

COURSE SYLLABUS FORM

American University of Beirut
Faculty of Arts and Sciences
Department of Mathematics
Course Number and Title: Math 101

1. Course Learning Outcomes. Real-valued functions $f: D \rightarrow \mathbf{R}$ with domain a subset D of \mathbf{R} . These include rational functions, the absolute value function and trigonometric functions. The algebra of functions with the same domain. The notion of a limit $\lim_{x \rightarrow c} f(x) = L$, where c is a point adherent to the domain of f and the extension of the notion of a limit to the cases $c = \pm\infty$ or $L = \pm\infty$. The notions of continuity, differentiability and integrability. Applications include curve sketching with the help of the behavior of functions in their domains such as properties of being increasing, decreasing, determination of turning points and asymptotic behavior. Applications include also calculating areas of appropriate surfaces, volumes of appropriate solids and lengths of arcs of appropriate curves.

2. Resources Available to Students Text-book and lectures.

3. Grading Criteria: Two quizzes during the semester each carrying 25% of the final grade and a final exam carrying 50% of the final grade.

4. Schedule: Text: Finney, Weir, Giordano, Thomas' Calculus 10th Edition.

It is expected to cover the following parts of the book:

Preliminaries: Sections 1, 2 and 5.

Chapter I: Sections 2, 3 and 4.

Chapter II: Sections 1, 3, 4, 5 and 6.

Chapter III: Sections 1 and 2.

Chapter IV: Sections 1, 2, 3, 4 and 6.

Chapter V: Sections 1, 2 and 3.

The students are provided with an assignment sheet that includes selected homework and practice textbook exercises.

5. Course Policy (if any)