**Week 11 (Apr 8 – 12, Lectures 21 and 22) Teaching and Learning**

**Topics**

**15.7**: Triple integrals in cylindrical coordinates (continued from last week if not finished).

**15.8**: Substitutions (change of variable) in double and triple integrals; triple integrations using spherical coordinates (spherical coordinates are in 15.7 in the book).

**16.1**: Line integrals of scalar functions; computing the mass of a wire from its linear density function.

**16.2**: Vector fields; line integrals of vector fields; work done by a force to a particle moving along a curve; flows and circulations for velocity fields; flux across a simple closed plane curve.

(It is OK to go a bit faster than this; but aim not to be slower.)

**Assignment 11**

15.7, #4,10,14,18,22,26,37,48

15.8, #2,6,14,17,19,20,26

16.1, #12,15,20,32,35

16.2, #11,14,22,25,28,29,30,36

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, Apr 19 --- solutions should be submitted online on Blackboard in one single PDF file.