### MATH 160 OUTLINE

**PRECALCULUS MATHEMATICS**

**TEXT:** PreCalculus  
10th Edition by Sullivan

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<table>
<thead>
<tr>
<th>MATERIAL TO BE COVERED</th>
<th>SECTIONS FROM TEXT</th>
<th>TIME LINE</th>
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</thead>
<tbody>
<tr>
<td>Definition and graphs of functions, difference quotient, properties of functions, combining functions, transformation of functions. Modeling with functions.</td>
<td>2.1 - 2.6</td>
<td>6.5 HOURS</td>
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</tbody>
</table>
| Quadratic functions and models. Polynomial function, complex and rational zeros of polynomials, rational functions | 3.1 - 3.5  
4.1 - 4.6 | 6.5 HOURS |
| Composition of functions, one-to-one and inverse functions. Exponential and logarithmic functions; Law of logarithms, exponential and logarithmic equations and applications | 5.1 - 5.8 | 7 HOURS |
| The unit circle and angle measure, trigonometric functions of angles and real numbers. Linear velocity, angular velocity. Graphs of trigonometric functions. Properties of trigonometric functions. | 6.1 - 6.6 | 5.5 HOURS |
| Inverse trigonometric functions. Trigonometric equations. Trigonometric identities, sum, difference, multiple and half angles. Applications of right triangles. | 7.1 - 7.7  
8.1 | 7 HOURS |
| Vectors, the dot product and applications. Parabolas, ellipses, hyperbolas | 9.4, 9.5  
10.1 - 10.4 | 6 HOURS |
| Systems of non-linear equations, partial fractions. | 11.5 - 11.6 | 3.25 HOURS |
| Infinite sequences and summation notation, arithmetic and geometric sequences, mathematical induction, the Binomial Theorem. | 12.1 - 12.5 | 7 HOURS |
| Optional sections: (At least one of the following topics) Polar coordinates, limits, derivatives, Riemann Sum, Integrals | 9.1 - 9.2  
14.1 - 14.5 | 3 HOURS |

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*** One hour = 1 hour of face time. ****This outline allows for 4 hours of exams.

16 Week Term: 1 week = 3.75 hours (face time)  
6 Week term: 1 week = 10 hours (face time)

This course is a prerequisite for Math 180 (Calculus) and, consequently, it is important that the students develop sufficient skills and background to increase their chance of success in calculus.

*** See reverse side for important Department Policy***

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Sumitted by: Graham, Hosea, Kojima, Perez, Sholars, Tran.
MATH DEPARTMENT POLICY

1. Two to four exams during the semester are recommended. The exam should generally be closed book, covering large blocks of material (usually more than one chapter). Students should demonstrate problem – solving skills by showing work for a significant number of problems on exams. Students should demonstrate their communication skills by writing their answers in complete sentence form for all application problems and wherever else appropriate.

2. The final exam should be comprehensive and must be given during the time stipulated in the college final exam schedule. It should stress the core material and should comprise at least 25%, but no more than 50%, of the course grade.

3. Instructors should be sensitive to the level of the course, treat review material as review, and teach to the level of the subject. Lack of proficiency in the prerequisite material and/or lack of commitment to the course work on the part of the student should not affect the content of the course, the level of instruction, or the difficulty of the problems assigned and tested.

4. Grading Policy:

   **For Math 50, 51, 51A, 51B, 52, 71, 71A, 71B, 72**

   At least 85% of the grade should be based on proctored, individual quizzes and exams (Including the final exam).

   **For Math 100 and 110H, 210**

   At least 75% of the grade should be based on proctored, individual quizzes and exams (Including the final exam).

   **For all other Math classes**

   At least 80% of the grade should be based on proctored, individual quizzes and exams (Including the final exam).