MATH 1914, Differential and Integral Calculus I
Representative Week-by-Week Outline of Topics

Week	Topic	Section†
1	The tangent and velocity problems Limit of a function Calculating limits and laws of limits	1.4 1.5 1.6
2	Precise definition of limit Continuity Derivatives and rates of change	1.7 1.8 2.1
3	The derivative as a function Differentiation formulas	2.2 2.3
4	Derivatives of trigonometric functions Review and catch-up	2.4
5	Exam 1 Chain rule Implicit differentiation	 2.5 2.6
6	Related rates Linear approximations and differentials	2.8 2.9
7	Maximum and minimum values Mean value theorem Derivatives and shapes of graphs	3.1 3.2 3.3
8	Derivatives and shapes of graphs (cont.) Review and catch-up	3.3
9	Exam 2 Limits at infinity, horizontal asymptotes	 3.4
10	Curve sketching Optimization problems	3.5 3.7
11	Antiderivatives Areas and distances The definite integral	3.9 4.1 4.2
12	The fundamental theorem of calculus Indefinite integrals The substitution rule	4.3 4.4 4.5
13	Review and catch-up Exam 3	
14	Areas between curves Volumes	5.1 5.2

(continued)

†Sections refer to the designated course text *Calculus 8/e* by James Stewart.

15	Volumes by cylindrical shells Work Average value of a function Preview of the natural log function Review and catch-up	5.3 5.4 5.5 6.2*
16	Uniform final exam (5/11/2016, 7:30PM–9:30PM)	