Course: Matematica generale, proff. Cristiana Mammana, Elisabetta Michetti

MAIN SKILLS: students must be able to understand the main properties of a function of one realvariable y=f(x) and, in particular, to use the main mathematical tools to sketch the graph of a givenfunction. To the scope, it is of importance to have some *preliminary notions* and then reach a goodknowledge of the *main basic calculus concepts*.

Preliminary notions:
real numbers and intervals, solving equations and inequalities (linear, quadratic, exponential,logarithmic, irrational), know graphs of elementary functions (straight lines, parabola, cubic,exponential, logarithmic, irrational)

Main basic calculus concepts:
Properties of functions (increasing functions, symmetric functions, inverse functions, compoundingfunctions, definition of relative and absolute maximum and minimum points etc.)
Limits (notions of limit for x->x0 and x->+(-) infinity, their graphical meaning, calculus of limits)
Continuity (definitions, discontinuity points)
Derivatives (computation, max and min points of a differentiable function, convex and concavefunctions)
Drawing the graph of a given function of one real variable.

Books suggested:
-Calculus for business, economics, life sciences, and social sciences. Barnett, Ziegler, Byleen,2015, PearsonEdimburg, chapters 1-2-3-4
-Calculus 1 – J. Marsden and A. Weinstein – 1986- Springer Verlag New York
Pages 15—191

On-line course suggested:
https://www.khanacademy.org/math/calculus-1