MTH301A: COURSE STRUCTURE AND EVALUATION

The study of analysis is crucial for pure or applied mathematics. The focus of this course is to learn the tools of analysis and
- develop the ability to think deductively (i.e., answer by reasoning),
- analyze the deeper aspects of mathematical formulations, and
- extend ideas to a new context.

Syllabus:
- The real numbers and its properties
- Countable and Uncountable sets
- Metric spaces, Open sets and Closed sets
- Continuous functions
- Connectedness and Compactness of metric spaces
- Category theorem
- Sequences of functions, the space of continuous functions
- Riemann Integration (if time permits)

Books:
- (main book) Real Analysis by N. L. Carothers
- Principles of Mathematical Analysis, Mac-Graw Hill (1976) by Walter Rudin.

Evaluation:
- Weekly assignments (40%)
- Midsem and Endsem (30% + 30%)

Lecture videos will be uploaded every Monday which will cover 2-3 videos for the entire week.

Tutorial hour: Wednesday, 10-10:50 am.
Office hour: Friday, 12 noon – 12:50 pm.