Results of Group Work:

We had groups working on these four topics:

1. Quality Control in the intro stat course
2. Hypothesis testing in the intro stat course
3. Regression in a College Algebra course
4. Keys to teaching Probability in an intro stat course

Following is a brief summary of the discussion in these groups.

Quality Control in intro stat course

- Desirable to have intro stats / quality course for community college to cater to industry/employability.
- Workshop at AMATYC conferences (stats vs mathematics)

Hypothesis Testing in intro stat course

Time 10%

Topics needed to cover prior to hypothesis testing

- Descriptive
- Basic Probability
- Normal Distribution (Central Limit Theorem)
- Repeated Experiments
- Confidence Intervals ?

Topics

- Hypothesis Testing reasoning
- Null and research hypotheses
- Types of tests
    - z-test for means and proportions
    - t-test for mean
    - t-test for two independent samples
    - t-test for matched pairs
    - test for correlation coefficient

Less crucial

- Test for unequal variances
- Chi-squared test(s)

Regression in College Algebra

- Use real variables (not "x" and "y")
- Do linear, quadratic, and exponential functions.
- Show examples as you introduce each function (don't try to choose the best function)
- For linear functions, interpret the slope and intercept.
- Use r (correlation) to explain how close points are to the line.
- Residuals could be used to explain that the line/curve of best fit minimizes the sum of the squared residuals.
- Residual plots may be too much.

Keys to Teaching Probability in intro stat course:

- Capitalize on students' prior knowledge.
- Minimal instruction on terminology and formal teaching of unions and intersections.
- Use two-way tables.
- Use "within" for conditional probability rather than "given."
- Emphasize Bayes Theorem and discussions about the problem.
- No counting principles.

	A	B	C
E			
E'			

(Another diagram to be added later)

1 day on traditional probability sections
2+ days on Bayes to synthesize ideas.
Beware of books written by mathematicians.