

**STUDENT COURSE OUTLINE**  
**MAT 1800: ELEMENTARY FUNCTIONS**

The Goal of MAT 1800: As its course title suggests, MAT 1800 is all about functions. First, students should come away from this course with a strong understanding of functions in general – what is a function, how do you describe a function, what is meant by domain and range, graph and sign chart of a function, and why functions are important. Second, they need to develop a strong familiarity with all of the important particular families of functions; understanding their definitions, recognizing their graphs, and knowing their special properties.

Text, **Precalculus**, 7<sup>th</sup> Edition -*Special WSU Edition*- by Larson and Hostetler.

Since we do not use calculators in this course – we obviously will not cover any examples or any other material in the textbook where a calculator is **absolutely** necessary in order to do a problem.

Sections	Topic	Remarks
Appendix A.4 – A.6 + 2.7	Review of Algebra	<p style="text-align: center;"><u>This is review.</u> Do a lot of problems.</p> <p>A.5 Skip page A51 (Completing the square will be taught in 2.1).  A.6 Skip page A65.  2.7 Skip page 202.</p>
1.4 – 1.9	Functions	<p>1.7 When graphing a function of the form <math>y = a\mathbf{f}(mx + b) + k</math>, find the domain, intercepts, asymptotes and a test point, together with the basic shape of <math>\mathbf{f}</math>. Skip page 78.  See Handouts  1.8 Skip Example 5.</p>
2.1 – 2.6	Polynomial and Rational Functions	<p>2.1 Skip Example 6.  2.2 Skip Repeated Zeros box on page 143. Also skip Example 6.  2.3 Skip the Remainder Theorem and Example 5 on page 157. Also skip the material after Example 6 on page 158.  2.5 Skip Example 5. Also skip page 176 and page 177.  2.6 Skip Examples 8 and 9.</p>

3.1 – 3.5	Exponential and Logarithmic Functions		<p>3.1 Skip Example 5 for now. Skip pages 223, 224 and 225.</p> <p>3.2 Skip Example 7 and Example 10 for now.</p> <p>3.3 Skip pages 239 and 242.</p> <p>3.4 Skip page 251.</p> <p>3.5 Study Examples 1 and 2 only.</p>
4.1 – 4.7	Trigonometry		<p>4.1 Skip pages 287, 288 and 289.</p> <p>4.2 Skip the table Even\Odd Functions on Page 298.</p> <p>4.3 Skip the last paragraph on page 303.</p> <p>4.5 Skip page 327.</p> <p>4.6 Skip pages 335 through 338.</p>
5.1 – 5.5	Analytic Trigonometry		<p>5.1 Skip Cofunction and Even\Odd Identities on page 374.</p> <p>5.3 Skip pages 393 and 395.</p> <p>5.4 Skip the formulas for the Tangent Function on page 400.</p> <p>5.5 Only cover the double angle formulas for Sine and Cosine. Skip Example 2. Also skip pages 409 through 413.</p>
6.2	Law of Cosines		$c^2 = a^2 + b^2 - 2ab\cos(C)$ – That's it.
10.7	Polar Coordinates		Consider only the case $r > 0$

*Revised Winter 2008*