COURSE TITTLE: Fundamentals of Precalculus I

CATALOG NO: MAT 124 / Formerly MA61

SECTION NO: 301

CRN: 22741

NUMBER OF CREDITS: 4

MEETING TIME: 1:30pm – 3:10 am; Tuesday and Thursday

ROOM NO: Corchaug 001

PREREQUISITE: C or better in MAT 111 (Formerly MA27) Algebra II or Successful completion of three years of college Preparatory mathematics

INSTRUCTOR: Ms. Erikka O. Mendez
E-mail: mendeze@sunysuffolk.edu
Office: Shinnecock Building, Room 221
Phone#: (631) 548-3562

MATH SECRETARIES: Ms. Iris Rilling ~ Phone #: (631) 548-2610
Ms. Kim Wourgola ~ Phone #: (631) 548-2628
Office: Shinnecock Building, Room 220

OFFICE HOURS: 11:25am-1:25pm; Monday
1:00am-1:30pm; Tuesday and Thursday
12:25pm-1:25pm; Wednesday
3:30pm-4:00pm; Monday and Wednesday

By Sullivan and Sullivan
Pearson / Prentice Hall, 2006
RECOMMENDED:
- Texas Instrument Graphing Calculator TI-84, TI-86, TI-83.

*(Calculators may not be shared during quizzes or exams and no cellular calculators are allowed)*

- Notebook for notes and homework
- Graph paper
- Small stapler

GENERAL DESCRIPTION (from SCC Catalog):
Concept of function introduced early and used throughout course. Topics include zeros and graphs of polynomial functions, graphs and asymptotes of rational functions, exponential and logarithmic functions, introduction to trigonometry, angle measurement, right triangle trigonometry, properties and graphs of trigonometric functions.

Note: Credit given for MAT 124 (Formerly MA61) or MAT126 (Formerly MA70), but not both. Successful completion of both MAT 124 and MAT 125 (Formerly MA62) is equivalent to MAT126 completion.

COURSE GOALS:
1. Introduce the concept of a function.
2. Show students the relationship between algebra and geometry in the study of functions.
3. Expose students to a wide variety of elementary functions.
4. This course satisfies the SUNY general education requirement for mathematics.

COURSE OBJECTIVES:
The purpose of this course is for students to be able to:
1. Demonstrate an understanding of a mathematical function including such ideas as the range and domain of functions, symmetric functions, composite functions, and inverses of functions;
2. Sketch graphs of quadratic functions and understand the zeros of such functions;
3. Comprehend the significance of the fundamental theorem of algebra and be able to solve polynomial equations completely by finding the roots;
4. Sketch the graph of polynomial functions;
5. Sketch the graph of rational functions;
6. Sketch the graph of exponential and logarithmic functions;
7. Solve exponential and logarithmic equations, including compound interest; understand and graph the trigonometric functions and solve applications using right triangle relationships.
ATTENDANCE POLICY:
- Faithful attendance at all classes is an important key to successfully completing this course and it is required.
- If you are absent, it is your responsibility to have the missed lecture material covered and the related homework done by the time you return.
- Unexcused absences for more than the equivalent of one week of class meetings during the semester is subject to failure or removal of the class roster, regardless of scores on exams and quizzes. Each unexcused absence will adversely affect your grade. To avoid an unexcused absence, you must contact me by phone or e-mail prior to class.

EVALUATION:
Homework:
- Homework will be assigned. Therefore, it is your responsibility to have your assignments completed at all times. You will see most of the homework problems in quizzes and in exams. The homework average will constitute 10% of your final grade.
- After each class session, it is a good idea in your mind to summarize the main point of each section covered in class and immediately work on the assigned homework. Circle the problems you had difficulties with and be certain to ask me in class or see me during my office hours for the solution. If it is necessary for you to be absent, complete the next assignment before you return.
- Be prepared to spend 8-10 hours a week outside of class working on homework and reading assignments and more if you are having difficulty. I am more than happy to spend extra time with anyone who is confused with a lesson and needs extra help. Please let me know.

Quizzes: Quizzes will be announced and given in class, testing material that has been covered in the homework and lecture notes. Your lowest quiz grade will be dropped. The quiz average will constitute 25% of your final grade.

Exams: Exams will be given in addition to the final exam. The exams will cover material from class notes, homework problems and quizzes. Failure to take an exam will result in a zero grade for that exam. The exam average will constitute 35% of your final grade.

Comprehensive exam: The comprehensive average will be 30% of your final grade and includes all of the sections covered in class. To prepare for the final and to do well for this course, I encourage you to study and review constantly all previous class notes, all quizzes, all homework assignments and all exams.
Final Letter Grade:
Final grade will be based on your homework, quizzes, tests and your final examination. Your final letter grade will be assigned according to the following college guidelines:

\[
\begin{align*}
A &= 90\%-100\% \\
B+ &= 85\%-89.9\% \\
B &= 80\%-84.9\% \\
C+ &= 75\%-79.9\% \\
C &= 70\%-74.9\% \\
D+ &= 65\%-69.9\% \\
D &= 60\%-64.9\% \\
F &= \text{Below 60}\%
\end{align*}
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CLASS DECORUM:
The following actions will not be tolerated during class:
- Talking disruptively
- Regularly arriving late or leaving early

Phones can not be used under any circumstances during class (including those with a calculator function). Please remain in the class for the entire time by taking care or personal issues before or after class. This includes phone calls. If you need to be updated during an emergency please set your phone to vibrate to minimize the disruption and leave the room discretely.

STUDENTS WITH SPECIAL NEEDS:
Anyone in class who has special needs as a result of a disability, please see me as soon as possible. Special seating, testing, or other accommodations can be made as needed.

HONESTY:
You are encouraged to work on homework assignments together; however, anyone aiding or being aided by another during quizzes or exams will be subject to failure.

WITHDRAWAL POLICY:
In order to be guaranteed a grade of W, you must return a form signed by me to the registrar office by March 23rd. After this date you may request a grade of withdrawal from me, but there is no guarantee that I will give the withdrawal. Students, who violate the attendance policy, as stated above, may be withdrawn from the class.

ACADEMIC SKILLS CENTER:
Mathematics tutoring services, as well as, video and computer aids, are provided for all students through the Mathematics Skills Center. The Math Skills Center is located in the Orient Building, Room 234. For tutoring availability call (631) 548-2594.
SCHOOL CLOSINGS OR DELAY OPENINGS:
For School Closings or Delayed Openings call (631) 696-4910 or visit the college webpage at: http://www.sunysuffolk.edu

The following radio and television stations will be announcing any cancellations of classes during the Spring 2009 semester:

- WBLI...................................106.1FM  
- WRIV RIVERHEAD ..........1390 AM  
- WRIV RIVERHEAD ..........1390 AM  
- WALK……... 1370 AM or 97.5 FM  
- WBAB...............................102.3 FM  
- WRCN..............103.9 FM  
- WLNG.................................92.1 FM  
- WLVG (LOVE)...96.1 FM  
- NEWS 12 L.I. ..............Cable TV News  
- WBZO........................103.1 FM

FINAL NOTE:
I would like to wish each one of you good luck and success in your efforts for this semester.
<table>
<thead>
<tr>
<th>Topics</th>
<th>Approximate Time (Including Examinations)</th>
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| **A. Review of Algebra**  
Simplification of expressions involving exponents and radicals | 1<sup>st</sup> day |
| **B. Functions**  
1. Domain, range and intercepts  
2. Graphs  
3. Sketches of elementary functions such as: square, cube, absolute value.  
4. Special functions: absolute value, split domain, greatest integer, etc.  
5. Symmetry, especially even and odd function  
6. Arithmetic operations and composition  
7. Inverses of function  
8. Translations | 2-3 weeks |
| **Exam #1- Functions** | |
| **C. Polynomials and Rational Functions**  
1. **Review of Algebra** - Linear and quadratic equations and graphs  
2. Graphing polynomial functions  
3. Applications | 3-5 weeks |
| **Exam #2- Part I: Polynomial Graphs and Applications**  
4. Synthetic division, Remainder Theorem  
5. Factor Theorem, Rational Zero Theorem, and Fundamental Theorem of Algebra applied to polynomials  
6. Asymptotes and graphs of rational functions | |
| **Exam #3- Part II: Asymptotes and Graphs of Rational functions** | |
| **D. Exponential and Logarithmic Functions**  
1. Exponential functions and their graphs  
2. Logarithmic functions and their graphs  
3. Inverse relationship, properties  
4. Use of logarithmic functions to solve exponential equations  
5. Applications including compound interest, growth and decay | 3-4 weeks |
| **Exam #4 – Exponential and Logarithmic Functions** | |
| **E. Introduction to Right Triangle Trigonometry and Trigonometric Functions**  
1. Definition of trigonometric functions by right triangle relationships  
2. Pythagorean Theorem  
3. Radian measure and trigonometric functions of any angle  
4. Standard reference angles  
5. Graphs of trigonometric functions  
6. Applications | 3 weeks |
| **Final Exam- Covers all material** | |