Course Syllabus

1. Course number and name: 020ANGNI1 General Analysis

2. Credits and contact hours: 6 ECTS credits, 3x1:15 course hours

3. Instructor's or course coordinator's name: Nancy CHALHOUB

4. Text book, title, author, and year
    a. other supplemental materials:
    Professor textbook and course material

5. Specific course information
    a. catalog description :
    Set of real numbers, real functions, trigonometric functions, logarithmic functions, power functions, inverse trigonometric functions, hyperbolic functions, linear first order differential equations, second order differential equations with constant coefficients, real and complex sequences, limits and continuity of real functions, differentiability, Roll's Theorem, applications.

    b. Prerequisites: French or Lebanese Baccalaureate

    c. Required/Elective/Selected Elective: Required

6. Specific goals for the course
    a. specific outcomes of instruction
        - Identify common functions and apply their properties properly
        - Solve first and second order linear differential equations
        - Recognize the main properties of the set of real number and identify the extrema of subsets
        - Calculate limits of sequences and use the definition of limits to prove convergence
        - Manipulate functions of one real variable, identify their extrema and prove their continuity
        - Identify differentiable functions of one real variable and convex functions, and apply the Rolle's Theorem

    b. KPIs addressed by the course.

KPI	a1
Covered	x
Assessed	x
Give Feedback	x

7. Topics and approximate lecture hours :

   - Logarithmic and exponential functions, trigonometric functions, inverse trigonometric functions, hyperbolic functions (6 lectures)
   - Solving of linear first order differential equations and second order differential equations with constant coefficients (6 lectures)
   - Set of real numbers, upper bound property, absolute value, intervals of R (7 lectures)
   - Sequences, limits, subsequences, adjacent sequences, complex sequences (8 lectures)
   - Functions of one real variable, definition of limits and properties, continuity (8 lectures)
   - Differentiability of functions of one real variable, applications, convex functions (7 lectures)