**Week 4 (Jan 29 – Feb 2, Lectures 7 and 8) Teaching and Learning**

**Topics**

**10.10**: Binomial series; evaluating nonelementary integrals using Taylor series; finding limits of indeterminate forms; Euler’s identity.

**11.1**: Parametric curves; cycloid.

**11.2**: Calculus with parametric curves; arc length and arc length differential; areas of surfaces of revolution.

**11.3**: Polar coordinates and their graphs; conversion between polar and Cartesian coordinates.

**11.4**: Sketching polar graphs.

**11.5**: Length and area in polar coordinates.

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 4**

10.10, #7,10,28,34,37,39,45,46,48,55,58,68

11.1, #16,29,32,36,38

11.2, #13,20,22,29,33,44,47,48

11.3, #10,37,43,62,65

11.4, #2,11,15,19,20

11.5, #2,7,19,22,31

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, Mar 1 --- solutions should be submitted online on Blackboard in one single PDF file.