

# Lecture 6 - Electrostatic Potential

## Chapter 28 - Thursday January 25th

- Review of Tuesday's class
  - Gauss' law and conductors
- Experimental tests of Gauss' law
- Electrostatic potential energy and vector calculus
- The electrostatic potential
- A tiny bit more vector calculus

Reading: pages 635 thru 646 (chapter 28) in HRK

Read and understand the sample problems

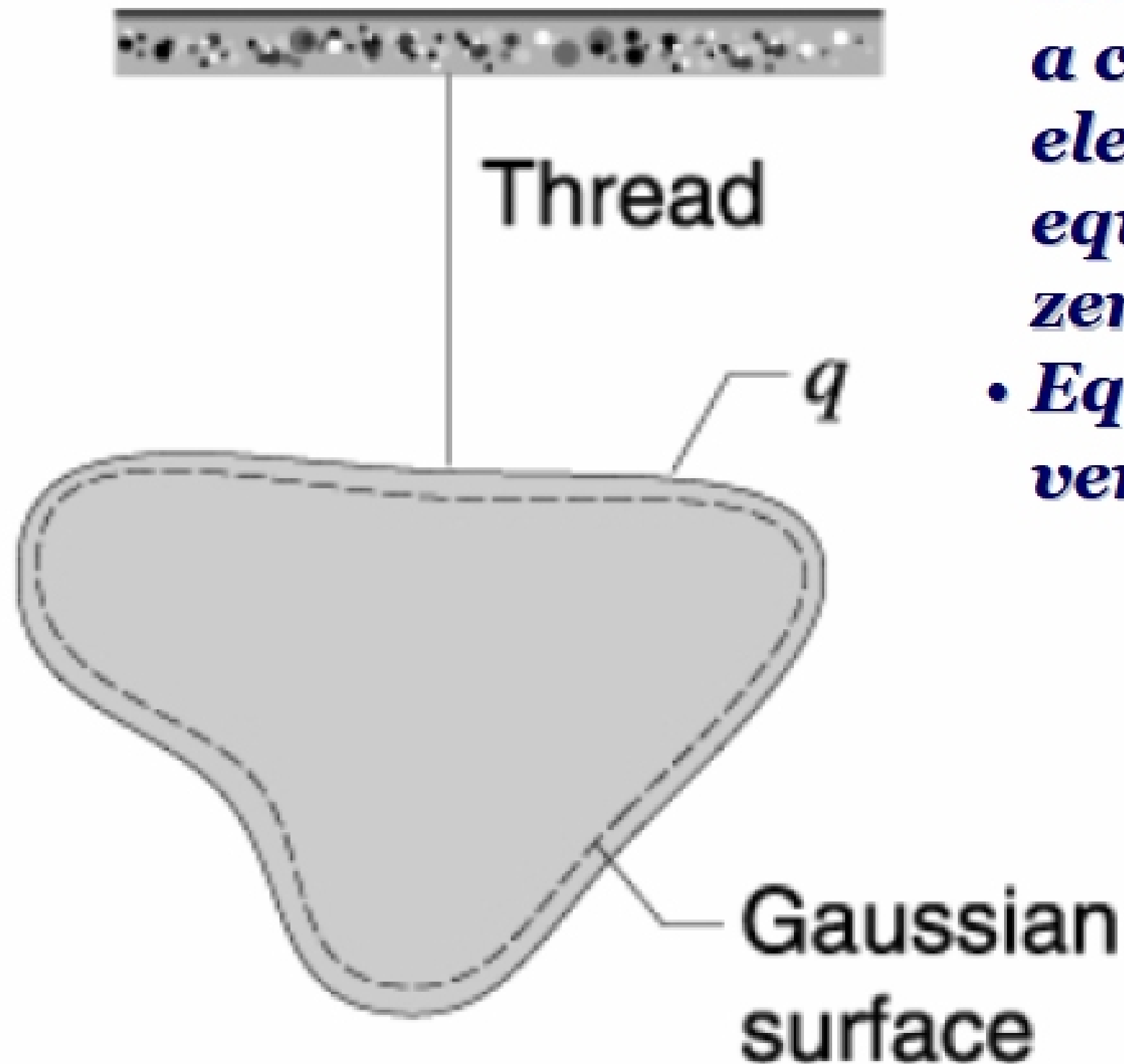
WebAssign: set 2, due tonight at 11:59pm

Graded problems (Ch. 27) – Ex. 15, 18, 21; Prob. 2, 10, 18

Practice problems (Ch. 28): Ex. 3, 15, 17, 27; Prob. 1, 11

- **Exam 1, Feb 6<sup>th</sup>, 8:30 – 10:10 am (Chs. 25-28)**

# Gauss' law and conductors



- *The electric field inside a conductor which is in electrostatic equilibrium must be zero.*
- *Equilibrium is reached very quickly ( $<10^{-9}$  s).*

## Gauss' law and conductors

*An excess charge placed on an isolated conductor moves entirely to the outer surface of the conductor. None of the excess charge is found within the body of the conductor.*

