

Math 18 Outline (2 units) Essential Topics from Precalculus

[TEXT: Calculus: Early Transcendentals, Stewart, 8th ed.]

Approved: November 2017

Effective: Summer 2018

MATERIAL TO BE COVERED AT THE PRECALCULUS LEVEL	SECTIONS FROM TEXT	TIME LINE
<p>Precalculus Basics: Graph of basic functions and transformations, domain, range, and asymptotes. Trigonometric functions, identities, and graphs. Inverse trig functions and graphs. Exponential and logarithmic functions and graphs.</p>	1.1-1.5	2 hours
<p>Tools for Limits: Equations of lines. Simplifying difference quotients. Asymptotes and holes in graphs. Piecewise functions. Absolute value.</p>	2.1-2.8	4 hours
<p>Getting Ready for Derivatives: Simplifying algebraic expressions resulting from 1st and 2nd derivatives (especially on complex rational and radical functions). Composition of functions (for the chain rule). Review of exponential and logarithms. Modeling with similar geometric figures (triangles and trapezoids), the Pythagorean theorem, and area/volume formulas.</p>	3.1-3.11	7 hours
<p>Tools for Modeling Finding zeros of non-linear functions. Increasing and decreasing functions. Sign testing (+/-) for functions. Mathematical models encountered in related rates and optimization problems.</p>	4.1-4.9	7 hours
<p>Sequences and Series Sequences. Series notation and formulas for Σi, Σi^2, etc. Evaluating areas under curves with geometric formulas. Composition of functions (for integration by substitution).</p>	5.1-5.3	3 hours
<p>Practice and Review of Critical Skills Overview of course topics in preparation for the final exam.</p>		3.125 hours
FINAL EXAM		2.5 Hours

Submitted by the Calculus Committee for department approval

- This is a Pass/No Pass course and is not subject to department grading policy.