips bookstore, or at Textbook Brokers near campus.

Calculator: A graphing calculator is required for this course (preferably TI-83 or TI-84). Note: You may not use graphing calculators with symbolic manipulation software (DERIVE, MAPLE, etc.) on exams.

**Course Purpose:**
Precalculus is an introduction to functions in general and the specific classes of functions you encounter in the calculus sequence.

**Learning Outcomes:**

**Content Goals:**
Upon completion of this course students will have developed:
- An understanding of graphs and how to extract information from them;
- An understanding of functions and how to manipulate them;
- An understanding of polynomial and rational functions;
- An understanding of logarithmic, exponential, and trigonometric functions;
- An understanding of basic applications of the major function families;
- An understanding of some advantages and limitations of current technology.

**Process Goals:**
Upon completion of this course, students with have:
- Made sense of problems and persevered in solving them.
- Reasoned abstractly (representing quantities symbolically and manipulating those symbolic representations) and quantitatively (attending to the meaning of quantities, and not just how to compute them).
- Used appropriate tools (e.g. manipulatives, calculator) strategically to solve mathematical problems.
- Developed and extended understanding through active communication (reading, writing, speaking, and listening) of mathematics, attending to precision of mathematical language.
- Constructed viable mathematical arguments and critique the reasoning of others.
General Education Mathematics Goal and Learning Outcomes:

Goal:
The goal of mathematics is to expand students’ understanding of mathematics beyond the entry-level requirements for college and to extend their knowledge of mathematics through relevant mathematical modeling with applications, problem solving, critical thinking skills, and the use of appropriate technologies.

Learning Outcomes:
Upon completion of this course, students will demonstrate the ability to:

- Use mathematics to solve problems and determine if the solutions are reasonable.
- Use mathematics to model real world behaviors and apply mathematical concepts to the solution of real-life problems.
- Make meaningful connections between mathematics and other disciplines.
- Use technology for mathematical reasoning and problem solving.
- Apply mathematical and/or basic statistical reasoning to analyze data and graphs.

Course Requirements:
In general, you are expected to:

- Attend class and participate in discussions – both small group and whole class;
- Read and study class assignments and solve assigned problems;
- Ask questions in class when you are unsure of any concept or on any assigned problem;
- Attend the help lab or come to my office for any additional assistance as necessary;
- Take all announced quizzes and exams (including the final) on the day they are scheduled;
- Come to class prepared. This includes completing homework in a timely manner, bringing your workbook, completing assigned readings and bringing your calculator.

Course Evaluation and Grading:
We will cover the majority of Modules 1-8 in this course. The grading components for the course are as follows:

- In-class testing: There will be 4 in-class exams. All exams are closed-book and last the entire class period. Exams will count 60% of your final grade/ you will drop your lowest exam grade (not the final).
- Final exam: There will be a comprehensive in-class final exam given on the specified final exam date. This exam will count 20% of your final grade. It is a departmental exam given to all sections of MATH 1730. No one will be exempt from the final.
- Miscellaneous: The remaining 20% of your grade will come from homework, quizzes, attendance and participation. Participation means attending class and being actively involved in your group work, group presentations and whole-class discussions. I will look for evidence of meaningful mathematical discussion and the sharing and critiquing on mathematical ideas.
Grading Scale:

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<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90 – 100</td>
<td>A</td>
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<tr>
<td>80 – 89</td>
<td>B</td>
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<td>70 – 79</td>
<td>C</td>
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<td>60 – 69</td>
<td>D</td>
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<tr>
<td>Below 60</td>
<td>F</td>
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Tentative Test Dates:
Test 1:

Test 2:

Test 3:

Test 4:

Final Exam:

Important Dates:
Last Day to drop without a grade:

Last Day to drop with a W:

Final exam Time and Date:

Judicial Statement / Academic Misconduct:
Academic misconduct is defined as plagiarism, cheating, fabrication, or facilitating any such act. For purposes of this section, the following definitions apply:

(1) Plagiarism. The adoption or reproduction of ideas, words, statements, images, or works of another person as one’s own without proper acknowledgment.

(2) Cheating. Using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term academic exercise includes all forms of work submitted for credit or hours.

(3) Fabrication. Unauthorized falsification or invention of any information or citation in an academic exercise.

(4) Facilitation. Helping or attempting to help another to violate a provision of the institutional code of academic misconduct.

Academic misconduct will result in actions taken as defined by the MTSU code of Academic Integrity. A complete description of this code can be found at MTSU's webpage for Judicial Affairs and Mediation services. In addition to other possible disciplinary sanctions that may be imposed through regular
institutional procedures as a result of academic misconduct, the instructor has the right to assign an F or a zero for the work in question, or to assign an F for the course. If a student believes he or she has been falsely accused of academic misconduct, and if his or her final grade has been lowered as a result, the student may appeal the case through the appropriate institutional procedures.

**Drop/Withdrawal Policy and Dates:**
Please note the Drop Policy and Withdrawal Procedures as they are stated in the Current Registration Guide. A grade of “I” will be given only in accordance with University Policy. No grade of “W” will be assigned after the official drop date except in situations involving extreme extenuating circumstances beyond the student’s control. In particular, a “W” will not be granted merely because the student is failing. Students should be aware that missing the official drop date and thereby receiving an “F” can have ramifications on financial aid.

**General conduct in class:**
The instructor has primary responsibility for control over all classroom behavior and can direct the temporary removal or exclusion from the classroom of any student engaged in disruptive conduct or conduct which otherwise violates the general rules and regulations of MTSU.

**Make-Up Policy:**
Make-ups will not be given for anything other than in-class exams, and only with the instructor’s prior consent (emergencies excepted). A University approved excuse must be provided in order to be given a make-up exam and, depending on the circumstances, the instructor has the right to not give a make-up exam.

**Lottery Scholarship Policy:**
Do you have a lottery scholarship? To retain the Tennessee Education Lottery Scholarship eligibility, you must earn a cumulative TELS GPA of 2.75 after 24 and 48 attempted hours and a cumulative TELS GPA of 3.0 thereafter. A grade of C, D, F, FA, or I in this class may negatively impact TELS eligibility.

If you drop this class, withdraw, or if you stop attending this class you may lose eligibility for your lottery scholarship, and you will not be able to regain eligibility at a later time.

For additional Lottery rules, please refer to your Lottery Statement of Understanding form (http://www.mtsu.edu/financial-aid/forms/LOTFOD.pdf) or contact your MT One Stop Enrollment Counselor (http://www.mtsu.edu/one-stop/counselor.php).

**Free Tutoring:**
Math tutoring for this course is available as a free service to MTSU students in KOM 204. Tutoring is fundamental to your success as a student. At every level of your academic journey, you will discover that tutoring assists your understanding, recollection, and application of what was presented in the classroom.

Take advantage of our FREE tutoring service and learn how to study, get help with understanding difficult course material, receive better test grades, or simply improve your grade point.
average. Tutoring is available in study skills and learning strategies that includes sessions on time management, notetaking, when and where to study, and memory principles. Tutoring is also available in over 200 courses including biology, history, computer information systems, physics, math, psychology, chemistry, economics, recording industry, and many more. The central location for tutoring is the Tutoring Spot, located in Walker Library, but is also conducted at various other campus sites. For available tutoring opportunities, visit http://mtsu.edu/studentsuccess/tutoring.php#on. For questions, call the Tutoring Spot at 615-904-8014.

Reasonable Accommodations for Students with Disabilities:
Reasonable Accommodations for Students with Disabilities: Middle Tennessee State University is committed to campus access in accordance with Title II of the Americans with Disabilities Act and Section 504 of the Vocational Rehabilitation Act of 1973. Any student interested in reasonable accommodations can consult the Disability & Access Center (DAC) website www.mtsu.edu/dac and/or contact the DAC for assistance at 615-898-2783 or dacemail@mtsu.edu