**Week 1 (Jan 8 – 12, Lectures 1 & 2) Teaching and Learning**

**Topics**

**10.1**: Sequences; convergence and divergence; Theorem 1 to 6; recursive definitions; bounded monotonic sequences.

**10.2**: Definition of infinite series (limits of partial sums); geometric series; n-th term test (Theorem 7); Theorem 8 (algebraic rules); adding and deleting finitely terms from a series does not change convergence/divergence (only the “tail” matters for convergence).

**10.3**: Series with nonnegative terms; integral test; p-series; error estimation.

Note:

1. It is OK to shuffle the contents above around in an order you prefer and feel free to add in your own stuff, so long as the non-optional topics are all covered.
2. Feel free to go faster but please aim not to be slower.

**Assignment 1**

10.1，#49,54,64,74,80,84,89,90,93,98,100,112,113,120

10.2，#3,6,12,43,47,53,61,62,64,65,72,93,95

10.3，#6,9,16,27,19,30,31,37,49,53,54,55,57

The questions above need to be submitted; students are encouraged to attempt other questions in the same chapters if they need more exercises.

Deadline: 11:59 PM, Friday, Jan 19 --- solutions should be submitted online on Blackboard in one single PDF file.